

TOBACCO SMOKING AMONG FEMALES STUDYING IN
HIGHER SECONDARY SCHOOLS OF MALE' CITY:
AWARENESS AND KNOWLEDGE OF SMOKING
ASSOCIATED HEALTH RISK

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THE MALDIVES NATIONAL UNIVERSITY

NOVEMBER 2015

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ASSOCIATED HEALTH RISK**

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A Project submitted in partial fulfillment of the requirements for the degree Of
Bachelors in Primary Health Care

**Faculty of Health Sciences
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NOVEMBER 2015

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ABSTRACT

A cross-sectional descriptive study was conducted among female students of three randomly selected High Secondary Schools of Male' City, to tell their awareness level regarding gender based smoking risk factors specific to women and other smoking related diseases. In addition, this study identifies the prevalence of smoking among this female population. A self-administered questionnaire was used to collect the data from 214 students of three schools. Analysis was done to calculate the frequency and percentage of all the data. The result showed that most of the students are not aware of the gender specific smoking risk factors which are specific to women's health. 29.4% participants said they know abortion is a risk factor of smoking and 73.8% said they know low birth weight is risk factor of smoking. 77.6% said they do not know that smoking cause placenta-previa and 66.4% said they do not know smoking cause Osteoporosis. 75.2% participants said they know smoking is a risk factor of Pre- term delivery and 78.5% participants said they know post-partum hemorrhage is a risk factor of smoking. The result showed majority of participants know some general harmful smoking risk factors, e.g., lung cancer and heart disease. 87.4% said smoking can cause lung disease and 80.4% said smoking cause heart disease. Also 50.5% believe smoking can cause blood pressure. The prevalence of smoking showed 5.6% of the study groups are smokers while 17.3% stated that they have a close female friend who is a smoker. It is recommended that awareness, raising should increase among this population group regarding gender specific smoking risk factors and other smoking caused diseases.

Keywords: general health risks of smoking, awareness level, gender based smoking risk factors, smoking caused diseases, prevalence.

DECLARATION

Name: Khadheeja Nazima

Student Number. 0000 16201

I hereby declare that this project is the result of my own work, except for quotations and summaries which have been duly acknowledged.

Signature:

Date: 1st November 2015

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LIST OF ABBREVIATION

HSS	Higher Secondary School
HICs	High Income Countries
LMICs	Low Middle Income Countries
WHO	World Health Organization
COPD	Chronic Obstructive Pulmonary Disease
SHS	Second Hand Smoking
US	United States
SIDS	Stillbirths, Death among newborns, and Sudden Infant Death Syndrome
SPSS	Statistical package for Social Science

CHAPTER 1

INTRODUCTION

1.1 Background to the Study

Smoking prevalence among young women is rapidly increasing globally whereas for men it is in drop, but this is the fastest growing segment of cigarette smoking population in developing countries. Cigarette smoking among women continues to be a major health risk to the smoker and to those around them. The problems unique to their gender relate to their reproductive and non-reproductive function.

However, recent studies showed most females are not aware for the health risks of smoking. Despite this, no specific study has been done in Maldives to assess the awareness towards health risks due to smoking among female youth population. As a result the present awareness among female population is unknown. However, programs for anti-smoking campaigns and awareness towards the health risk of smoking are been conducted. Moreover, the messages are giving out frequently through various methods such as- advertisements.

When look at today's record regarding smoking among females in Male' City, it gives that female smoking population also be increasing like other developing countries, especially among young female adults. Previous studies on prevalence of female smoking hints at a growth of this problem in comparison to the past.

According to (World Bank report 2014), Smoking prevalence of female adults in Maldives was 7.00 in 2011. The Center for Community Health and Disease Control (CCHDC) estimates that the 44 percent of the total population use tobacco, mainly by smoking.

According to the Maldives Demography and Health Survey (MDHS) 2009, 42 percent of people in the age group 20-24 are smokers while 20 percent of 15-19 years age group smoke. Furthermore, the global school based student health survey done in 2009 found that. Male 'are equally like to smoke cigarettes on one or more days. In addition compared to 2009 the smoking prevalence among female youth has increased in 2011.

The prevalence of ever smoking among female youth was 8.9 %(Global Youth Tobacco Survey, 2011). Numerous researches have been done to assess the awareness and prevalence rate of smoking among females worldwide as well to identify the associated factors that leads to female smoking and the health risks that smoking causes in females. These include,1) Women and tobacco: a call for including gender in tobacco control research (Amos A. , Greaves, Nichter, & Bloch, 2011), 2) cigarette smoking as a risk factor for coronary heart disease in women compared with men (Huxley & Woodward, 2011).3).

Prevalence of smoking during pregnancy and associated risk factors among Canadian women: a national survey (Sahab, Saqib, Hauser, & Tamim, 2010), 4) factors related to knowledge and perception of women about smoking: a cross sectional study from a developing country. (Bhanji, Andrades, Tad, & Khuwaja, 2011).

Therefore, the purpose of this research is to assess the awareness and knowledge among Higher Secondary School girls about smoking-related illness that are specific to women. Moreover, this will help to assess the awareness level of other smoking-related illnesses. We can identify the prevalence of smoking among Higher Secondary School girls. Simultaneously, take future steps to establish prevention programs to make the female population conscious about gender based smoking health risks and decrease smoking prevalence among females in Maldives.

1.1 Statement of the problem

Tobacco, particularly cigarette smoking, has long been recognized as an important threat to girl's and women's health in high-income countries and is increasingly recognized as an important threat to girls' and women's health in low-income and middle-income countries. The past 20 years have seen numerous calls for action on women and tobacco, and for considering the impact of tobacco on maternal and child health and on women's economic well-being.

There has been little recognition of the importance of understanding the context and challenges of girls' and women's smoking and exposure to SHS, and the increase in women's smoking in LMICs.

The previous study results indicate that smoking among females will increase in the future. And also, in comparison to the past smoking practices has changed among Maldivian females where we see more public displays of smoking now.

More over Maldives is a country that women's empowerment are increasing in all the fields; political, economic and household range. Researches showed that in countries where women have higher empowerment, women's smoking rates are higher than men's, independent of the level of economic development and of the level of income inequality (Hitchman & Fong, 2011) Tobacco use is claiming the lives of nearly six million people a year worldwide, including more than 600,000 non-smokers who die from exposure to tobacco smoke (Sinha, Palipudi, Roll, Asma, & Rinchen, 2011) Maldives is one of the developing countries in the south East Asia. Similarly to other developing countries some health issues are increasing in the country.

1.3. Objectives of the Study

- Assess the awareness level on gender based smoking risk factors among female population of Higher Secondary Schools of Male' City.
- Assess the awareness level of smoking among female population of Higher Secondary Schools of Male' City.
- Identify the Prevalence of smoking among female population in higher Secondary Schools of Male' City.

1.4. Research question and hypothesis

- Are most Higher Secondary School girls aware of the gender- specific health risks associated with smoking?
- What is the prevalence of smoking among female population of higher secondary Schools of Male' City?
- Are the Higher Secondary School girls aware of the general health risks of smoking?

1.5. Significance of the study

Smoking is a serious risk of death and disease for women. It also kills over half a million women each year and is it is the most significant preventable cause of female premature death in several developed countries (Amos, 2003). Recent literature shows that smoking is significantly increasing among females in the developing countries, especially in the South Asian Region. Latest estimates revealed that; from the nearly 4 million men and 1 million women who died smoking related health illness over 2 million men and 380,000 women were from developing countries (Weerakoon, et al., 2009). These days we can see numerous young women are smoking in smoking free places of Maldives. Previously it was very rare to see women smoking in the public places. This is an alert for us to consider how deep the occurrence of female smoking is in the present.

Moreover, in the previous decades, cigarette smoking in the public was a social stigma as well a shameful act among women in Maldives. However, the equivalent of female empowerment and the attraction of tobacco market are increasing the smoking prevalence rate among females in Maldives like any other developing countries. However, contrasting the literature, there could be significant increases. Nevertheless, without doing a valid research it would be difficult to estimate the prevalence. But the probability of increasing of this rate is high in Male' City compared to other developing countries.

I am doing this research, to understand the degree of awareness among the female youth population regarding the risk factors of smoking. Smoking is increasing among female population.

Therefore, in my point of view it is very important to conduct a research to assess the awareness on smoking among the female population of an educated group and to identify the prevalence of smoking among this group which lives in Male' City.

Apart from this, this research will benefit at the national level to understand how far the present situation of female youth population is aware of the smoking risk factors and this research will also identify the prevalence rate of smoking among female youth population.

This may cover the way for further research in this area and also to the development of programs that focus on prevention and education of the female youth of this country in relation to the ill effects of smoking to health.

1.6 Scope of the Study

The time factor available for this project is limited. Smoking is one of the growing concerns among female population of all the developing countries as well as Maldives.

To prevent the female population from negative health risks of smoking the prevention and control of increase smoking among females the school based preventive programs and community based programs are required. It is expected that with optimal teamwork and support, effective awareness programs will lead to knowledgeable and healthier population which appreciate the quality of healthy life that is free from smoking.

There-fore this study has been limited considered only few schools of Male' city and it is hoped that there would be some level of assessment to the national level to understanding the level of awareness among high secondary females students towards gender based smoking risk factors and other health risks of smoking.

Moreover this would understand the prevalence of smoking among higher secondary female students. In addition, this study suggest to carried out further studies to find out the smoking prevalence of females in other population of youth and young adults who do not continue their education.

1.7 Definitions of terms

Tobacco: a plant whose leaves are dried and used for smoking and chewing, and in snuff.

Smoking: Smoking is the inhalation of the smoke of burning tobacco encased in cigarettes, pipes, and cigars.

Tobacco smoking: it is the practice of burning tobacco and inhaling the smoke

Infertility- Infertility is “a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse (WHO).

Still birth- The definition recommended by WHO for international comparison a baby is born with no signs of life at or after 28 weeks' gestation (WHO).

Low birth weight - Percentage of live born infants with birth weight less than 2 500g in a given time period (WHO).

Placenta previa - Placenta Previa is a condition that occurs during pregnancy when the placenta is abnormally placed, and partially or totally covers the cervix.

Osteoporosis- A disease characterized by low harentaenhanced bone fragility and a consequent increase in fracture risk (WHO)

Post-partum hemorrhage- Hemorrhage from the birth canal in excess of 500 milliliters during the first 24 hours after birth.

Pre- term delivery- Preterm is defined as babies born alive before 37 weeks of pregnancy are completed (WHO)

CHAPTER 2

REVIEW OF LITERATURE

This chapter presents an overview on gender based risk factors of active and passive smoking in women shown by international researches. Furthermore, this review will focus on the current pattern of cigarette smoking among female population in the Maldives and other developed and developing countries of the world. The consequences each year included \$96 billion in health costs and 5.1 million life years lost (Smoking Attributable Mortality 2008). Smoking increases the risk of many cardiovascular, respiratory, and neoplastic diseases as well as other adverse health effects such as infertility and osteoporosis (U.S. Department of Health and Human Services 2004). Fortunately, adult populations have experienced a slow decrease in smoking numbers in recent years.

- The primary goal of this literature review was to gather information on risk factors of smoking in women, as well to look at the researches that have reviewed on the assessment of awareness about gender specific smoking risk factors among women in Maldives and some other countries. The purpose of this study is to assess awareness level of smoking –related illness that are specific to women among female students of Higher Secondary Schools (HSS) of Male' city.

- In global school based student health survey shows about 1.1 billion people worldwide smoke and the number of smokers continue to increase. Among these, about 84% live in developing and transitional economy countries. Currently 5 million people die each year from tobacco consumption, the second leading cause of death worldwide. If present consumption patterns continue, it is estimated that deaths from tobacco consumption will be 10 million people per year by 2020.
- The overwhelming majority of smokers begin tobacco use before they reach adulthood. Among those young people who smoke, nearly one-quarter smoked their first cigarette before they reached the age of ten. (Ms.Aishath Shifa 2009)
- The past 20 years have seen numerous calls for action on women and tobacco, and for considering the impact of tobacco on maternal and child health and on women's economic well-being (Amos, Greaves, Nichter, & Bloch, 2011).
- Past 10 years smoking among females were not very common in Maldives. However, it seems the number of young women who smoke might be increasing for the last few years. We are currently seeing a lot of young women smoke in places that prohibit public smoking and this could mean that there is a large population of female smokers when compared to a few years back.
- Socio-demographic factor may include age, gender, parental socioeconomic status and place of origin. Studies on the initiation of tobacco use showed that those who begin earlier tend to become regular smokers and are less likely to quit smoking. Cigarette smoking has also been found to be positively related to parental socioeconomic variables such as education and social class. Studies have found an association between disposal income of adolescents and smoking. As young people

- need to purchase cigarettes, it has been shown that those with more disposable income showed higher levels of tobacco use.

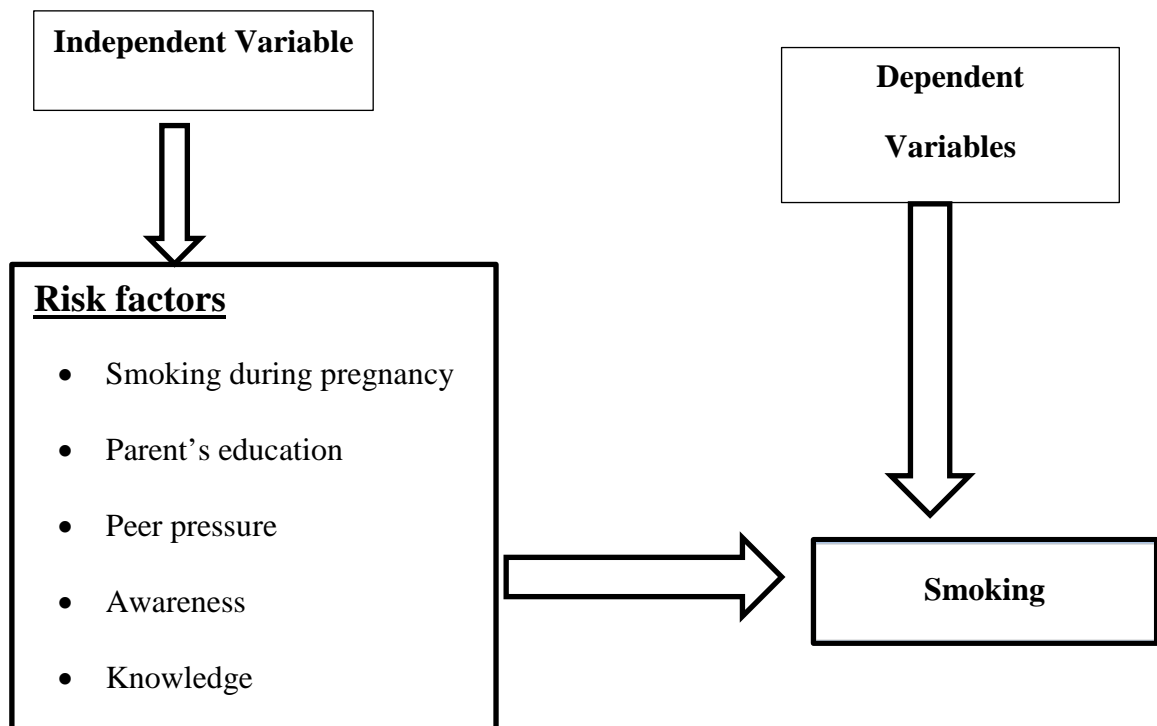
2.1.1 Risk factors of smoking on female

- Studies found, Women who smoke seriously increase their risk of heart disease and stroke. The risk goes up with the number of cigarettes smoked and the length of time a woman has been smoking. In 1997, smoking accounted for an estimated 165,000 premature deaths among U.S. women. Smoking increases the risk more in younger women than in older women. Smoking is a strong risk factor for bladder cancer, with approximately 50% chance of contracting cancer in both men and women (Freedman, Silverman, Hollenbeck, Schatzkin, & Abnet, 2011).
- Another study, which included 13,000 cases and 23,000 controls, has shown that, compared with women who had never smoked, current cigarette smokers have a significantly increased risk of carcinoma in situ and cervical cancer: this risk is increased with the number of cigarettes smoked daily and an additional study found that, smoking is a risk factor for incident high-grade CIN in young women soon after they become sexually active (Rollasonb, Younge, & Woodmanc, 2010). The number of female smokers developing chronic obstructive pulmonary disease (COPD) is rapidly increasing (Serhein, et al., 2010).
- According to (Jhonson, et al., 2010), that early age of smoking initiation and longer duration of smoking increase breast cancer risk 15% to 40%. In contrast, some case-control studies suggested that possibility, but the link remains controversial, especially because relatively little evidence exists thus far supporting an association between active smoking and breast cancer (A Report of the Surgeon General., 2004) found that, compared with non-smokers, female smokers have a 25% greater Relative

- Risk of coronary heart disease than male smokers (Amos A., Greaves, Nichter, & Bloch, 2011).
- On the other hand, therefore the passive smoking has high level of health risks on women. Study showed active smoking evidence bolsters support for three meta-analyses that each reported about a 65% increase in premenopausal breast cancer risk among never smokers exposed to Second Hand Smoking (SHS).
- Between 1950 and 2000, about 10 million women had died from tobacco use, and the figure is expected to double in the next 30 years Therefore, it is necessary to make aware the female population to the health risks of smoking especially among youth population.
- According to M Regina Castro, M.D Tobacco and smoke use can increase blood sugar levels and lead to insulin resistance. The more you smoke, the greater you risk of type 2 diabetes for women. Those who smoke more than 20 cigarettes a day almost double their risk of developing type 2 diabetes, when compared with nonsmokers.
- As per Reproductive Epidemiology Section, California Department of Health Services, Emeryville, USA. Women who smoke are high risk of menstrual function. In a prospective study, 408 women collected urine daily for one to seven menstrual segments (cycles), maintained daily diaries, and completed detailed interviews. Smoking data from the diaries were averaged over each segment and verified by cotinine assay.
- Heavy smoking was associated with nearly four times the risk of short segment as was nonsmoking, Mean segment length was on average 2.6 days shorter Women who smoked an average of ten or more cigarettes per day had significantly more variable segment and menses lengths than nonsmokers. The effects found in this

- study of smoking on the menstrual cycle might explain in part associations of smoking with other reproductive endpoints, such as sub-fecundity and early menopause. (MACKAY & AMOS, 2003).

2.1.2 Theoretical Framework



To understand these risk factors several literatures have been studied to understand the risk factors in the theoretical frame work. And relevant studies from different countries were reviewed for this study, which is discussed in this part.

2.2 Previous Studies

2.2.1 Risk of smoking during pregnancy

- One study found that tobacco consumption affects uterine receptivity, with heavy smokers more likely to be affected. However, even comparatively low levels of smoking can have a significant impact on female fertility. Pregnant women who smoke endanger the health and lives of their unborn babies (Al-Sahab, Saqib, Hauser, & Tamin, 2010). According to numerous studies tobacco products are responsible for many complications including abortions, deaths from perinatal disorders, low birth weight in infants and Sudden Infant Death Syndrome. Furthermore, cigarette smoking increases the risk of infertility and conception delay as well as harmful pregnancy outcomes, such as premature rupture of membranes, placenta previa, abruption placenta, still birth and premature delivery.

There is also a higher rate of ectopic pregnancies in smokers. A growing body of research suggests that maternal smoking may have a negative impact on the fertility of both female and male off-spring. Smoking during pregnancy reduces the number of germ cells (the cells that form eggs in females and sperm in males) and somatic cells (the cells that form every other part of the body) that form in the developing fetus.

- A study published by the US Centers for Disease Control and Prevention notes that while smoking rates amongst pregnant women in the Western world have fallen in recent years, smoking remains a major cause of new-born deaths, early births and babies born with low birth weight. Researchers found that smoking was associated with: 5-8% of premature births, 13-19% of cases of low birth weight in babies carried to full term, 5-7% of preterm-related deaths, 23-34% of deaths caused by sudden infant death syndrome (cot death). In the UK, smoking in pregnancy causes up to 5,000 miscarriages, 300 peri-natal deaths and around 2,200 premature births each year. (ASH Fact Sheet on smoking and reproduction 2013)

- According to (Mackay, Nelson, Haw, & Pellmail, 2012), women who smoke during pregnancy are more likely to have a miscarriage. Smoking can cause placental problems, such as placental abruption, which can result in heavy bleeding during pregnancy, which is dangerous for both mother and baby.
- A study was conducted by the Clinical Epidemiology Unit, Karolinska Instituted, Stockholm, Sweden, to compare the effects of Swedish snuff and cigarette smoking on preeclampsia risk and to estimate whether changes in tobacco habits during pregnancy affect the risk of developing term preeclampsia. Smoking habits in the middle or late rather than in the beginning of pregnancy that seem to affect the risk of preeclampsia (Wikstron, Stephansson, & Cnattingius, 2010). Another study showed, Smoking behavior and birth weight with continued smokers having infant with lowest birth weights (Hayes, et al., 2012).

2.2.2 Prevalence of smoking

- According to estimates made by the Centers for Disease Control and Prevention using data from the 2000-2004 National Health Interview Survey responses and death certificates, cigarette smoking was the leading cause of death in the United States. It is estimated that approximately 19.3% of Americans over age 12 were current smokers as of the year 2010, with current cigarette smokers defined as “adults aged 18 years who reported having smoked 100 cigarettes during their lifetime and who now smoke every day or some days.” (Vital Signs: Current Cigarette Smoking Among Adults Aged 18 Years 2011).

- Smoking prevalence among young women is rapidly increasing globally whereas for men it is in decline. Although current overall prevalence is about 4 times higher among men than women globally (48% vs. 12%), this situation is quickly changing. Recent studies show that young girls are smoking in most countries nearly as much as young boys, and in some countries, their prevalence is even higher (British Columbia Centre of Excellence for Women's Health, 2006).
- According to (Hitchman & Fong, 2011), worldwide it is estimated that men of Western Europe, women smoke at nearly the same rate as men. Data from 151 countries show that about 7% of adolescent girls smoke cigarettes compared to 12% of adolescent boys. The data's from various reports showing the patterns are different from countries to countries. Moreover, some study founds smoking pattern is different among different socio economic groups and cultural norms of the countries and population groups. For example, before the 1920s in the United States, smoking among women was much less common than among men because women who smoked were not viewed as respectable (Hitchman & Fong, 2011).
- In addition, certain region the smoking prevalence is increasing compare to the past. Especially in the developing countries remarkably this problem is raising among young adults. Some researchers showed still in the developed countries the smoking prevalence is similar to before. However, there are countries the smoking patterns started to decrease like US. There is no specific study has been done in Maldives among the High secondary School of females regarding the prevalence of smoking. Therefore, the prevalence of smoking among this group is unknown. Most probably the age group of High Secondary population is 16-18years

- The Youth Tobacco Survey of Maldives 2011 is the latest data that is available about prevalence of smoking among School students. This survey was conducted the age group of 13- 15 years. This indicates among 16.5% of students ever smoke cigarettes, 8.9% of students are females. According to this survey the current smoking prevalence of this age group is 4.3%. Out of this 2.4% are girls. Same report showed 12.6% of never smokers among boys and girls are likely to initiate smoking next year. This means the smoking prevalence will be increase among HSS (High School Secondary) population.
- A comparison of different regions or countries shows that female smoking highly increasing in certain regions and countries. In some countries, the prevalence of smoking among girls is almost as high as that in boys (Azhar & Alsayed, 2012)

2.2.3 Awareness

- A number of studies have recognized that cigarette-smoking initiation occurs mainly between late childhood and young adolescence. (RadhaKrishna & Snider, 1997) agreed, The age of smoking initiation is very important for two reasons: a) the younger the adolescent begins smoking, the more likely he or she will be addicted as an adult; b) the more likely he or she will become a heavy smoker and develop a smoking -related disease in later life. This evidence has brought about the need for awareness among health care workers of the Communities to find and deliver effective antismoking programs to reduce the prevalence of youth smoking initiation.
- In several longitudinal studies of smoking among adolescents, smoking was more common among persons who lacked knowledge of the health consequences of

smoking (Report of the Surgeon General, 2001). Studies showed, smoking risk factors are more aware in the female youth populations of developed countries than the under developed and developing countries. This might be the result of female smoking prevalence is declining in the developed countries. According to (Dillion & Chse, 2010), many respondents of a survey of African women had general awareness of the health impacts of tobacco smoke. However, most of them are not aware the gender based smoking health risk.

- Knowledge regarding harmful effects of tobacco was assessed in a high school girls and boys of West Bengal India showed, the overall correct knowledge level varied from 49% to 80% among males; 47% to 75% among females (Mukherjee A. , Sinha, Taraphdar, Basu, & Chakrabarty, 2012). Youth populations are the future of every county. It is very important them to aware of such health risks that smoking related.
- On the other hand, females of developing and under developed countries get married at very young ages. The health risks are very much high among females of developing countries than the well developed countries. Therefore, the awareness level is showed differently within the countries.
- According to (Ramos, 2011) Most women living in urban slums in Pakistan are aware that smoking harms women's and children's health and a few women of these knew about specific smoking- related health effects.
- Increase in awareness regarding impact of smoking on women's health is an essential subject that is needed to be understood by each woman. In Maldives, there is no published research, on the assessment of awareness on gender based smoking risk factors among any age group of females. Increasing Numbers of young people are smoking in developing and poorer countries. Programmed to prevent them starting to

smoke have been delivered in schools over the past 40 years (Thomas, Lellan, & Perera, 2013).

- Thus, It is difficult even guess the awareness level among any age group of female population without doing a specific survey. However, several researches were conducted different parts of the world. These studies had proved that there were a relationship between the level of awareness and knowledge towards female smoking. Women with only 9 to 11 years of education are about three times as likely to be smokers as are women with a college education (A Report of the Surgeon General., 2004) Though, researches showed many women do not know about the health dangers of smoking.

2.3Methodological issue.

There is a possibility that, these previous researches may have methodological issues. The cross sectional research design itself have, many methodological concern and limitations. They cannot answer questions about the stability of a characteristic or process over time (Bernard, Jr, & Kite, 2013). The most of the above cited researches, the level of nonresponse is one concern. This may affect the prevalence of outcome factor of the research and prevalence-incidence bias raised especially in the case of longer-lasting diseases.

CHAPTER 3

METHODOLOGY

3.1 Research design

The study design was a cross - sectional school-based study of three randomly selected Higher Secondary Schools (HSS), (Grades 11 and 12) in male' City. In order to understand the awareness of gender based smoking health risks as well the prevalence of smoking among High Secondary School girls. A cross- sectional approach used to collect data by means of a self -administered questionnaire, and a quantitative survey is chosen as a research method. Research method is how that information is sampled, and the types of instruments that are used in data collection.

This method was chosen, because Cross- sectional studies are easier to plan, to implement and it's appropriate for dealing with, to assess the awareness level and prevalence rate. Cross-sectional studies are relatively inexpensive, quick and easy to do, are useful for generating and clarifying hypothese

(i) Population and Sample

The sample covered the female population of HSS of Male City. A Simple random sample was used to select the (50%) of schools. The selected schools were, Villa High School, Billabong High International School and Ahmadhiyya international school, the total female student population of these 3schools are 820 students.

The total numbers of classes from the above said 3 schools are 47.Out of these 47 classes 25% of classes was selected. To take a representative sample the School Units were not decreased further. As a second step of randomization, the sample was selected by clusters (classes). All the students in each selected class were invited to complete the questionnaires.

This much percentage of classes were selected to make the sample size bigger for an accurate result and minimized the sample errors. Through this process, final population size 229female higher secondary school students are to be included in the study. A perfect sample would be like Grandview. A” Scaled-down” version of the population, mirroring every characteristics of the whole population .The sample size was set for a maximum 5% relative error and a 95% confidence interval (95% CI). (Raosoft, 2013).

Inclusion Criteria

- The selected three HSS female students participated in the study and willing to answer the questionnaire.

ExclusionCriteria

- People who are not willing to participate in the study.
- The selected three HSS male students.

(ii) Instrumentation

A pre-structured, quantitative self-administered questionnaire was developed to collect the information from the participants. The questionnaire was based on assessing awareness and knowledge among higher secondary school female students regarding smoking and prevalence of smoking among that population. The questionnaire consists of three parts. Part- A contains question about demographic details, such as age, School, study stream and grade.

Section B consists of 12 question. This section would also look upon their views and beliefs about smoking. These questions includes, number of cigarettes smoke by family members and friends.

The last section (section C) consists of 8 questions. These questions are designed to test their awareness level on smoking risk factors. Questions regarding gender specific health risks and other health risks are included. The respondents will be asked these questions to assess their awareness and knowledge regarding gender based health risks that are specific to women. As well as general health risks for both sexes.

In this section, question number 25 is translated in Dhivehi. Most of the students do not understand the medical terms. Hence, to make a clear understanding of terms, this question was translated to “Dhivehi language”. The Questionnaire used for the primary data collection for this study is attached in Appendix A.

(iii) Data Collection Procedure

Before finalizing the questionnaire the draft questionnaires were pre-tested among a group of 15 female students of grade 10 in Ahmadhiyya international School. After 15 pilot interviews, the questionnaire was assessed and verified for comprehensiveness. The following questions were asked for their feedback.

- 1) Did any of the questions make you feel confused?
- 2) Did you know all of the words?
- 3) Did you know what was being asked?
- 4). How could we make it clearer?

After Remarks of pre- test some questions were revised, deleted and translated to Dhivehi language.

The questionnaire was written in English and one Question was translated in Dhivehi after the pre –testing, because they could not understand the medical terms.

The questionnaire was distributed among female students of classes which were randomly selected for the study. The participants were guaranteed privacy, so it did not request the students name and index number. Information contained in the completed questionnaire was treated as confidential. The participants were informed about the objectives of the study. Information and the purpose of the study were explained to participants by reading.

(iv) Framework of Data Analysis

When data collection procedure was over, the data was entered into statistical software SPSS. Statistical package for Social Science (SPSS).The SPSS version 17 was used to analyze the data. Data was revised for technical errors. Any error found was corrected. The findings of this study were analyzed through descriptive and inferential statistical methods. Descriptive statistics were used with demographic characteristics, education level, and family income level also calculating the awareness level. The results were arranged as absolute frequency distribution tables. Nearly 10-12 days were spent for Data entry and analysis.

Objects	Question	Sources of Data	Types of Data	Technique of Analysis
Objective 1	24, 25	Survey questionnaire	Quantitative data	SPSS
Objective 2	18, 19, 20, 21, 22, 23,	Survey questionnaire	Quantitative data	SPSS
Objective 3	1,2,3,4,5,6,7,8,9,10,11, 12,13,14,15,16,17	Survey questionnaire	Quantitative data	SPSS

Figure 2: Summary of Analytical Framework

The above table shows the Objectives of the study, the technique used in analyzing data and the type of question included to obtain the result of the study.

CHAPTER 4

DATA ANALYSIS AND RESULTS

The data for the study was collected through a quantitative survey of 214 female students of grade 11 and 12 in the 3 higher secondary schools of Male' city. Sample size was 214 female students studying in three different higher secondary school of male'. The data was analyzed using SPSS version 17. The frequency tables are used to show the results.

Table 4.1: demonstrates the ages of participants in the survey. The highest age group is 16 years. It is 29.9%. Second highest age is 17 years and 18 years that was 19.9% and third highest age group is 19 years. The older age group is 19 years it is 16.7% and the lowest age group is 15. 13.6% of the students.

Age of participants in the survey	Frequency	Percent
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15	30	13.6
16	59	29.9
17	44	19.9
18	44	19.9
19	37	16.7
Total	214	100.0

Table4.1: Frequency and percentage of respondents by Age

Table4.2: shows the number of students who participated from each school. 214 students participated from these three schools. The majority of students were from Billabong high international school, 81 students participated from this school. 71 students were respondent from Villa Collage and 62 students are from Ahmadhiyya international school.

Schools	Frequency	Percent
Ahmadhiyya	62	28.1
Billabong	81	39.9
Villa collage	71	32.1
Total	214	100.0

Table4.2: The Participation School and number of students participated in the survey.

Table4.3: shows the number of participants that are participated in each grade from grade 11 and 12. Most of them are from grade 12. From this grade, 59.3% and 37.6% students are from grade 11.

Grade	Frequency	Percent
11	83	37.6
12	131	62.5
Total	214	100.0

4.3 Number of students were participated in the survey from grade 11 and 12.

Table4.4: demonstrates number of students according to the streams they study who participated in the survey. Each school has a total of 3 streams 36.7 % of students are from science stream and 28.5% of students are from Business stream. And 34.8 % are in the Arts stream.

Streams	Frequency	Percent
Science	74	36.7
Arts	77	34.8
Business	63	28.5
Total	214	100.0

Table 4.4: Number of students participated in the survey from different streams.

Figure4.1: shows with whom the students are currently living with. Results show that the majority of the students are living with their mother only that is 34.8%. 32.2% of

the participant students are living with mother and father and, 21.7% of the participants living with Non-relative guardians. 11.3% students are living with only their father.

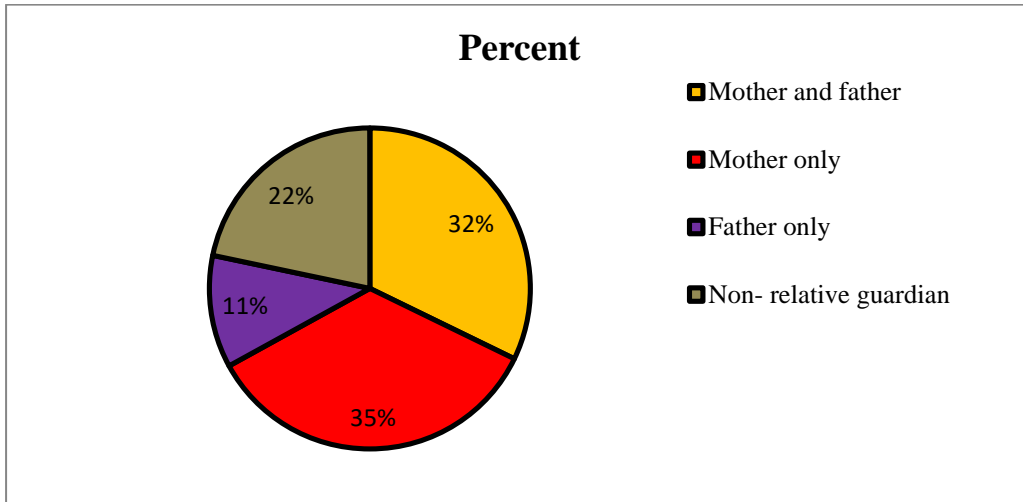


Figure 4.1: The person students are lives with

Table4.6: shows the educational level of the parents. The results show that 20.6% of the parents have tertiary education, 35.5% of the parents have secondary education, and 43.9% of the parents have primary education.

Parents Educational Level	Frequency	Percent
Primary	94	43.9
Secondary	76	35.5
Tertiary	44	20.6
Total	214	100.0

Table 4.6 Participants parent's educational levels.

Figure4.2: demonstrate the family income of the study participants. The majority of the parent's family income are between 5,000- 10,000. This is 43.9 % of the families.

23.4% of the families are getting monthly income of between 10- 15 thousand. And 15.4% of the family's income per month is stated as more than 15 thousand. 17.3% of the family income was less than 5 thousand per month.

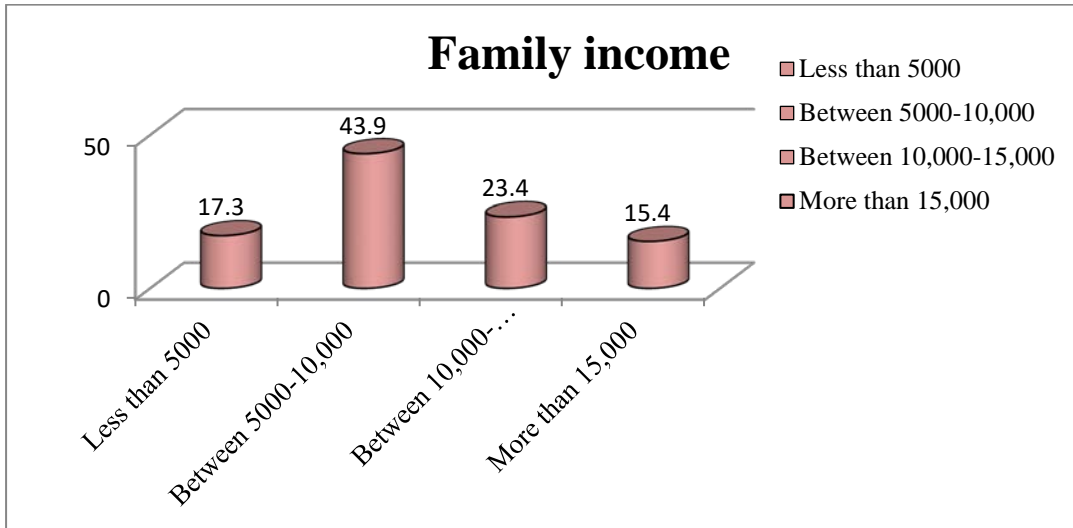


Figure4.2. Family income of participants.

Table4.8: shows the whether the students are living with single family or extended family. A majority of the students said they are living with extended families that are 81.8%. Moreover, 18.2% of students said they are living with single families.

	Single family	Frequency	Percent
Valid Yes		39	18.2
No		175	81.8
Total		214	100.0

Table 4.8. Types of family the participants living with.

Table4.9: shows that 86 % of the parents are non - smokers and 14% parents are smokers.

	Parents are smoker	Frequency	Percent
Valid	Yes	30	14.0
	No	184	86.0
	Total	214	100.0

Table 4.9 Parents guardians smoking behavior.

Table 4.10: tells the smoking patterns of parents' shows that 23.8% of the parents smoke more than 5 cigarettes a day and 21% of parents smoke three cigarettes a day. 2.8% of parents smoke one cigarette a day. And 41.6% of students did not answer the question.

	parents smoke	Frequency	Percent
Valid	One	6	2.8
	Two	23	10.7
	Three	45	21.0
	More than five	51	23.8
	Total	125	58.4
Missing	System	89	41.6
Total		214	100.0

Table 4.10 Number of cigarettes parents smoke.

Table4.11: Demonstrate the number of female friends of participants who smoke. Among their close female friends, 65.9% are non-smokers and 19.2 % of female friends smoke according to survey participants. 15% of participants did not answer this question.

	female friends Smoker	Frequency	Percent
Valid	Yes	41	19.2
	No	141	65.9
	Total	182	85.0
Missing	System	32	15.0
Total		214	100.0

Table 4. 3 Number of female close friend smoke.

Figure4.12: shows the number of close friends who smokes.12 students said they have one friend who smoke. 5 students said two friends; three said 14 students said they have more than three female close friends who smoke and 6 students said they have 4 female friends who smoke. 177 students did not answer the question. (Non-response).

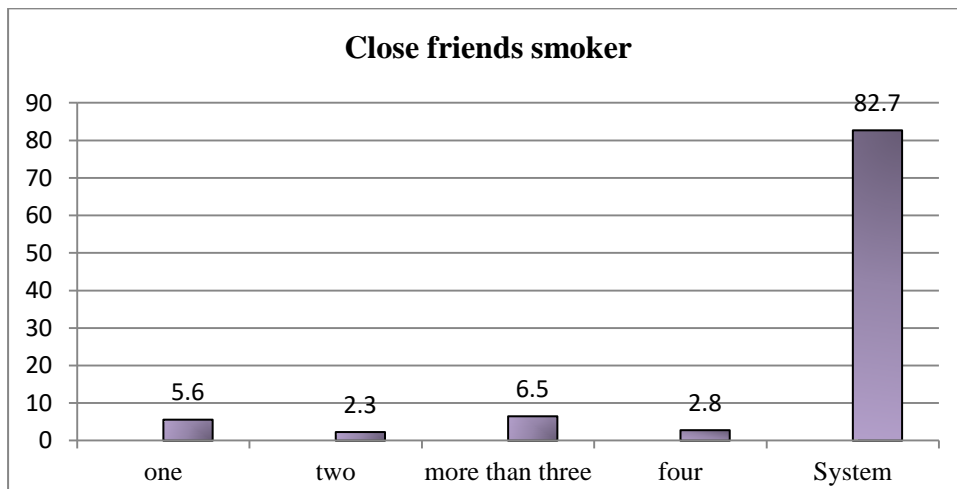


Figure 4.3. Number of female close friends smoke an average.

Table 4.13: shows the current smoking pattern among the participants. 88.8% of participants said that currently they are not smoking. Only 5.6% of the participants said they are smoking currently. And same % of participants did not answer the question.

smoking pattern among the participants		Frequency	Percent
Valid	Yes	12	5.6
	No	190	88.8
	Total	202	94.4
Missing	System	12	5.6
Total		214	100.0

Table 4.13 Number of current smoking

Figure 4.4: Shows the number of cigarettes the current smokers smoke in a day. 8.4% said they smoke one to three cigarettes. 3.7% said they smoke three to five cigarettes and 2.8% participants said they smoke between 5 to 10 cigarettes in a day.

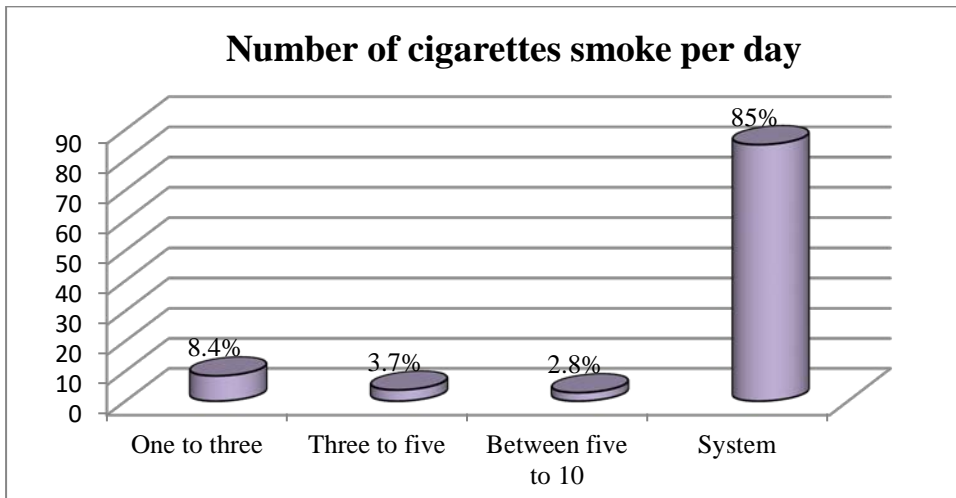


Figure 4. 4. Number of cigarettes smoke per day.

Figure 4. 5: shows whether the participants had ever smoked in the past. 79.4% said they have never smoked and 3.7% said they have tried smoking for stress relief. 2.8% said they had smoke because of peer pressure. And 2.8% of participants said they smoke for recreational style. And 11.2% of participants did not answer the question.

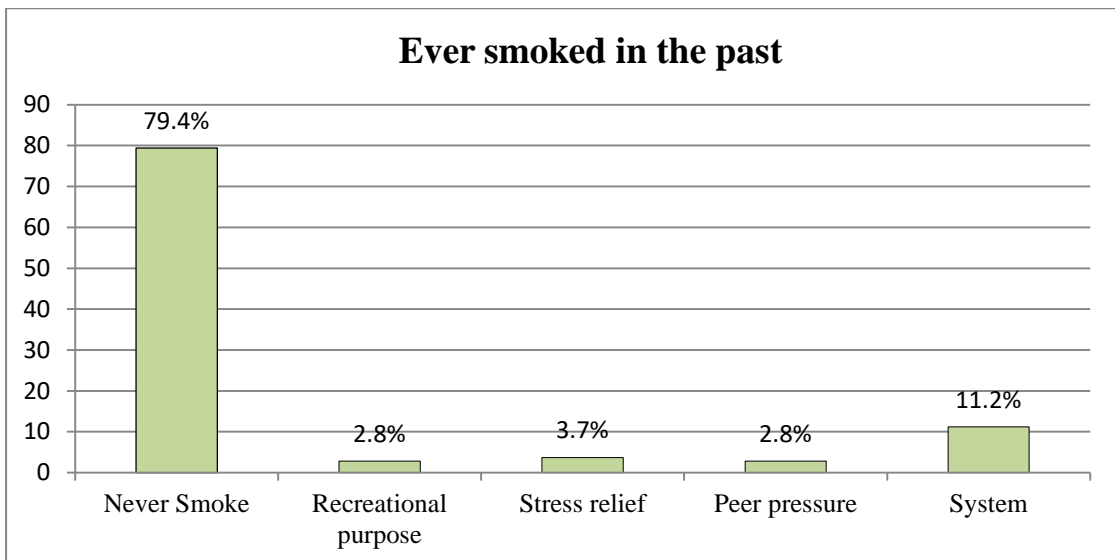


Figure 4. 5 number of ever smoker

Figure 4.6 states the reasons of smoking ever smokers. 76.2% said that they don't smoke. 1.0% of participants smoke because when they depressed/ stress, and 5.1% smoke once because it was cool and 2.8% of the participants smoke when they curious. And 1.9% does not tell the reason they smoke. 12.1% did not answer this question.

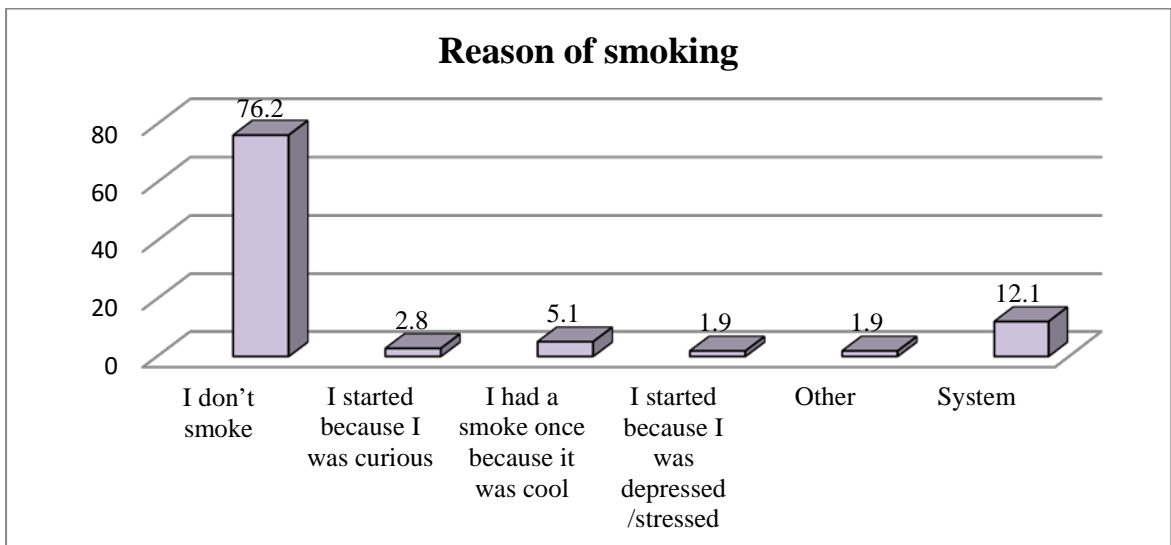


Figure. 4. 6. Reason of smoking ever smokers.

Figure 4. 7: shows the opinion of participants regarding smoking. 68.7% said it is very bad and 12.6% said it was ok, 6.1% said they do not want to share the information. And 12.6% told other reason.

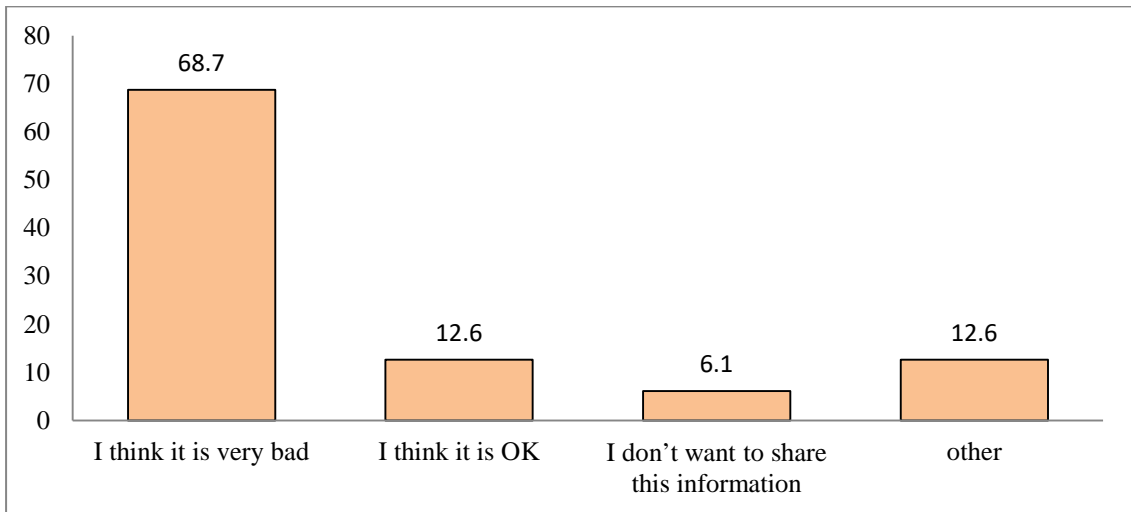


Figure 4. 7. Opinion on smoking.

Figure 4. 8: shows their opinion on quitting smoking. 70.6% of them said they did not smoke. 5.6% of participants told yes, but not ready. 3.3% are told no, and plan on smoking the rest of life. And 1.9% told no, but plan to eventually smoking and 16.8 % of participants told already did/ never started smoking.

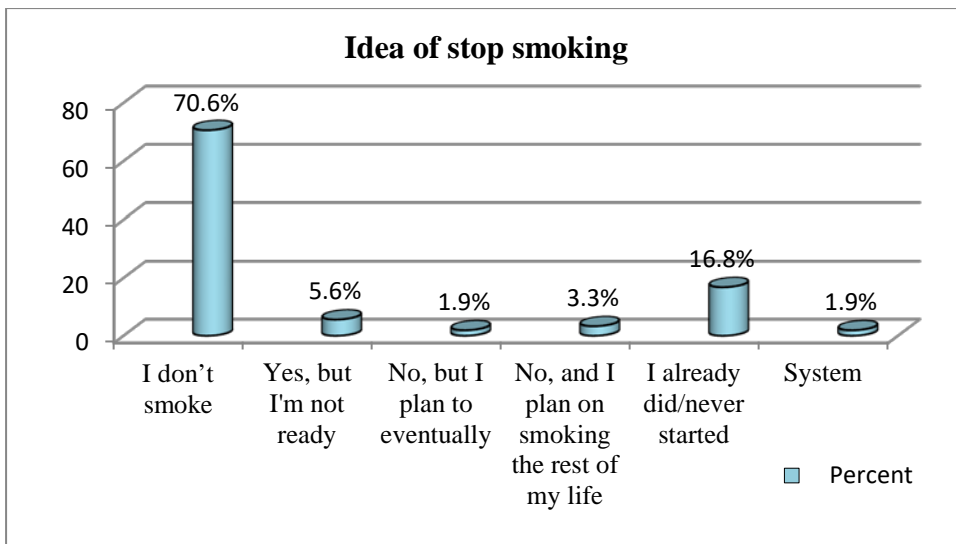


Figure 4. 8. Idea of stop smoking.

Table 4.19: demonstrates future smoking plan among the participants. 83.6% said in the future definitely they will not think of smoking and 2.8% said definitely they will

smoke in the future 8.9% said probably they will not smoke in the future. And 4.7% said probably they will smoke in the future.

	future smoking plan	Frequency	Percent
Valid	Definitely Yes	6	2.8
	Probably not	19	8.9
	Definitely No	179	83.6
	Probably yes	10	4.7
	Total	214	100.0

Table 4.19 Future smoking plan.

Table4.20: shows that 48.1% said they would definitely not smoke even if their best friend offered a cigarette and 34.1% said they would probably not smoke. Only 12.6% said they would definitely smoke if their best friends offered them a cigarette and 5.1% said they would probably yes smoke if their best friends offer them a cigarette.

		Frequency	Percent
Valid	Definitely Yes	27	12.6
	Probably not	73	34.1
	Definitely No	103	48.1
	Probably yes	11	5.1
	Total	214	100.0

Table 4.20 do you smoke if your best friend offer you a cigarettes.

Figure4:9 show that based on observation, which place do you usually find girls smoking. 30.8% of the participants told selected non-exposed area. And 2.8% of said public transportation, and 43% of participants said other, 21.5% said at home, and 1.9% of participants said at school.

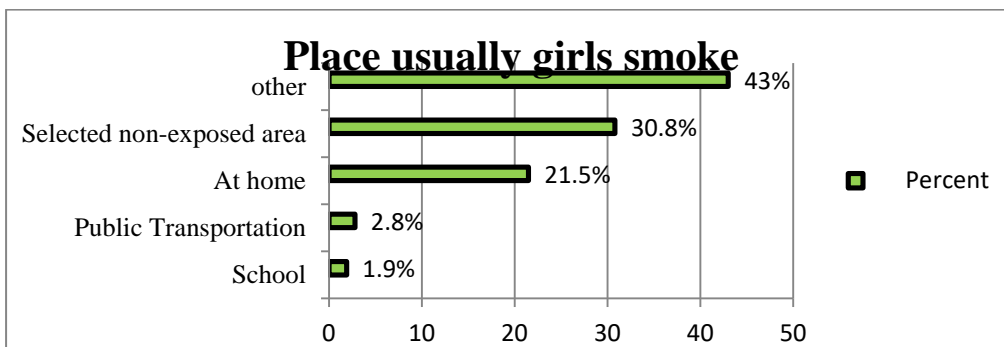


Figure4.9: place usually find girls smoking

Figure4.10: shows 85. % believes smoking is bad for health and only 15% said it is not bad for health.

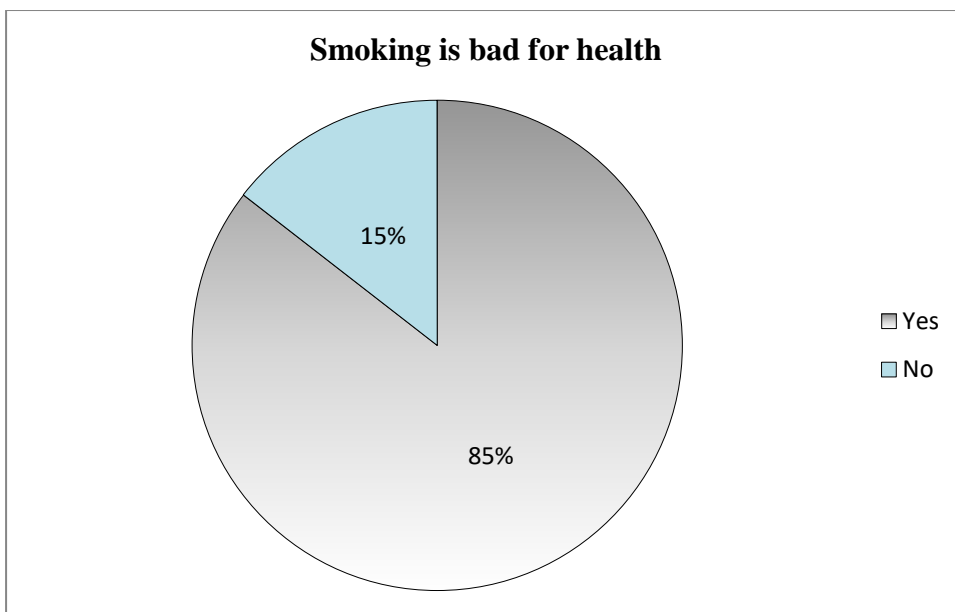


Figure4.10. belief of smoking on health

Figure 4.11: shows the number of students who know the passive smoking has negative health effects. 31.3% said yes it has negative effects and only 68.7% said it does not have negative effects.

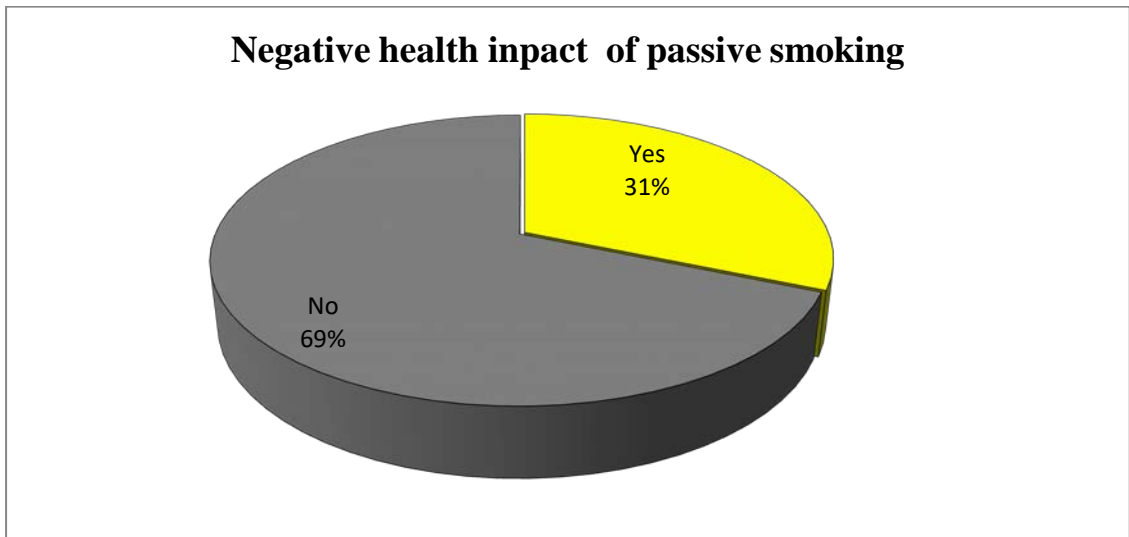


Figure 4.11 Idea of negative health effects of passive smoking.

Figure 4.12: Shows that as far as know, are there any health warnings on cigarette packs, majority of the participants said yes that was 89.3% and 10.7% of the participants said no.

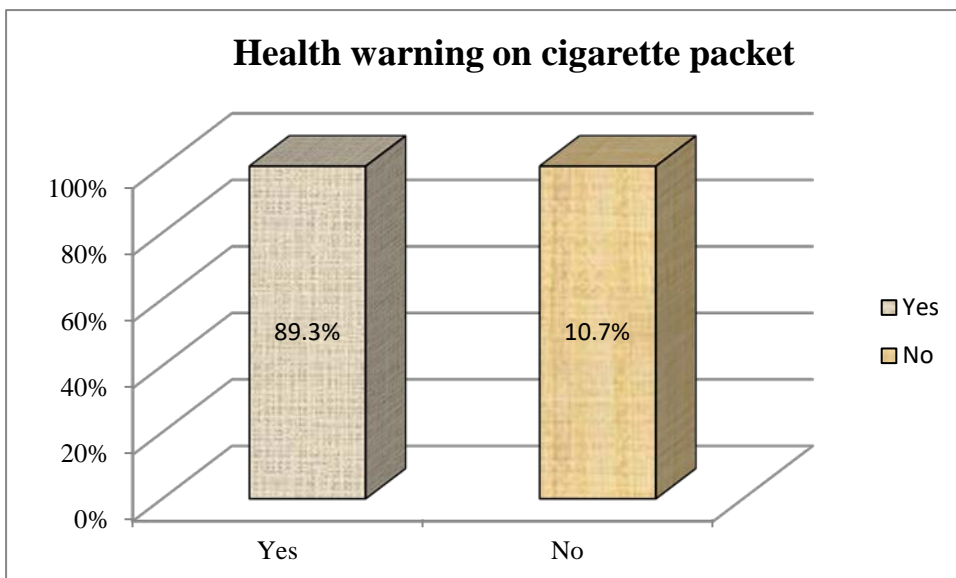


Figure 4.12 health warnings on cigarette packs

Figure4.13: shows the information got through Medias regarding health impacts of smoking. 78% said they got information for the last 30 days and 22 % said they did not get any information through any media for the last 30 days.

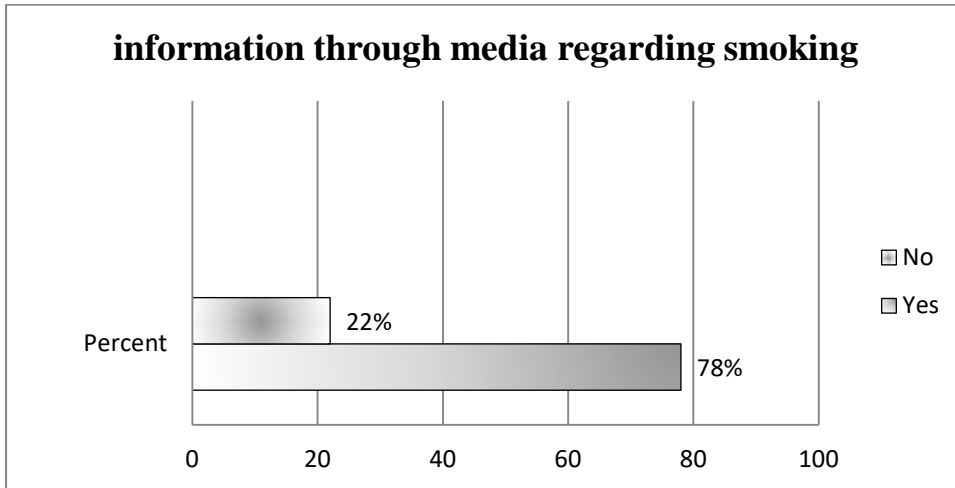


Figure4.13. Information through media regarding health impacts of smoking.

Table4.26: shows that 44.9% of participants get information through Internet. 16.4% said they got information through TV. 32.7% of participants said from Newspaper, and 6.1% from radio.

	get information through	Frequency	Percent
Valid	TV	35	16.4
	newspaper	70	32.7
	internet	96	44.9
	radio	13	6.1
	Total	214	100.0

Table 4.26. Medias that information reached to the participants.

Table4.27 : shows 87.4% of participants said smoking has many other health effects and only 12.6% said there are no other health effects.

	Frequency	Percent
Valid Yes	187	87.4
No	27	12.6
Total	214	100.0

Table 4.27 Cigarette smoking has many other health effects other than lung cancer.

Table4.28: shows the awareness regarding oral cancer. Participants were asked whether smoking can cause oral cancer. 27.1% said yes and 72.9% of them said it will not cause by oral cancer.

	Frequency	Percent
Valid Yes	58	27.1
No	156	72.9
Total	214	100.0

Table 4.28 disease you think smoking can cause - Oral Cancer.

Table4.29: shows awareness level that smoking can cause heart disease. The result shows 80.4% participants are aware that smoking can cause heart disease but 19.6% are not aware for that.

	Frequency	Percent
Valid Yes	172	80.4
No	42	19.6
Total	214	100.0

Table 4.29 smoking can cause heart disease

Table4.30: Shows50.5% of participants is aware of that smoking can cause blood pressure. However, 49.5% students are not aware for this.

	Frequency	Percent
Valid Yes	108	50.5
No	106	49.5
Total	214	100.0

Table 4.30. smoking can cause blood pressure.

Table4.31: shows majority of the participants are not aware that premature aging and wrinkles can cause smoking. 65.9% of them said smoking could not be a cause premature aging and wrinkles. And 34.1% % of them said smoking could be caused by smoking.

	Frequency	Percent
Valid Yes	73	34.1
No	141	65.9
Total	214	100.0

Table 4.31. Smoking cause premature aging and wrinkles

Table4.32: shows number of students who are aware for that smoking can cause infertility. It shows majority of students are not aware for this and only 44.9% of the students are aware that smoking can be caused infertility.

	Frequency	Percent
Valid Yes	96	44.9
No	118	55.1
Total	214	100.0

Table 4.32. smoking cause infertility.

Table4.33: shows that same percent of students are aware that smoking caused depression. 60.3% of them are aware and 39.7% of them are not aware for that smoking can cause depression.

	Frequency	Percent
Valid Yes	129	60.3
No	85	39.7
Total	214	100.0

Table 4.33 smoking can cause by Symptoms of depression.

Table4.34: shows again that majority of participants are not aware that smoking can be caused Neurological disorders, which are 57.9%. Only 42.1% of them said smoking could be cause by the disease.

	Frequency	Percent
Valid Yes	90	42.1
No	124	57.9
Total	214	100.0

Table 4.34. Awareness that Neurological disorder can cause smoking. .

Table4.35: intended to know the awareness level about that gender specific smoking risk factors that smoking caused regarding abortion. Majority of the students are not aware that smoking can cause to abortion. However, 70.6% of students said smoking will not cause abortion. Only 29.4% told would cause this problem.

	Frequency	Percent
Valid Yes	63	29.4
No	151	70.6
Total	214	100.0

Table 4.35 Number of students that are aware of smoking can cause to abortion.

Table4.36: demonstrates 9.3% of participants said smoking could cause stillbirth, they are not aware of this problem. While 90.7% said would not cause this problem.

	Frequency	Percent
Valid Yes	20	9.3
No	194	90.7
Total	214	100.0

Table 4.36 Number of students knows smoking can cause stillbirth.

Table4.37: also shows that how much participants are aware for that smoking can cause low birth weight. However, 73.8% said smoking can cause this problem and 26.2% said smoking would not cause this.

	Frequency	Percent
Valid Yes	158	73.8
No	56	26.2
Total	214	100.0

Table 4. 37 Number of students knows smoking is risk factor of Low birth weight.

Table4.38: also asked know that risk factors of smoking that are specific to women. The result shows majority of them said no smoking is not a risk factor for Placenta Previa. Only 22.4% said it is risk factor. And 77.6% of participants told no.

	Frequency	Percent
Valid Yes	48	22.4
No	166	77.6
Total	214	100.0

Table 4.38 Number of students know smoking is a risk factor of Placenta Previa

Table4.39: shows that again most of the participants do not know that smoking is risk factor of osteoporosis. It sows only 66.4% said smoking is risk factor and 33.6% said it is not a risk factor.

	Frequency	Percent
Valid Yes	72	33.6
No	142	66.4
Total	214	100.0

Table 4.39. Number of students knows smoking is risk factor of Osteoporosis.

Table4.40: asked again whether students know another risk factor of smoking which is specific to women during pregnancy. However out of 214 students only 78.5% said smoking is risk factor of postpartum hemorrhage. 21.5 students said smoking is not risk factor for this problem.

	Frequency	Percent
Valid Yes	168	78.5
No	46	21.5
Total	214	100.0

Table 4.40. Number of students knows smoking is risk factor of post-partum hemorrhage.

Table4.41: shows again majority of the participants said they know that smoking is risk factors of Pre-term delivery. Out of 214, 75.2% of participants said smoking is risk factor for this problem. And 24.8% of students are not aware of this problem.

	Frequency	Percent
Valid Yes	161	75.2
No	53	24.8
Total	214	100.0

Table 4.41. Number of students knows smoking is risk factor of Pre- term delivery.

This part shows the answers of the participants. This is the hardest part of this research. To entering data it takes one week. The next part is discussion of the results.

CHAPTER 5

DISCUSSIONS AND CONCLUSIONS

5.1 Summary of main findings

The study specified, awareness regarding gender specific smoking risk factors specific to women are very less among female students of Higher Secondary Schools (HSS) To assess the awareness level, seven smoking health risk factors that are specific to women was included in the study.

The majority of students know only three smoking risk factor that are specific to women, 73.8% participants said they know low birth weight is a risk factor of smoking, 78.5% said they know postpartum hemorrhage is a risk factor of smoking and 75.2% said they know pre-term delivery is a risk factor of smoking. 77.6% said they don't know smoking could cause placenta previa, 55.1% said they don't know smoking cause infertility and 66.4% said they do not know smoking could cause Osteoporosis. 70.6% participants said they do not know smoking is a risk factor of Abortion and 90.7% participants said they do not know still birth is risk factor of smoking. To assess the awareness level of other smoking risk factors are one of the objectives of this study. The result showed majority of participants don't know some general harmful smoking risk factors, like heart disease and oral cancer. 72.9% said

smoking did not cause oral cancer and 80.4% said smoking cause heart disease. Also 50.5% believe smoking can cause blood pressure. To find out the smoking prevalence rate among this population is also one of the objectives of this study. This study findings shows, the prevalence rate of smoking is 5.6% in the study population. However, the result showed there is an increase in the number of close female friends who currently smoke. 17.3% said their close friends are smoking and the result showed there are 37 female close friends who smoke among this population.

5.2 Discussion

To carry out this study data was collected from all the relative fields that were deemed for the study the response rate of this research was 92%. Previous research done in the school based survey showed very similar results in the response rate. Previous researches indicate that, education of parents and financial wellbeing affect the smoking prevalence of female smoking. The data shows Most of the parents have primary education that was 43.9%.

A study was conduct in Tobacco-Free Kids Lorna Schmidt (January 26, 2015), Today more than one out of every seven high school girls currently smoke (15.0%) and 15.3 percent of adult women still smoke.

According to study was conduct in Columbia Southern University, U.S.A (Martin et al., 2007), women's smoking behavior is closely associated with level of educational attainment. Women who had attained less than a high school education were more likely to smoke than those who had earned a college degree or higher.

We looked at the family income of participants showed that the highest percent of families are getting 5,000- 10, 000 thousand in a month (43.9%). This study shows that parents who have educational background have a low prevalence of smoking. 81.8% of participants said their parents or guardians are non-smokers and 18.2% of parents or guardians are smokers.

5.2.1 Smoking Prevalence and patterns

This study indicates the current smoking prevalence rate is very less among this population. Only 5.6% of students are currently smoking. But the data showed ever smoking population is 9.3% and participants who said they have never smoked are 79.4%. This could mean an increased rate of smoking by females in the Maldives.

The prevalence of smoking among women varies markedly from country to country, ranging from an estimated 7% in developing countries to 24% in developed countries. Stopping further increases in tobacco use among women is one of the greatest challenges in the prevention of disease in the world today. Koura MR (2011).

And also the same Study, Koura MR (2011) reveals that the prevalence of smoking among female students of the literature and science colleges in Dammam was 8.6%. Recent studies conducted in Riyadh (2000) and in Jeddah (2006) on female college students revealed that the prevalence of smoking was 9% and 14%, respectively. These figures were higher than those of previous studies conducted in Dammam (1999) and in Riyadh (1992), which revealed the prevalence of smoking among female college students to be 5.6% and 6.3%, respectively, indicating an increasing prevalence of smoking among female students in Saudi Arabia. These results on smoking in Saudi Arabia should be of public health concern.

19% of study population said they have female close friends who smoke and total percentage of female close friend smokers is 58.4% in this study. This result identified the prevalence of female smoking population must be high in this age group or the above age. This percentage of smokers is might be from this age group who might not continue their education or they might be above age group. Stress relief is one of the leading causes of smoking initiation among female youths. This signal proves, in the future the smoking prevalence among young adults of female population will be increase in Maldives like other developing countries. However, only 2.8% of students said in the future definitely they will smoke and 8.9% said probably they will not smoke. 5.1% of participants said they will smoke if their best friends offered them a cigarette. These direct there is a chance of changing smoking prevalence pattern among female population in Maldives.

5. 2.2 Awareness level

To find out awareness level about Gender based Smoking Health Risks and other smoking risk factors and smoking prevalence among female students of higher secondary school is the main purpose of this study. This data was collected to find out if there is any difference between awareness on smoking risk factors among various study streams. There might be a chance the science stream students are more aware of smoking risk factors than Business and Art students. After analyzing the data it has been identified that science stream students are more aware regarding the gender based smoking risk factors and to other health risk factors. According to the previous researches, the education level and socio-economic status affect the smoking patterns, and smoking awareness of females. Women who have not graduated from

high school smoke on average 14.1 cigarettes per day compared with 8.6 cigarettes for college graduates. Women with less than a high school education started to smoke on average 15 months earlier than college graduates (Kandel, Griesler, & Schaffran, 2009).

This study has revealed, the majority population of the study participants believes smoking has negative health effects and majority participants know passive smoking is bad for health. The participants were asked from where they have got information regarding smoking for the last 30 days. 78% said they got information and 22% said they did not get any information. Most participants said they have got the information from Newspaper and others said from internet. Few percent said from radio and other media.

One of the objectives of this study is to find out how much the participants are aware for the other health risk factors other than gender specific health risks specific to women's health. To assess the awareness level 8 specific smoking caused health problems were asked from the participants who are specific in the previous researches. Consequently, most the participants were shown to have knowledge that smoking can cause lung diseases. 80.4% said smoking will cause lung diseases.

According to a study from china by Lee, H., S.J. Yoon, (2006) on 77.5% of the participants knew that smoking causes lung cancer. This might be attributed to the important role of pictorial warnings about lung cancer on cigarette packages and due to the role of media and health education campaign in emphasizing the adverse effects of smoking on the lungs.

Also 50.5% said it will cause blood pressure. According to these study findings the majority of students are aware for the common diseases of smoking and the health

risks. However, their awareness level is less about some smoking cause diseases. Very less % of students are aware that smoking can be cause heart disease, infertility, depression, neurological disorder, premature aging, wrinkles and oral cancer.

Tobacco-Free Kids Lorna Schmidt (January 26, 2015), Cigarette smoking is a risk factor for osteoporosis and could become a more powerful factor among today's youth who have begun smoking at earlier ages. Women who are current smokers increase their risk for hip fractures and postmenopausal women who are current smokers have lower bone density versus women who never smoked.

This population is aware for the gender specific smoking risk factors which is specific to women's' health. This question has seven problems that are specific to women's health. Most of the problems are which affects during pregnancy. This study found, students from these grades are not aware for gender specific smoking risk factors. Only 73.8% knows smoking cause low birth weight. Very few % of participants were aware for other risk factors specific to women's health.

5.3 Implications

Based on the findings of this study, it is suggested that, awareness programs regarding smoking are highly needed to improve smoking related health risk knowledge among female students of Higher Secondary Schools. In order to promote females towards negative health effects of smoking, the youth population should be encouraged at national level and community level. As well to mitigate the growing negative influences of smoking which leads to develop smoking among females? Higher Secondary schools of male' city and other colleges and University needs to start

program's based on gender specific smoking health risk factors. A nationwide public awareness programs regarding smoking and the risk factors on both sex are highly recommended.

5.4 Limitations of the Study

A limitation of this study includes that, the study could not be done at all the higher secondary schools of Male 'city, because of limited funds and time, In order to get a meaningful result the sample size must be as large as possible. In a descriptive cross-sectional quantitative study there should be enough quantitative data to be statistically analyzed for an accurate result.

5.5 Directions for Future Research

In the light of this study result, it can be recommended that the youth female population is in need of proper knowledge and awareness regarding gender specific smoking risk factors. In addition it results show that a large proportion of high secondary students have no knowledge of smoking caused diseases. Smoking is a threat for all the women in the community. It's their right to protect them and their children from smoking caused negative health effects.

5.6 Recommendation

This study recommend implementation of National level programs to improve the awareness on gender specific smoking risk factors that are specific to women's health and smoking caused other negative health effects are needed.

The previous researches have been revealed smoking is increasing among females in the developing countries compare to developed countries. Higher education and stable economical population showed more aware for the smoking caused diseases compare to the lower education and low socio economical population.

This study can be widened to include females from different age groups in Maldives. The study could also Centre on other affiliations in a person's life similar to close friends. Also, this result is based on a survey population of 25% of female students studying in three higher secondary schools in Male' city. It is recommended that the study be done among a wider population group with a larger sample across the Maldives. And also include all the atolls. In addition it is recommended for the further studied to target in the different educational groups and socio economical groups.

5.7 Conclusion

In conclusion, this study revealed most of the female students from higher secondary schools are not aware for the gender specific smoking risk factors that are specific to women's health. Furthermore, most of the students are not aware for other smoking health risk factors accept few. In addition the prevalence of smoking among participants was only 5.6%. But the smoking prevalence among the close friends was 17.3%. Majority of the participants are aware of some of the diseases and risk factors of smoking caused diseases.

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APPENDIX

APPENDIX – A

TOBACCO SMOKING AMONG FEMALES STUDYING IN SECONDARY SCHOOLS OF MALE' CITY: AWARENESS AND KNOWLEDGE OF SMOKING ASSOCIATED HEALTH RISK

Questionnaire – Awareness for smoking related risk factors and prevalence.

Fill the questionnaire if you would like to participate this survey.

This is a questionnaire to assess the awareness regarding gender specific smoking risk factors, among High School girls and the prevalence.

Even if you don't smoke, please make sure you answer each question.

This is NOT a test. All of your answers will be kept confidential. No one will ever know what you answered. So, please be honest when you answer the questions

Section A - DEMOGRAPHIC INFORMATION

<i>Age</i>		<i>School name</i>		<i>Grade</i>	
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1) *What stream are you studying?*

<i>Science</i>	<i>Art</i>	<i>Business</i>	
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2) *With whom do you live?*

<i>Mother and father</i>	<i>Mother only</i>	<i>Father only</i>	
<i>Non- relative guardian</i>			

3) *What are your parents/ Guardian's Educational level?*

<i>Primary education</i>	<i>Secondary education</i>	<i>Tertiary education</i>	
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4) *What is your family income?*

<i>Less than 5000</i>	<i>Between 5000-10,000</i>	<i>Between 10,000-15,000</i>	
<i>More than 15,000</i>			

5) *Do you live in a single family household?*

<i>Yes</i>	<i>no</i>
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Section - B
SMOKING PATTERN

6) Do your parent / guardian smoke?

yes		No	
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7) If Yes, how many cigarettes do they smoke a day?

One		Two		Three		More than five	
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8) Does any of your close female friends smoke?

Yes		No	
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9) If yes, how many of your close friends smoke on average?

One		Two		Three		Four		More than five	
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10) Do you currently smoke?

yes		No	
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11) If yes, how many cigarettes do you smoke a day?

One to three		Three to five		Between five to 10		More than 10	
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12) If you smoke or have ever smoked, why did you smoke?

Recreational purpose		Stress relief		Peer pressure	
Other (specify).....					

13) Why did you start smoking?

I don't smoke		I started because I was curious	
I had a smoke once because it was cool		I started because I was depressed /stressed	
Other reason.....			

14) What is your opinion on smoking?

I think it is very bad		I think it is OK		I don't want to share this information	
Any other opinion.....					

15) Do you want to stop smoking?

I don't smoke		Yes, as soon as possible	
Yes, but I'm not ready		No, but I plan to eventually	
No, and I plan on smoking the rest of my life		Not sure	
I already did/never started			

16) Do you think in the future you might try smoking Cigarettes?

Definitely Yes		Probably not		Definitely No		Probably yes	
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17) If one of your best friends was to offer you a cigarette, would you smoke it?

Definitely Yes		Probably not		Definitely No		Probably yes	
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Section - C
AWARENESS AND KNOWLEDGE

18) Based on your observation, which place do you usually find girls smoking?

School		Public transportation	
At home		Selected non-exposed area	

Others (specify).....

19) Do you believe that smoking is bad for your health?

Yes		No	
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20) Do you know passive smoking has negative health effects?

Yes		No	
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21) As far as you know, are there any health warnings on cigarette packs?

Yes		No		Don't Know	
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22) Did you get any information during the last 30 days through any media regarding health impacts of smoking?

Yes		no	
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23) If yes through which media?

TV		Radio		News paper		Inter net	
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Other (Specify).....

24) Did you know that cigarette cause a number of health risks?

Yes		No	
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25) Have a look at the following list of diseases and tick Yes, for those diseases that you think can be caused by smoking.

Oral cancer	Yes	No	Premature aging and Wrinkles	Yes	No
Heart disease	Yes	No	Infertility	Yes	No
Lung disease	Yes	No	Symptoms of depression	Yes	No
Blood pressure	Yes	No	Neurological disorder	Yes	No

26) From the list below, tick yes, for the risk factors of smoking.

Abortion جائزہ کرنا	Yes	No	Placenta Previa جائزہ کرنا	Yes	No
Still birth جائزہ کرنا	Yes	No	Osteoporosis جائزہ کرنا	Yes	No
Low birth weight جائزہ کرنا	Yes	No	Postpartum hemorrhage جائزہ کرنا	Yes	No
Pre- term delivery جائزہ کرنا	Yes	No			

THANK YOU FOR THE PARTICIPATION

CONSENT FORM

Dear participant,

I am a student of Maldives National University in the Faculty of Health Sciences, where I am currently studying Bachelor of Science in Primary health Care. This research is part of my course module “Research in health”. The main objective of this research is to identify knowledge Attitude and Practice regarding the antibiotic use among the staffs of schools in Male city. You were selected as a possible participant in this study on behalf of your School.

If you decide to participate, please answer the questions asked. It will take approximately 10 – 20 minutes of your time.

Any information that is obtained in connection with this study will be kept strictly confidential and anonymous. The information provided by you in this questionnaire will be used only for academic purposes. It will not be used in a manner which would allow identification of your individual responses. Participation in this study is completely voluntary and you are free to withdraw your participation at any time during the research. Your future services and rights will not be violated as you decide not participate in the research. If you have any questions, please feel free to ask.

Thank you for your consideration.

Sincerely

Khadheeja Nazima

(Maldives National University)