REASONS FOR SMOKING AMONG THE
TEENAGERS IN HA.MAARANDHOO

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HA.MAARANDHOO

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of Bachelors in Primary Health Care

Faculty of Health Sciences
The Maldives National University
May, 2016
DECLARATION

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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: 26/05/2016
REASONS OF SMOKING HABIT AMONG THE TEENAGERS IN
HA.MAARANDHOO

HUSSAIN RIYAZ

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ABSTRACT

Even though smoking is enormously harmful to health, the prevalence of smoking among teenagers, around the world as well as in the Maldives, are high. The main purpose this study is to understand the reasons, why the numbers of smokers among teenagers are increasing, and to investigate the factors leading them to start smoking in HA.Maarandhoo Island, Maldives. A cross-sectional descriptive study was conducted in Maarandhoo, using a stratified random sampling 44 males and 52 females of age 13 to 19 years were selected. Self-administered questionnaires were used to collect the data which were then analyzed using SPSS version 20 software. Study revealed that, one in every ten teenagers is a smoker in the Maarandhoo Island and the chi-square test showed statistically significant relationship between Friends’ cigarette use plus family issues (parental divorce or separation), and teenage cigarette smoking. It also showed, majority of the participants agreed that smoker friends, family issues and media influence teenage smoking behavior. The results of the present study can contribute to the literature and have significant implications for practitioners and policy makers to prevent teenagers in Maarandhoo from developing smoking habits.

Key words: Smoking, Teenagers, Family issues, Friends, Media, Maarandhoo Island.
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Sincerely,

Hussain Riyaz
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LIST OF ABBREVIATION

CDC: Centers for Disease Control and Prevention

ESPAD: European School Survey Project on Alcohol and other Drugs

FCTC: Framework Convention on Tobacco Control

GHO: Global Health Observatory

SEARO: South-East Asia Regional Office

SPSS: Statistical Package for Social Sciences

U.S: United States

WHO: World Health Organization
CHAPTER 1

INTRODUCTION

1.1 Background to the Study

It has been noticed that every year lots of money are being wasted in smoking. It is scientifically proven that smoking is extremely hazardous and harmful to the health however lots of people especially teenagers are getting involved in smoking habit. According to United States Center for Diseases Control and prevention (2015), every day, more than 3200 children younger than 18 years of age smoke or experience their first cigarette, and 2100 youth and young adults who smoke occasionally become regular cigarette smokers in United States (CDC, 2015).

According to WHO(2015) there are more than one billion smokers worldwide and approximately 80% of them live in low and middle income countries. Therefore smoking is also one of the biggest public health threats to a county like Maldives, as one in every ten students use tobacco products in the Maldives (WHO, 2011).

Smoking is also one of the serious health issues in HA. Maarandhoo. Maarandhoo is one of the inhabited islands of HaaAlif Atoll and is geographically located in the north of the Maldives. The population is 1002 people of which 524 are males and 478 are females (Secretariat of Maarandhoo council, 2015). According to Phubic Health Unit (2013) 75 houses out of 127 where people live, have at least one smoker.
1.2 Problem Statement and Justification

Smoking is extremely bad for health. It kills approximately six million people in a year and it harms almost every organ of the human body (WHO, 2015). Cigarette smoking is responsible for 87 percent of lung cancer deaths. It is also causing many other cancers and serious health problems (National Cancer Institute, 2014). Approximately one person dies every six seconds due to tobacco (WHO, 2014).

Even though smoking is enormously harmful to health, the prevalence of smoking among teenagers, around the world as well as in the Maldives, are high. According to Public Health Unit of Maarandhoo Health Centre (2013) the prevalence of teens smoking are expected to be high. Besides, there is no current study which has undergone in Maarandhoo to identify the reasons of teens smoking. Therefore it is very essential to find out the causes of smoking habit among the teenagers in HA.Maarandhoo.

1.3 Purpose of the study

The main purpose of this study is to understand the reasons, why the numbers of smokers among teenagers are increasing, and to investigate the factors leading them to start smoking.

1.4 Objectives of study

1.4.1 General Objective

To find out the causes and reasons of the habit of smoking among the teenagers.

1.4.2 Specific Objectives

To identify whether friends influence teenagers to start smoking.

To identify whether family issues have any relationship with teen smoking.

To identify the effects of social media influence and inspiration in teen smoking.
1.5 Research Questions (or Hypotheses).

What are the factors influencing teenagers to smoke?

1.6 Significance

This research will explore various important information about the reasons of smoking habit among the teenagers. Findings of this study will increase the understanding of parents, teachers and policy makers regarding one of the significant issues of teenagers, and they can help their teenagers more effectively to overcome this bad habit. The result of this study will also support Ministry of Health, to improve the strategies and policies to curb teenage smoking in the Maldives.

1.7 Delimitations/ Scope of the study

This study did not represent all the islands of Maldives. This study is limited to HA. Maarandhoo Island. In addition, this study did not cover all the age groups and it only covers teenagers aged 13 to 19 years.

1.8 Definitions of Terms

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

**High school students:** those who are studying at grade 11 and 12.

**Teenager:** young person whose age falls within the range from 13–19 years.

**Tobacco products:** products made using tobacco leaves like cigarettes, pipes and cigars.

**Second hand smoke:** smoke from a cigarette, pipe, cigar or burning tobacco that is involuntarily inhaled, especially by non-smokers.

**Filed:** Place where data is to be collected.
CHAPTER 2

LITERATURE REVIEW

2.1 The teenagers

Teenagers are young people aged between 13 to 19 years. It is the time when young people experience changes in their physical, psychosocial and cognitive development (Appau, 2011). This is the period when they develop a lot of habits and they try to gain more independence from parents (Morgan & Huebner, 2012).

During this period, teenagers develop advanced thinking skills. They gain the ability to plan ahead, try to get the attention of others and seek for identity. This is also the period they give very much importance to their physical appearance to gain personal identity and sense of social belonging (Morgan & Huebner, 2012).

2.2 Smoking and its cost

The World Health Organization defines that “Tobacco products are products made entirely or partly of leaf tobacco as raw material, which are intended to be smoked, sucked, chewed or snuffed” (WHO, 2008). Smoking is injurious to health. It kills nearly half of its users and approximately 6 million people every year worldwide (WHO, 2015). Out of this 6 million, more than 5 million deaths are due to direct tobacco use. According to WHO (2015) more than 600000 non smokers die as a result of being exposed to second hand smoke.
Tobacco smoke contains more than 4000 chemicals and at least 250 chemicals are harmful to humans (Nordqvist, 2015). More than 50 chemicals that contains in the tobacco smoke are known to cause cancer. Some of the toxic compounds found in the tobacco smoke include ammonia, benzene, tar, carbon monoxide and nicotine. Nicotine is mainly responsible for addiction of smoking (Connell, 2015). Nicotine is a psychoactive and reinforcing drug. That is the reason why many smokers find it difficult to quit smoking (Appau, 2011).

2.3 Teenage Smoking Situation in the World

Teen smoking is a serious public health concern all over the world. According WHO (2013), 21 percent of the global population aged 15 and above smoked tobacco in 2012 and the prevalence of smoking among males are five times higher than females. The rates were 36 percent and 7 percent respectively (World Health Organization, 2013).

Approximately there are 1.2 billion smokers all over the world and more than 50% of them are young people aged 15 to 20 years (Al-Sadat, Misau, Zarihah, Maznah, & Su, 2010). In United States, more than 3200 teenagers younger than 18 years start smoking every day and more than 2100 youth and young adults who are occasional smokers become regular cigarette smokers (CDC, 2015). The teen smoking rate is worse in Europe. According to European School Survey Project on Alcohol and other Drugs (ESPAD) report 2012, tobacco use among teenagers is of significant concern in most European countries (Hibell, 2012).

A survey conducted by University of Michigan Regents among the students in some of the largest countries in Europe, many smaller ones from both Eastern and Western Europe and among the students in United States shows that the proportion of American students smoking cigarettes was 12 percent. In European countries the average
proportion smoking was 28 percent. Therefore in European countries the rate of students smoking cigarettes was more than twice the rate in the U.S (University of Michigan Regents, 2012).

2.4 Teenage Smoking Situation in South-East Asia Region:

WHO South-East Asia Region consist of 11 countries they are; Bangladesh, Bhutan, North Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste. The population of this region is about a quarter of the world population. According to WHO (2015), in the WHO South-East Asia Region, tobacco kills 150 people every hour.

In South-East Asia tobacco use is terrifyingly high. Every year, tobacco kills 1.3 million people in this region. South-East Asia Region is home to 25 percent of the world’s smokers and 90 percent of the world’s smokeless tobacco users, about 246 million and 290 million people respectively (WHO SEARO, 2015). According to Global Health Observatory data of WHO, boys aged 13 to 15 years in WHO South-East Asia Region use tobacco at higher rates than other regions, at over 20 percent (World Health Organization, 2013).

2.5 Teenage Smoking Situation in Maldives:

Current statistics show that over 80 percent of smokers live in developing countries (Centers for Disease Control and Prevention, 2011). Smoking is also a serious public health issue in the Maldives like other developing countries. A survey conducted in schools in 2011 shows that 35 percent of children live in homes where others smoke in their presence and 44 percent of their parents were smokers (WHO Maldives, 2015).

Global Youth Tobacco Survey (GYTS) conducted in the Maldives in 2011, with 2641 participants among the age group of 13 to 19 years, highlighted that 11.2 percent of
students used any form of tobacco and 7.9 percent used any smoked tobacco products (WHO, 2011). It also highlighted that 6.2 percent of students used any smokeless tobacco products.

2.6 Previous literature related to the study

People start smoking for different reasons and many people engage in the habit as teenagers. Some people think it looks cool or sophisticated. Others start because their family members, friends or their favourite heroes smoke. Some people begin smoking as a means to cope with strong emotions (U.S Department of Health & Human Service, 2012). According to the report of U.S Department of Health & Human Service (2012), very few people start smoking after age 25 years and it has been shown that, nearly 9 out of 10 adult smokers started before they are 18 years old. Almost one fifth of high school students are cigarette smokers. Although different reasons exist for when and why a person would begin smoking, a large number of smokers begin in their teen years.

2.6.1 Friends

According to American Cancer Society (2015) teenagers who smoke most likely have friends who smoke. Evidence suggests that friends’ cigarette use has significant effect on teenagers’ cigarette use. A research conducted to examine the changes in friends’ and parental influences on cigarette smoking from early through late adolescence, by analysing the first seven waves of longitudinal data from 1001 adolescents from 7th to 12th grade who participated in the Midwestern Prevention Project (a community based substance abuse prevention program), shows that friends’ cigarette use influence young people to start smoking during the whole teenage period (Liao, Huang, Huh, Pentz, & Chou, 2013).
Teens learn about smoking by hanging around others who smoke. The decision to light up is reinforced by a desire to be accepted by their peer group. A qualitative study conducted in northern Australia, to explore the purposes of smoking among Australian youth, by undertaking group interviews with sixty five participants and individual in depth interviews with 11 youth aged 13 to 20 years, shows that teens take on the values and behaviour of the friends in order to be accepted (Johnston, Westphal, Earnshaw, & Thomas, 2012).

A cross-sectional study conducted in Jeddah, Kingdom of Saudi Arabia to identify the prevalence of smoking and the smoking habits among male secondary school students and to examine their knowledge and attitudes towards smoking, indicate that 32.8 percent of male secondary school students started smoking, because of the pressure from smoker friends (Fida & Abdelmoneim, 2013). Therefore many teenagers smoke to fit in with friends, and to avoid being the odd one out.

2.6.2 Family

Parents play an important role in the lives of their children. A parent is their child’s first teacher and children often copy the exact behaviours of their parents (Live Science, 2010). Therefore, if parents practice a bad behaviour like smoking, it will definitely influence their children to adopt it.

A longitudinal, multigenerational study conducted on parent and child cigarette use, to identify how parents’ long term smoking trajectories are associated with children’s possibility of smoking, shows that children of parents who smoked, even if the parents quit smoking before the child was born, are more likely to smoke than those whose patents are non-smokers (Vuolo & Staff, 2014). Therefore, smoking at any time in their lives can influence their children to smoke.
In the year 2009 a research conducted on parental smoking and adolescent smoking initiation to investigate unresolved issues concerning the strength and nature of the association between parent smoking and offspring smoking initiation, shows that the effect of father’s smoking is more on boys than on girls (Stephen, et al., 2009).

Siblings can also motivate teenagers to start smoking. Across-sectional study conducted in a population of 2000 students of the Belgrade University, to identify the most important risk factors related to smoking with a special emphasize on the family role, shows that having a smoking brother and sister is a significant and independent risk factor for smoking (Tasic, Grgurevic, Trajkovic, & Pekmezovic, 2016). Another research conducted in United States, also says that having an older brother or sister who smokes raises the probability that the younger one will pick up the smoking habit (Vuolo & Staff, 2014).

Parent negligence, family related issues or poor parent-child relationship may also be reasons that teens smoke. Poor relationship with children is associated with higher level of smoking, while positive and supportive relationship protects children from smoking (Rimpela, 2009).

Parental divorce or separation can result parent negligence or poor parent-child relationship. Parental divorce may limit the assistance and guidance from the parents and it may cause the child to adopt negative behaviours. A cross-sectional study conducted in Zhejiang Province of China to determine the associated factors and prevalence of smoking in a Chinese adolescent population with sample size of 9617 middle school students, 5495 academic high school students and 4430 vocational high school students, shows a consistent positive association between parental divorce and adolescents’ smoking behaviour (Wang, Zhong, Fang, & Wang, 2015). Lack of
guidance and assistance from parents and also family disharmony and family conflicts makes the children to live in a stressful environment.

A research carried out in Islamabad, to find out the causes of smoking habit among the teenagers, shows that among study population 8 percent of the teenagers smoke because of psychological distress (Khurshid, 2012).

2.6.3 Media

The WHO Framework Convention on Tobacco Control (WHO FCTC) bans all form of tobacco advertising, promoting and sponsorships. But there is evidence that tobacco companies do it online, specially through social media (Tobacco Tactics, 2012). Research shows, about 33 percent of youth experiment tobacco product as a consequence of exposure to tobacco advertising, promoting and sponsorships. Approximately 78 percent of young people aged 13 to 15 years report regular exposure to some form of tobacco promotion, advertising and sponsorship worldwide (WHO, 2013).

Smartphone use is growing all over the world and it is very common that lots of teenagers use smart phone these days. Although smartphone stores have a wide collection of educational and health related applications they also have a wide set of harmful applications. A research conducted to examine the availability of pro-smoking applications in two of the largest smartphone application stores (Apple applications store and Android Market), shows that there are 107 pro-smoking smartphone applications in the Apple applications store and Android market (BinDhim, Freeman, & Trevena, 2012). Pro-smoking applications give information about tobacco product’s brands, where to buy them, and encourage their use.
A cross-sectional study conducted in Germany to examine the specificity of the association between cigarette advertising and teen smoking, shows that, the teenagers who had been exposed to higher levels of tobacco marketing were more likely to be smokers than those who have been exposed to low levels (Hanewinkel, Isensee, Sargent, & Morgenstern, 2010).

Research shows that, seeing smoking in movies can almost triple the chance that a teenager will try smoking (Heatherton & Sargent, 2009). Most of the teenagers, they try to copy the characteristics and the styles of their favourite hero. Seeing their heroes smoking in the movies can motivate the teenager to start smoking. A cohort study designed to examine the effect of state and local level tobacco prevention and control programs on youth and young adults in Minnesota with a sample size of 4735 participants shows that 50 percent of the participants saw actors and actresses smoking in movies some of the time, and another 35.5 percent reported most of the time (Choi, Forster, Erickson, Lazovich, & Southwell, 2011)

2.6.4 Theoretical framework

The theoretical model which is employed in this research is the social cognitive theory, which is a theory of behaviour change. At first it started as the social learning theory in the year 1960 by Canadian psychologist Albert Bandura and later in 1986 he expanded and developed into social cognitive theory (Boston University School of Public Health, 2016).

Social cognitive theory recommends that human functioning can be described by a triadic interaction of behaviour, personal and environmental factors (Bandura, 1986). The central concept of social cognitive theory is reciprocal determinism. It is the
process involving the dynamic interactions between personal, behavioral, and environmental factors (Bandura, 2002). The three types of determinants in the model are behavioral determinants, personal determinants and environmental determinants. Personal determinants are various psychological processes that occur within the individual. Environmental determinants are any factors that are physically external to the individual and that influence an individual’s behaviour and thoughts. Behavioral determinants are the ways in which the individual responds to various inputs from their social and physical environment.

This study is conducted to identify whether the environmental factors like family issues (parental smoking, smoking siblings, parental divorce etc), smoking friend and directly or indirectly advertising tobacco products through social media, can influence teenager to adopt smoking behaviour.

![Social Cognitive Theory Model](image)

**Source:** Bandura (1986)

**Figure 2.1** Social Cognitive Theory Model
CHAPTER 3

METHODOLOGY

This chapter highlights the methodological details appropriate to the study which includes; research design, study area, target population, sampling techniques and sample size. It also includes description about the research instrument, pre-testing, validity and reliability of the instrument. The data collection techniques, data analysis, ethical considerations, and the conceptual framework will also come under this chapter.

3.1 Research Design

This research is a cross-sectional descriptive quantitative study, which aims to identify the factors which influence smoking among the teenagers of HA. Maarandhoo. Cross sectional design is used because it is relatively quick and easy to conduct as data on all variables is only collected once and no long periods of follow-up is required. Moreover it is less expensive compare to other study designs and useful for measuring current situation of teen smoking in HA. Maarandhoo.

3.2 Study Area

This study was conducted in HA. Maarandhoo, Maldives. The total population of the island is 1002 people of which 524 are males and 478 are females (Secretariat of Maarandhoo council, 2015). The main reason for selecting Maarandhoo Island to conduct this study was, until now, there is no research carried out to find reasons for
smoking habit among the teenagers in HA. Maarandhoo and the prevalence of smoking among teenagers are expected to be high (Phubic Health Unit, 2013).

3.3 Target Population

The target population if this research is all the teenagers aged 13 to 19 years of HA Maarandhoo Island. There are 59 males and 70 females in the target population (Secretariat of Maarandhoo council, 2015).

3.4 Sampling Techniques

The Sampling technique used for the study is stratified random sampling. The population will be divided into two groups male and female. Members will be selected randomly from each group in proportion to the group’s size. Main reasons for using stratified random sampling method for selecting people from the target population is, stratified sampling techniques represent all specific groups proportionally in the sample.

3.5 Sample Size

The sample size is calculated with the help of web based software called Raosoft (Raosoft, 2004). The target population if this study is all the teenagers aged 13 to 19 years of HA Maarandhoo Island (129 teenagers). Expected margin of error was adjusted as a five percent while, confidential interval level was kept ninety five percent. Moreover, the level of response level among participant was maintained 60 percent. After entering study population, the software generated sample size as 96 people (Raosoft, 2004). For the stratified random sampling the following calculations were made to calculate the sample size of each group.
Drop 1: Sample size of Male teenagers

\[
\text{Sample size of Male teenagers} = \frac{\text{Total number of male teenagers}}{\text{Total number of teenagers}} \times \text{Total sample size}
\]

\[
= \frac{59}{129} \times 96
\]

\[
= 44 \text{ male teenagers}
\]

Drop 2: Sample size of Female teenagers

\[
\text{Sample size of Female teenagers} = \frac{\text{Total number of Female teenagers}}{\text{Total number of teenagers}} \times \text{Total sample size}
\]

\[
= \frac{70}{129} \times 96
\]

\[
= 52 \text{ Female teenagers}
\]

The sample size of this study is 44 males and 52 females. With the help of island’s vital register 44 males and 52 females were randomly selected from the list of all the teenagers in the island Maarandhoo.

3.6 Research Instruments

Self-administered structured questionnaire was used for data collection. The questionnaire was prepared in English and then translated into local language (Dhivehi). The main reason for translating the questionnaire is some teenagers might not have English background to answer such questions. Therefore to reduce such difficulties questionnaire was translated into Dhivehi language. To prepare the questionnaire, some
of the questions were borrowed from Munn, et al. (2010), a project designed to investigate the effects of genes and environment on smoking behaviour.

The questionnaire used in this study consists of two sections (section A and section B). Section A includes total fourteen (14) questions in which the first six questions were asked to identify whether family issues have any relationship with teen smoking. It includes 5 dichotomous type questions and one likert scale question. From question 7 to question 10, the questions were asked to identify whether friends influence teenagers to start smoking and it contains 3 dichotomous type questions and a likert scale question. The last part of section A includes 4 questions in which 3 questions were asked to identify the effects of social media influence and inspiration in teen smoking and one question was asked to take their opinion on the best way to prevent teen smoking. It includes one open ended question, two dichotomous type questions and a likert scale question. Section B is demographic characteristics and this section includes seven (7) questions in which 2 questions were open ended questions and 5 dichotomous type questions.

3.7 Pre-Testing

Before collecting the field data, the questionnaire was tested among ten (10) teenagers in the target population, to ensure whether they understand the questions properly or not.

3.8 Validity and Reliability

Questionnaire was pretested among 10 teenagers in the target population, to increase the reliability of survey instrument. After pretesting questionnaire among 10 people, feedbacks were incorporated in the questionnaire before collecting field data. Moreover, questionnaire was shown to a lecturer at Faculty of Health Sciences and some changes
were made to the pattern of questions based on her feedback for the betterment of strengthen the reliability of questionnaire.

To increase the validity and reliability of the research, questionnaire was made by strictly focusing on achieving the purpose and the objectives of the study and getting the answer to the research question, as much as possible. Hence, the validity of the finding in the research may not get change if same type of research carries in different setting too.

3.9 Data Collection Techniques

In this study, field data were collected using a self-administered questionnaire. Three research assistants were selected as field officers for field data collection. Before sending the research assistants to the field, they were given one day training session on questionnaire and other relevant ethical measures to maintain during the field work and they were given enough information and chance to ask any question about the research. It took approximately one week to collect all the data from the sample.

3.10 Data Analysis

Data was cleaned and coded. Furthermore the data was analysed, by using Statistical Package for Social Sciences (SPSS) version 20, for descriptive statistics analysis using frequency, percentage, mean and standard deviation to descriptive general characteristics of the participants. Chi square test was used to find out the association between different variables (dependent and independent variable). All statistical analysis considered on significance if the P value is less than the level of significance (0.05) and all analysed data will be presented in the tables.
3.11 Ethical Considerations

Informed consent was taken from the participants and or parents, if the participant is less than 18 years old, before they could take part in this study, to protect their legal and ethical rights. For the participants, it was completely voluntary to participate in this research and the participants were given right to withdraw their names from the study at any time. The privacy of the participants was ensured by keeping the questionnaire anonymously and confidential and ethical principles were applied for minimizing harm to the participants. Furthermore vulnerability group of people were not included in this research.

3.12 Conceptual framework

Conceptual framework was developed based on the ideas driven from Bandura’s social cognitive theory. Environmental determinants part of the social cognitive theory was chosen to develop theoretical framework. This study is conducted to identify whether the environmental factors like family issues, smoking friend and social media can influence teenager to adopt smoking behaviour. The dependent variable is teenage smoking whereas independent variables are friends, family issues and media.

**Figure:** 3.1 Conceptual framework
CHAPTER 4

RESULTS

A descriptive and cross-sectional study was conducted to identify the factors which influence smoking among the teenagers of HA. Maarandhoo. The sample size of this study is 96 people (44 males and 52 females) of aged 13 to 19. Out of proposed 96 samples, 94 teenagers (44 males and 50 females) were participated in this study making the response rate to be 98 percent.

4.1 Descriptive Statistics

4.1.1 Socio demographic characteristics

Table 4.1 Frequency and percentage of socio demographic characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (n= 94)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>10</td>
<td>10.6</td>
</tr>
<tr>
<td>14</td>
<td>21</td>
<td>22.3</td>
</tr>
<tr>
<td>15</td>
<td>19</td>
<td>20.2</td>
</tr>
<tr>
<td>16</td>
<td>12</td>
<td>12.8</td>
</tr>
<tr>
<td>17</td>
<td>6</td>
<td>6.4</td>
</tr>
<tr>
<td>18</td>
<td>13</td>
<td>13.8</td>
</tr>
<tr>
<td>19</td>
<td>13</td>
<td>13.8</td>
</tr>
</tbody>
</table>

Mean Age = 15.79    Median = 15    Mode = 14

Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>44</td>
<td>46.8</td>
</tr>
<tr>
<td>Female</td>
<td>50</td>
<td>53.2</td>
</tr>
</tbody>
</table>
Table 4.1, continued.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (n= 94)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>93</td>
<td>98.9</td>
</tr>
<tr>
<td>Married</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Education</td>
<td>20</td>
<td>21.3</td>
</tr>
<tr>
<td>Secondary Education</td>
<td>71</td>
<td>75.5</td>
</tr>
<tr>
<td>Higher Secondary Education</td>
<td>3</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Studying</td>
<td>77</td>
<td>81.9</td>
</tr>
<tr>
<td>Fishing</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>Private office</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Income</td>
<td>78</td>
<td>83</td>
</tr>
<tr>
<td>Below MRF 5000</td>
<td>8</td>
<td>8.5</td>
</tr>
<tr>
<td>Between MRF5000 to 10000</td>
<td>7</td>
<td>7.4</td>
</tr>
<tr>
<td>Above MRF10000</td>
<td>1</td>
<td>1.1</td>
</tr>
</tbody>
</table>

The frequency and percentage of socio demographic characteristics of participants are shown in Table 4.1. The result showed that, the mean age of respondents were 15.79 years, 10.6% of respondents were 13 years old, 22.3% of respondents were 14 years old, 20.2% of respondents were 15 years old, 12.8% of respondents were 16 years old, 6.4% of respondents were 17 years old, 13.8% of respondents were 18 years old and 13.8% of respondents were 19 years old. Furthermore, 46.8% of participants were male and 53.2% people were female. Based on the marital status, 1.1% people were married and 98.9% people were single. The results also showed that, the majority of the people (75.5%) had secondary level of education, 21.3% of respondents completed primary education and 3.2% had completed higher secondary education. Among the 94 participants, 81.9% people were studying, 17% people were working in private sector and 1.1% of people were working in fishing industry. Moreover, 83% of participants receive no income,
8.5% of participants receive less than MRF 5000 and 7.4% of participants receive in between MRF 5000 to 10000 for their average monthly income.

### 4.1.2 Influence of friends on teenage smoking

Table 4.2 Frequency and percentage of participants’ friends influence on teenage smoking

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (n= 94)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did any of your closest friends smoke cigarettes?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>23</td>
<td>24.5</td>
</tr>
<tr>
<td>No</td>
<td>71</td>
<td>75.5</td>
</tr>
<tr>
<td>Did any of your friends offer you cigarette?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>No</td>
<td>78</td>
<td>83</td>
</tr>
<tr>
<td>If “yes” did you accept? n=16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>56.3</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>43.8</td>
</tr>
<tr>
<td>Do you agree that friends influence teenagers to start smoking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>Disagree</td>
<td>25</td>
<td>26.6</td>
</tr>
<tr>
<td>Neither agree or disagree</td>
<td>3</td>
<td>3.2</td>
</tr>
<tr>
<td>Agree</td>
<td>46</td>
<td>48.9</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>19</td>
<td>20.2</td>
</tr>
<tr>
<td>Mean = 3.6064  SD = 1.1189  Min = 1  Max = 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Frequency and percentage of participants’ friends influence on teenage smoking are shown in table 4.2. Among the 94 participants, 71 (75.5%) participants did not have closest friends who smoke cigarettes whereas 23 (24.5%) participants had closest smoking friends. Furthermore, 17% of participants had friends who offer cigarettes and 83% of participants did not have friends as such. The results also showed that, 56.3% of the teenagers accept the cigarettes from the friends those who offer and only 43.8% of respondents did not accept the cigarettes from the friends. Moreover, 20.2% (n = 19) of
the people strongly agree that friends influence teenagers to start smoking and 1.1% of the people strongly disagree about the friends influence on teen smoking. The results also showed that, 3.2% of the people neither agree nor disagree, 26.6% (n = 25) of the people disagree and 48.9% (n = 46) of the people agree that friends influences teenagers to smoke.

4.1.3 Influence of family issues on teenage smoking

Table 4.3 Frequency and percentage of participants’ family issues influence on teenage smoking

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (n= 94)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>While you were growing up, how many of your parents/guardians smoked (including gudugudaa) at all?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>40</td>
<td>42.6</td>
</tr>
<tr>
<td>One</td>
<td>44</td>
<td>46.8</td>
</tr>
<tr>
<td>More than one</td>
<td>10</td>
<td>10.6</td>
</tr>
<tr>
<td>While you were growing up, did any of your brothers or sisters who lived with you smoke?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>44</td>
<td>46.8</td>
</tr>
<tr>
<td>No</td>
<td>50</td>
<td>53.2</td>
</tr>
<tr>
<td>While you were growing up, did any of your parents/guardians smoke inside your home?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>62</td>
<td>66</td>
</tr>
<tr>
<td>No</td>
<td>32</td>
<td>34</td>
</tr>
<tr>
<td>Marital status of your parent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>83</td>
<td>88.3</td>
</tr>
<tr>
<td>Divorce/ Separated</td>
<td>6</td>
<td>6.4</td>
</tr>
<tr>
<td>Widowed</td>
<td>5</td>
<td>5.3</td>
</tr>
</tbody>
</table>
Table 4.3, continued.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (n= 94)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you agree that family issues influence teen smoking?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>3</td>
<td>3.2</td>
</tr>
<tr>
<td>Disagree</td>
<td>14</td>
<td>14.9</td>
</tr>
<tr>
<td>Neither agree or disagree</td>
<td>7</td>
<td>7.4</td>
</tr>
<tr>
<td>Agree</td>
<td>56</td>
<td>59.6</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>14</td>
<td>14.9</td>
</tr>
<tr>
<td>Mean = 3.6809   SD = 1.0076      Min = 1 Max = 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Frequency and percentage of participants’ family issues influence on teenage smoking are shown in table 4.3. Among the 94 participants, 42.6% (n = 40) of the respondents did not have smoking parent or guardian when they grow up. However 46.8% (n = 44) of the respondents had one and 10.6% of the respondents had more than one smoking parents or guardians when they grow up. The results also showed that, 46.8% (n = 44) of the participants had a smoking brother or sister who lived with them when they grow up and 53.2% (n = 50) of the participants did not have smoking brother or sister. Furthermore, 66% (n = 62) of participants’ parents or guardians smoke inside their home whereas 34% of the participants’ parents or guardians did not smoke inside their living home. Majority of the people (n= 83, 88.3%) who took part in the study were living with mother and father. In contrast, 6 people (6.4%) were living with divorced or separated parents and 5.3% (n = 5) of the people were living with widowed parents. Furthermore, 14.9% (n = 14) of the people strongly agree that family issues influence teenagers to start smoking and 3.2% of the people strongly disagree about the family issues influence on teen smoking. The results also showed that, 7.4% of the people neither agree nor disagree, 14.9% (n = 14) of the people disagree and 59.6% (n=56) of the people agree that family issues influences teenagers to smoke.
4.1.4 Influence of media on teenage smoking

Table 4.4 Frequency and percentage of participants’ exposure to media influence on teenage smoking

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (n= 94)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you see smoking advertisements on television, radio, billboards, posters, newspapers, mobile phone, internet and magazines?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>76</td>
<td>80.9</td>
</tr>
<tr>
<td>No</td>
<td>18</td>
<td>19.1</td>
</tr>
<tr>
<td>If “Yes” what was the most frequent media? n=76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Television</td>
<td>51</td>
<td>67.1</td>
</tr>
<tr>
<td>Internet</td>
<td>25</td>
<td>32.9</td>
</tr>
<tr>
<td>Do you agree that social media influences teenagers to start smoking?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>3</td>
<td>3.2</td>
</tr>
<tr>
<td>Disagree</td>
<td>8</td>
<td>8.5</td>
</tr>
<tr>
<td>Neither agree or disagree</td>
<td>6</td>
<td>6.4</td>
</tr>
<tr>
<td>Agree</td>
<td>63</td>
<td>67</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>14</td>
<td>14.9</td>
</tr>
<tr>
<td>Mean = 3.8191   SD = 0.9035   Min = 1 Max = 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Frequency and percentage of participants’ exposure to media influence on teenage smoking are shown in table 4.4. The results showed that, majority of the people (n= 76, 80.9%) who took part in the study saw smoking advertisements on television, radio, billboards, posters, newspapers, mobile phone, internet and magazines whereas 19.1% of the people did not see any form of smoking advertisement on media. Furthermore 67.1% (n = 51) of the participants saw people smoking on television most frequently and 32.9% (n = 25) of the participants saw it on the internet. Among the 94 participants, 14.9% (n = 14) of the people strongly agree that social media influences teenagers to start smoking and 3.2% of the people strongly disagree about the social media influence.
on teen smoking. The results also showed that, 6.4% of the people neither agree nor disagree, 8.5% (n = 8) of the people disagree and 67% (n = 63) of the people agree that social media influences teenagers to smoke.

4.1.5 Smoking status of the participants and their perception to prevent teen smoking

Table 4.5 Frequency and percentage of participants’ smoking status and their perception on preventing teenage smoking

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (n= 94)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smokers</td>
<td>10</td>
<td>10.6</td>
</tr>
<tr>
<td>Non Smokers</td>
<td>84</td>
<td>89.4</td>
</tr>
<tr>
<td>Best way to prevent teen smoking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>By conducting proper awareness program</td>
<td>50</td>
<td>53.2</td>
</tr>
<tr>
<td>By preparing strict rules and regulation and following them</td>
<td>13</td>
<td>13.8</td>
</tr>
<tr>
<td>By increasing the price of the tobacco products</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td>By stopping the import of the tobacco products</td>
<td>7</td>
<td>7.4</td>
</tr>
<tr>
<td>By banning the tobacco use in the Maldives</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td>By giving proper support from the families</td>
<td>4</td>
<td>4.3</td>
</tr>
<tr>
<td>By not smoking in front of the teenagers</td>
<td>2</td>
<td>2.1</td>
</tr>
<tr>
<td>Do not know</td>
<td>8</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Frequency and percentage of participants’ smoking status and their perception on preventing teenage smoking are shown in table 4.5. Among the 94 participants, 10.6% of the participants are smokers and 89.4% (n = 84) are non-smokers. Majority of the people (n= 50, 53.2%) who took part in the study believe that, teenage smoking can be prevented by conducting proper awareness programs and 13.8% (n = 13) of the people believe that it can be prevented by preparing strict rules and regulation and by following them regularly. Furthermore, 5.3% (n = 5) of the people believe that teen smoking can
be prevented by increasing the price of the tobacco products and 4.3% people believe that it can be prevented by giving proper support from the families. The results also showed that, 7% of the participants think that teenage smoking can be prevented by stopping the import of the tobacco products and 5% people believe that it can be prevented by banning the tobacco use in the Maldives.

4.2 Associated factors that are likely to cause teenage smoking

4.2.1 Influence of friends

Table 4.6 Association between closest friends’ cigarette use and teenage smoking

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>6.444</td>
<td>1</td>
<td>.011</td>
<td>0.01</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>6.066</td>
<td>1</td>
<td>.014</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>6.375</td>
<td>1</td>
<td>.012</td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>94</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.6 shows the result of the Chi-Square Test using a 5% significance level for association between closest friends’ cigarette use and teenage smoking. The result of the test showed the P value as 0.01. Therefore, there is significant association between closest friends’ cigarette use and teenage smoking.

4.2.2 Influence of family issues

Table 4.7 Association between parental smoking and teenage smoking

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.030</td>
<td>1</td>
<td>.863</td>
<td>0.86</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.030</td>
<td>1</td>
<td>.863</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.030</td>
<td>1</td>
<td>.864</td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>94</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4.7 shows the result of the Chi-Square Test using a 5% significance level for association between parental smoking and teenage smoking. The result of the test showed the P value as 0.86. Therefore, in this study, there is no significant association between parental smoking and teenage smoking.

**Table 4.8** Association between having a smoking brother or sister and teenage smoking

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.782</td>
<td>1</td>
<td>.376</td>
<td>0.37</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.783</td>
<td>1</td>
<td>.376</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.774</td>
<td>1</td>
<td>.379</td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>94</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.8 shows the result of the Chi-Square Test using a 5% significance level for association between having a smoking brother or sister and teenage smoking. The result of the test showed the P value as 0.37. Therefore, in this study, there is no significant association between having a smoking brother or sister and teenage smoking.

**Table 4.9** Association between marital status of the parent and teenage smoking

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>11.254</td>
<td>2</td>
<td>.004</td>
<td>0.004</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>7.308</td>
<td>2</td>
<td>.026</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>4.863</td>
<td>1</td>
<td>.027</td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>94</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.9 shows the result of the Chi-Square Test using a 5% significance level for association between marital status of the parent and teenage smoking. The result of the test showed the P value as 0.004. Therefore, there is significant association between marital status of the parent and teenage smoking.
4.2.3 Influence of Medias

Table 4.10 Association between exposure to tobacco marketing and teenage smoking

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.005</td>
<td>1</td>
<td>.942</td>
<td>0.94</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.005</td>
<td>1</td>
<td>.943</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Assoc.</td>
<td>.005</td>
<td>1</td>
<td>.943</td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>94</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.10 shows the result of the Chi-Square Test using a 5% significance level for association between exposure to tobacco marketing and teenage smoking. The result of the test showed the P value as 0.94. Therefore, in this study, there is no significant association between exposure to tobacco marketing and teenage smoking.
CHAPTER 5

DISCUSSION AND CONCLUSION

The present cross-sectional study included 94 participants aged between 13 to 19 years old from the residents of Maarandhoo Island in Maldives. The main purpose this study is to understand the reasons, why the numbers of smokers among teenagers are increasing, and to investigate the factors leading them to start smoking in Maarandhoo Island, Maldives.

The analysis of this study findings noted that 10.6% of the teenagers are smokers and 24.5% of the participants have closest friends who smoke cigarettes. Additionally, majority of the participants (n= 65, 69.1%) agreed that friends influence teenagers to start smoking. Among the 94 participants, 57.4% (n = 54) of the respondents have at least one smoking parent or guardian and 46.8% (n = 44) of the participants had a smoking brother or sister who lived with them when they grow up. Furthermore, majority of the participants (n = 62, 66%) are living in homes where smoking is allowed. The results also showed that, majority of the people (n= 76, 80.9%) who took part in the study saw smoking advertisements on television, radio, billboards, posters, newspapers, mobile phone, internet and magazines, and 81.9% of the participants agree that social media influences teenagers to start smoking. In addition to that 53.2% of the respondents believe that teenage smoking can be prevented, by conducting proper awareness programs.
5.1 Influence of friends on teenage smoking

The finding of this study showed that 23 (24.5%) participants have closest friends who smoke cigarettes. Furthermore, majority of the participants (n= 65, 69.1%) agreed that friends influence teenagers to start smoking. The chi-square test showed that, there is a significant association (P = 0.01) between closest friends’ cigarette use and teenage smoking. Across-sectional study conducted in Jeddah, Kingdom of Saudi Arabia to identify the prevalence of smoking and the smoking habits among male secondary school students and to examine their knowledge and attitudes towards smoking, also indicate that student who has a smoker friend is significantly more liable to become a smoker than a student with nonsmoker friends (OR = 5.31; 95% CI: 2.88 – 9.94) and it also showed that 32.8 percent of the students started smoking, because of the pressure from smoker friends (Fida & Abdelmoneim, 2013). Another research conducted to examine the changes in friends’ and parental influences on cigarette smoking from early through late adolescence, also showed that friends’ cigarette use influence young people to start smoking during the whole teenage period (Liao, Huang, Huh, Pentz, & Chou, 2013).

A research conducted in U.S. with the sample size of 2430 students, to investigate whether peer influence on smoking among adolescents is asymmetrical, showed that smoking friends lead non-smoking friends into smoking and non-smoking friends can turn smoking friends into non-smokers (Haas & Schaefer, 2014). However, the research also showed that the tendency for teenagers to follow their friends into smoking is stronger than the tendency to follow friends out of smoking (Haas & Schaefer, 2014). Therefore having a smoking friend can influence teenagers to start smoking.
5.2 Influence of family issues on teenage smoking

Present study shows, among the 94 participants, 57.4% of the respondents have at least one smoking parent or guardian. The chi-square test showed that, there is no significant association ($P = 0.86$) between parental smoking and teenage smoking. However, a longitudinal, multigenerational study conducted on parent and child cigarette use, with the sample size of 1010 participants, to identify how parents’ long term smoking trajectories are associated with children’s possibility of smoking, showed that parental smoking significantly impact the smoking behaviour of their children. It showed that parental smoking was strongly associated with teenage smoking (Vuolo & Staff, 2014). Study by Wang, Zhong, Fang, & Wang (2015) also showed that parental smoking significantly impacted their children’s smoking behaviour. They also found that teenagers having both parents smoking are at a greater smoking risk than those having only one parent smoking.

The reason for not showing any significant association between parental smoking and teenage smoking in this study can be because of the small sample size. A small sample size may limit the ability to detect significant findings (Nargiso, et al., 2012).

In the current study, 46.8% of the participants had a smoking brother or sister who lived with them when they grow up. Furthermore, majority of the participants (66%) are living in homes where smoking is allowed. However, the chi-square test showed that, there is no significant association ($P = 0.37$) between having a smoking brother or sister and teenage smoking. Similar to this study, a research conducted in Colombia, to establish the prevalence of daily cigarette smoking and its gender correlated factors in high-school attending teenagers, also showed that there is no significant association
between smoking and having a brother or sister who smoke (Martinez-Mantilla, Amaya-Naranjo, Campillo, Díaz-Martínez, & Campo-Arias, 2008).

Contrary to this study, a cross-sectional study conducted in a population of 2000 students of the Belgrade University, to identify the most important risk factors related to smoking with a special emphasize on the family role, shows that having a smoking brother and sister is a significant and independent risk factor \( (p < 0.001) \) for smoking (Tasic, Grgurevic, Trajkovic, & Pekmezovic, 2016). Another research conducted in U.S, also showed that having an older brother or sister who smokes raises the probability that the younger one will pick up the smoking habit (Vuolo & Staff, 2014).

A study by Harakeh, Engels, Vermulst, Vries, & Scholte (2007) also showed that the older siblings influenced the younger siblings’ smoking. The reason for not showing any significant association in the present study can be because of the small sample size (Nargiso, et al., 2012).

Parental divorce may limit the assistance and guidance from the parents and it may cause the child to adopt negative behaviors. The finding of this study showed that 11.7% of the participants were living with single parent and 74.5% of the people agree that family issues influence teenagers to start smoking. The chi-square test also showed that, there is a significant association \( (P = 0.004) \) between marital status of the parent and teenage smoking. Similar to this study, a cross-sectional study conducted in Zhejiang Province of China in 2015 to determine the associated factors and prevalence of smoking in a Chinese adolescent population with sample size of 9617 middle school students, 5495 academic high school students and 4430 vocational high school students, showed a consistent positive association between parental divorce and teenagers’ smoking behaviour (Wang, Zhong, Fang, & Wang, 2015). Another research conducted in Iceland to investigate how family conflict contributes to the relationship between
parental divorce and adolescent cigarette smoking and alcohol use, also showed that teenagers from divorced or separated families were more likely to smoke (Kristjansson, Sigfusdottir, Allegrante, & Helgason, 2009). Therefore parental divorce can influence teenagers to start smoking.

5.3 Influence of media on teenage smoking

The finding of this study showed that, the majority of the people (80.9%) who took part in the study saw smoking advertisements on television, radio, billboards, posters, newspapers, mobile phone, internet and magazines, and 81.9% of the participants agree that social media influences teenagers to start smoking. Furthermore 67.1% of the participants saw people smoking on television most frequently and 32.9% of the participants saw it on the internet. Besides, a cohort study conducted in Minnesota to assess the prospective trends in the prevalence of smoking in movies as perceived by teenagers, and to identify predictors associated with those trends, showed that 85% of participants reported actors and actresses smoking in movies (Choi, Forster, Erickson, Lazovich, & Southwell, 2011).

In the current study, the chi-square test showed that, there is no significant association ($P = 0.94$) between exposure to tobacco marketing and teenage smoking. Nevertheless a research conducted in South Africa to examine the association between parental smoking, peer smoking and pro-tobacco marketing on teenage smoking, showed that, there is a statistically significant relationship between exposure to pro tobacco marketing and teenage smoking behavior (Morrison, 2011). A cross-sectional study conducted in Germany to examine the specificity of the association between cigarette advertising and teen smoking, also shows that, the teenagers who had been exposed to
tobacco marketing were more likely to be smokers (Hanewinkel, Isensee, Sargent, & Morgenstern, 2010).

A longitudinal study conducted in U.S to examine the association between movie smoking exposure and adolescent smoking, with sample size of 6522 teenagers, showed that watching movie stars smoking on the big screen makes teens more likely to start smoking (Sargent, Tanski, & Stoolmiller, 2012). A study by Heatherton & Sargent (2009) also showed that, seeing smoking in movies can almost triple the chance that a teenager will try smoking. Therefore media can influence teenagers to start smoking. The reason for not showing any significant association in the present study can be because of the small sample size (Nargiso, et al., 2012).

5.4 Conclusion

Overall, this study highlighted the factors which are likely to cause teenage smoking. Current survey revealed that, one in every ten teenagers is a smoker in the Maarandhoo Island. The results of the present study showed that, majority of the participants agreed that smoker friends, family issues and media influence teenage smoking behavior. Friends’ cigarette use was significantly associated with teenage smoking behavior. Marital status of the parent was also significantly associated with teenage smoking behavior. However, family issues like parental smoking and having a smoking brother or sister and factors like exposure to tobacco marketing through media were not significantly associated with smoking status among this survey population.
5.5 Limitations of the study

Findings of the current study must be interpreted within the context of limitations. First, the small sample size may have limited the ability to detect significant findings. Second, this is a cross-sectional study that gives information on the factors associated with teenage smoking behavior. However, the information collected cannot be considered to indicate causation of smoking. For example, some teenagers select their friends based on their personal characteristics whilst some join groups and adopt the group behaviour. Therefore, current friends may or may not be the cause of smoking behaviour among teenagers. Third, this study relies on self-reported behavior. The results may or may not be the open-minded views of respondents. Some of the participants may not be prepared to identify themselves, their parents and their close friends as smokers. This introduces the possibility of social desirability bias. Fourth, as the participants were selected in HA.Maarandhoo Island, these findings cannot be generalisable to whole Maldivian teenage population. Fifth, the study required participants to recall information from their past. The extent to which recall bias influenced these findings is unknown.

5.6 Recommendation

Although this research has some limitations, the results of this study can guide further practice and research. It is recommended to conduct this study using a longitudinal research design that allows for causal discussion of variables influencing teenage smoking. It is also recommended to conduct further research into the areas found significant in this study and to determine the cumulative impact of those factors, as well as other associated factors, on teenage smoking behavior.

Based on the results of the study, it is very important to target the smoking prevention programs to the teenagers. One of the recommendations of the study is that the
educators (teachers or community health workers) should provide programs to teach teenagers how to behave in smoking groups. Teaching skills like coping skills, good decision-making skills, self-control, and refusal skills to resist smoking along with disadvantages of smoking, the negative social consequences and problems faced by smokers, will reduce the friends’ influence on smoking. Furthermore, this will cause the teenagers to develop negative attitudes towards smoking. It is also recommended that the parents should be included in smoking prevention programs and be trained for further parenting skills. They should be educated about the effect of family issues like parental divorce or separation on their children.

It is also recommended that proper policies are need to decrease the smoking behavior among teenagers and policies that are aimed at preventing teenage smoking must be implemented effectively.
REFERENCES


37


University of Michigan Regents. (2012). American teens are less likely than European teens to use cigarettes and alcohol, but more likely to use illicit drugs. Maynard St.: Michigan Today.


INFORMED CONSENT FORM

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APPENDIX B
Questionnaire (English Version)

QUESTIONNAIRE

form no: ........

REASONS OF SMOKING HABIT AMONG THE TEENAGERS IN
HA.MAA RANDHOO

Instructions:

• Answer all the questions
• This questionnaire contains 14 questions in Section A and 5 Questions in Section B.
• Put ☑ in the most appropriate answer.

Section A

Objective: To identify whether family issues have any relationship with teen smoking.

1. At any time in your life, have you smoked 1 or more cigarettes?
   Yes ☐ No ☐

2. While you were growing up, how many of your parents/guardians smoked (including
   gudugudaa) at all?
   None ☐ One ☐ More than one ☐

3. While you were growing up, did any of your brothers or sisters who lived with you
   smoke?
   Yes ☐ No ☐

4. While you were growing up, did any of your parents/guardians smoke inside your home?
   Yes ☐ No ☐
5. Marital status of your parent
   - ☐ Married
   - ☐ Divorce/ Separated
   - ☐ Widowed

6. Do you agree that family issues influence teen smoking?
   - ☐ 1. Strongly disagree
   - ☐ 2. Disagree
   - ☐ 3. Neither agree or disagree
   - ☐ 4. Agree
   - ☐ 5. Strongly agree

**Objective:** To identify whether friends influence teenagers to start smoking.

7. Did any of your closest friends smoke cigarettes?
   - Yes ☐ No ☐

8. Did any of your friends offer you cigarette?
   - Yes ☐ No ☐

9. If “yes” did you accept?
   - Yes ☐ No ☐

10. Do you agree that friends influence teenagers to start smoking?
    - ☐ 1. Strongly disagree
    - ☐ 2. Disagree
    - ☐ 3. Neither agree or disagree
    - ☐ 4. Agree
    - ☐ 5. Strongly agree
Objective: To identify the effects of social media influence and inspiration in teen smoking

11. Did you see smoking advertisements on television, radio, billboards, posters, newspapers, mobile phone, internet and magazines?
   Yes  ☐ No  ☐

12. If “Yes” what was the most frequent media?
   ☐ 1. Television
   ☐ 2. Radio
   ☐ 3. Billboards
   ☐ 4. Posters
   ☐ 5. Newspapers
   ☐ 6. Mobile phone
   ☐ 7. Magazines
   ☐ 8. Internet

13. Do you agree that social media influence teenagers to start smoking?
   ☐ 1. Strongly disagree
   ☐ 2. Disagree
   ☐ 3. Neither agree or disagree
   ☐ 4. Agree
   ☐ 5. Strongly agree

14. According to you, what is the best way to prevent teen smoking?

   ________________________________________________________________
   ________________________________________________________________
Section B

1. Date of Birth: ...........................................  
2. Age: ________

3. Gender:  ☐ Male  ☐ Female

4. Marital status:  ☐ Single
   ☐ Married
   ☐ Divorce/ Separated
   ☐ Widowed

5. Education:  ☐ Basic Education
   ☐ Primary Education
   ☐ Secondary Education
   ☐ Higher Secondary Education
   ☐ Others if specify……………..

6. Occupation:  ☐ Studying (if student)
   ☐ Fishing
   ☐ Agriculture
   ☐ Civil Servant
   ☐ Private office
   ☐ Other ……..

7. Average Income:  ☐ No Income
   ☐ Below MFR 5000
   ☐ Between MFR 5000 to 10000
   ☐ Above MFR 10000
APPENDIX C

Questionnaire (Dhivehi Version)

سوئل 1

سوئل 2

سوئل 3

سوئل 4

سوئل 5