

KNOWLEDGE ATTITUDE AND PRACTICE OF  
SELF-MEDICATION WITH OVER THE COUNTER DRUGS  
AMONG ADULTS OF AGE18 – 65 IN MALE'

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THE MALDIVES NATIONAL UNIVERSITY

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OF AGE 18 – 65 IN MALE'

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A Project submitted in partial fulfillment of the requirements for the degree of  
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## **DECLARATION**

Name: Mohamed Shaaf

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

Signature:

Date:

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**ABSTRACT**

**Background** OTC (Over the Counter) drugs are defined as the drugs available, and purchased without a prescription. It is practiced worldwide and in our country due to several reasons. Treatment of illnesses and due to difficulty in approaching a doctor is a common reason. OTC drugs can be used with appropriate caution and proper dosages. Hence many do not know the dangers of misuse and continue to use OTC drugs in the Maldives (MFDA, 2015).

**Aim** This cross-sectional descriptive study was aimed to assess people's knowledge attitude and practice and common illnesses related, towards self-medication with over-the counter drugs.

**Method** The survey was conducted mix interview and self-administered focus on the knowledge, attitude, practice and common illnesses which people purchase OTC drugs.

**Results** The results showed that there was 100 % response from the 192 participants needed. 58.3% were at the age between 25 to 45. 55.2% of the respondents say they know definition of OTC drugs. 79% of the individuals have the knowledge about some kind of side effects of the painkillers. 51% of the total number of individuals believes that pharmacists give much better advice on medications. 48.4% of the study participants recommend pharmacists in choosing an OTC drug. 76.6% of the 192 respondents took OTC drugs sometimes in their everyday lives. And 85.7% of the respondents treat with OTC drugs for headaches most commonly.

**Conclusion** the study shows that people have high level of knowledge and attitude towards OTC drugs. However the high use of OTC drugs could lead in to dangers in the future. With further studies Policy and law makers need to enforce measures to stop misuse of OTC drugs.

**Keywords:** Knowledge, Attitude, Practice, Common diseases, OTC.

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## **LIST OF ABBREVIATIONS**

**UNODC** -United Nations Office on Drugs and Crime

**OTC** -Over the Counter

**PSM**-Public Service Media

**NCBI**- National Centre for Biotechnology Information

**MFDA**- Maldives food and Drug Authority

**IGMH**-Indira Gandhi Memorial Hospital

**WHO**- World Health Organization

**NGO**-non-governmental organization

**CDDEP**- Center for Disease Dynamics, Economics and Policy

**SPSS**- Statistical Package for the Social Science

# CHAPTER 1

## INTRODUCTION

### 1.1 Background to study

Throughout the world, misuse of over the counter drugs (OTC) has been on the steady rise over the years. According to a report by the UNODC, use of OTC drugs in the south Asia region Over the Counter drugs misuse “is reportedly a growing health problem in a number of countries” (UNODC, Death for 50 rupees: misuse of prescription drugs in South Asia, 2011). In a seminar conducted by UNODC, in Male’ for the Authorities related to the of over the counter drugs, the commissioner at that time in police, Hussein waheed said, that the level of misuse of over the counter drugs is in an alarming stage (PSM, 2015).

In south East Asia, the health problems related to the OTC drugs has being a growing concern. In a cross sectional study Bennadi (2014), explains that, the problem of self-medication was concluded as an “important health issue”. And concluded needs for increasing awareness (Bennadi, 2014).

Despite easy access to health care among Maldivians, provided with the national insurance policy ‘AASANDHA’, Maldivians still prefer to take OTC medicines as it is easily accessible. The Maldives food and Drug Authority (MFDA) announced in the pharmaceutical Regulations in government gazette on 20<sup>th</sup> January 2015, that selling medicine other than ‘general medicine’ without prescription is not allowed under the regulation (Maldives Government gazette, 2015).

The practice of this regulation among pharmacies is a controversial issue, as some pharmacies still continue to sell the medicines without prescriptions (Holloway, 2011). The cashier of Point 2 pharmacy, near IGMH notes that, although the Maldives Food and Drug Authority (MFDA) announced certain drugs to be sold without prescription, they still continue to sell prescription drugs, without prescription (Point 2 pharmacy 2015). The cause was not mentioned but may be due to their financial benefits or other reasons.

In a report by the WHO regional advisor in essential drugs and other medicines, in 2011, that the MFDA needs to undertake strict inspections of the pharmacies, and the Maldives needs to make the population aware of the risks of the OTC drugs (Holloway, 2011). Misuse of antibiotics also has increased in Maldives due to easy access of the Medicines as OTC drugs. Main concern for the people does not know the correct information and easy accessibility. Maldives has a fast growing economy, and to support this healthy population has being a target of all the governments. In the speech given by the current president of Maldives His Excellency Abdulla Yameen Abdul Gayoom, “Economic prosperity...” is the main concern of the country (The presidency, 2015). To achieve this prosperity there has to be a healthy population. And finding the Knowledge, Attitude and practice of OTC drugs and common illnesses related to OTC drugs, to make people aware about its misuse is an objective needs to be achieved.

## **1.2 Problem Statement and justification**

According to WHO (2010), misuse of the OTC drugs in the developing world may result an unpredictable threat for the whole world. In England the misuse of OTC drugs was considered to be at r 68.5% approximately (Cooper R. J., 2011).

It is estimated that each year in United States of America, 81% of minor illnesses are treated with the OTC drugs (CHPA, 2012). In the World drug report (2014), number of deaths related to drug use, including OTC was 183,100. Although this is a rough estimation, involvement of the OTC drugs in the death cause is a concern. The Food and drug authority of the United States of America has maintained strict regulations under Code of Federal Regulations in labeling the OTC drugs from the manufacturing stage to the Marketing stage (FDA, 2016). However the Maldivian regulations need to be enhanced and forced upon the population to reduce the misuse of OTC drugs.

Buying Over the Counter (OTC) drugs is not a major issue among the majority of the Maldivians. According to Maldives food and Drug Authority (2015), from having a small flu to some major diseases, taking medications without consulting a doctor has become a habit of almost every person. For example if a child gets a fever, first thing most parents tend to do is buying Paracetamol syrup from the nearest pharmacy. And if a diabetes a person with a previous prescription, buys the same medication with same dosage amounts, due to difficulty in getting an appointment of a specialist doctor.

Several other reasons might exist among Maldivians to choose to buy OTC drugs. Some people might have little knowledge about the dangers and risks associated with buying drugs without a doctor's consultation. While others might have just ignored these dangers due to several other reasons and issues. As health sector of Maldives have developed over the years, people need to be taught about the types of risks associated with this growing problem. Maldives is among the most literate population in the region (Planning, 2014). However due to several reasons, awareness and the practice of taking OTC medicine seems to be lower than expected. There has never been a study made focusing the problem of OTC drugs misuse or overdose among

Maldivians living in Male 'or anywhere else in the Maldives. To educate Maldivians about the dangers of the OTC medications, we need to first find out reasons and awareness about the issue. This research will enhance further to explore the knowledge, attitude, practice and common diseases which people of Maldives living in Male'choose OTC drugs.

### **1.3 Purpose of the study**

The purpose of the study is to identify the knowledge, attitude and practice of self-medication with over the counter drugs among age between 18 and 65 years in Male'. And also to find out the common diseases which people tend to buy OTC drugs.

### **1.4 Objectives of the study**

#### **1.4.1 General objectives**

The general aim of the study is to identify the knowledge, attitude and practice of self-medication with over the counter drugs age between 18 and 65 years in Male'.

#### **1.4.2 Specific objectives**

- ▶ To identify the level of knowledge people have about OTC drugs age between 18 and 65 years.
- ▶ To identify the common attitudes towards OTC drugs between 18 and 65 years.
- ▶ To identify the common practices people have between age 18 and 65 years
- ▶ To identify, what are the common illnesses, which people tend to buy OTC drugs.

## **1.5 Research question or hypothesis**

1-What is the knowledge, attitude and practice of Maldivians between age 18-65, who buy OTC drugs from selected pharmacies in Male'?

2-What are the common health problems for which Maldivians age 18-65, tend to buy OTC drugs?

## **1.6 Significance of Study**

The study was aimed to provide an overview about the beliefs and attitude of Maldivians regarding use of OTC drugs. It will help in relevant offices, NGO's ,professionals of different fields and Ministry of health, in planning programs regarding awareness of people about the issue of the risks related to taking OTC drugs. Furthermore, this study will enhance other health professionals to explore more about this growing problem and other health problems related to the issue of the over the counter drugs.

## **1.7 Scope of study**

This research study was focused to the age group 18-65 yrs. This is due to the fact that, children under 18 are not allowed to buy OTC under the law, and more elderly people above 65yrs face difficulty physically to buy drugs needed by them. The study was also focused for the Male' city due to limitations like time and cost, but can also be conducted in other islands as well depending on time, funding and geographical easiness.

## **1.8 Definition of terms**

**General medicine** – Common medicine available as over the counter medicine

**Over the counter drugs** – Drugs available without prescription.

**Common diseases/Illness-** Diseases / illnesses related to the medicine which people purchase as over the counter drugs.

**Sample size-** The minimum number of people needed for the study.

**Target population-** The community with the characteristics needed for the study.

**Nonprescription drugs-** Medicines or drugs available without prescription.

**Contraindications** - Harm or a side effect which may be caused due to use of a medicine.

**Side effects** - Effects of a drug that was not expected

**Dosage** - The needed amount of a drug to a person.

**Underrepresentation-** Less amount of people used in the survey than needed.

## CHAPTER 2

### REVIEW OF LITERATURE

#### 2.1 Theoretical Framework

The Theory of Planned Behavior (TPB) is a psychological theory suggesting that the human behavior or practice is intentionally guided and influenced by mainly 03 core reasons.

1. Attitude: the individuals' belief of a reason which could influence a positive or negative change to his/her life. Whether the decision could lead to a enjoyable life or a way of suffering. In short self-belief that decision we make could lead to the positive benefits to life or negative changes due to a decision.
2. Subjective norms or the influenced knowledge: this is the knowledge which the individual gains from social interactions, magazines, internet, and media and through other influences which leads to a final decision to act upon a decision. In this factor the individual gains knowledge from the surrounding people and environment and makes sure that the society acts as normal as the individual.
3. Perceived behavioral control: the belief of how easy or difficult it is to act upon which ultimately leads to the behavior or practice. If the self-individual is capable and confident enough to practice a certain decision leads to action or practice of a particular decision (Ajzen i, 1980).

According to Ajzen (1980), this theory was reformulated from the original Theory of Reasoned Action (TRA) by 1975 and 1980 (Ajzen i, 1980). This theory had 02 core reasons which lead to the ultimate individual action.

1. Attitude
2. Subjective norms

However the revised model of TPB concentrates on the fact that every individual focuses on their attitudes, subjective norms or the knowledge they gain from outside influences and perceptions of their ultimate actions which results in the action or practice of the behavior.

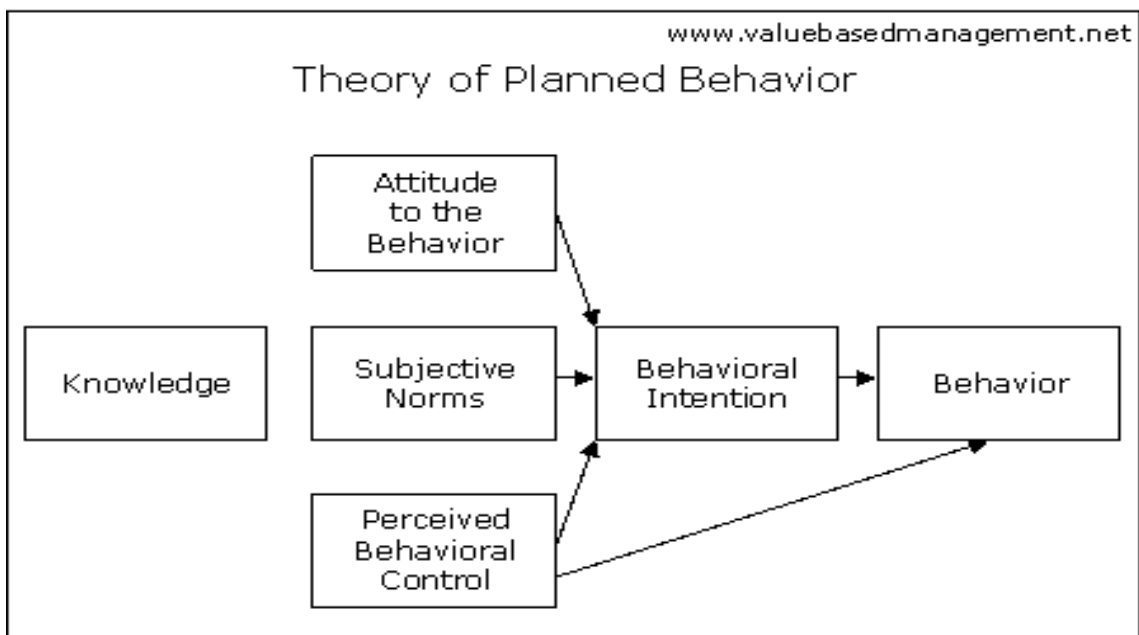


Figure 2.1: Theory of Planned Behavior (mbaskool, 2011).

## 2.2 Previous Studies

According to a journal written by Janet Mifsud, in 2011, OTC drugs use and miss-use is not a new problem throughout the world. OTC drugs have being assumed by doctors as a phenomenon which many people have a misconception. It is mostly the

thinking, Belief and actions patient which leads to 40% of the Americans to use OTC drugs for various diseases (Mifsud, 2011). There are several common diseases which people purchase OTC drugs. In an article by Relay Health, 2013, the OTC medicines are taken by individuals of various age groups choose OTC drugs for a variety of common illnesses. The OTC medicine is described as Medicines taken without prescription, non-prescription drugs or without consultation of a doctor (Mifsud, 2011). Various reasons are behind this evolving trend, and needs to be explored in relation to the theoretical framework.

### **Knowledge**

Human actions depend on the information they have. People do most of the time; do not have the proper information about the dangers or the proper use of the drugs, (kipkerich, 2015). In the world of internet and information technology, the demand for OTC drugs has increased over time. According to a news report by Ara Reardon in “Nature” journal , a study conducted by Center for Disease Dynamics, Economics and Policy (CDDEP) ,in Washington, shows that global demand for OTC antibiotics has increased by 30% from the year 2000 to 2010 (Reardon, 2015). The reasons for this individual type of drugs are the misuse of high demand and people’s knowledge regarding antibiotics and the pharmacies. The growth in this demand is widely noticeable in South Africa and India.

In a study conducted by the Balamurugan E and Ganesh K, in 2011, in south India, it was revealed that 71% of the population using the OTC drugs does not possess proper information or guidance about the use, effects and side effects of the drugs they purchase (Balamurugan E, 2011). The friends, family or the pharmacist has a lot of influence on the person purchasing the OTC drugs. A study about the relationship between misuse of the OTC drugs and its relation with Peer or parent pressure shows

that, motivation to use OTC drugs has a strong influence from the parent or the friends they have (Sasha F, 2013).

The knowledge is influenced by the beliefs we have within us. In the Tripartite Theory of Knowledge, it is mentioned that knowledge is reliable, knowledge as long as the person believes in that knowledge (Theoryofknowledge, 2015). Any medication will have its side effects and contraindications. Knowledge acts as one of the driving force which the person chooses to purchase the medication without the prescription.

Although the misuse of OTC drugs is not monitored as appropriate by the MFDA, the Drug consumption without prescription is uncontrollable and increasing at an alarming rate (Holloway, 2011). It was noted also that the know ledge about “rational use of medicines “lacks among hospital staffs and the people consuming the medicines. The need for proper information about the proper use of Medicines needs to be implemented, through finding the current knowledge status among the population regarding the OTC drugs.

### **Attitude**

Attitude is “tendency to respond positively or negatively...” towards an action, views or situation (Business Dictionary, 2015). The choice of purchasing OTC drugs or not, depends on the attitude a person has towards OTC drugs. In Ohio State of USA, the uses of OTC medications have cost lives of 47 people of the Jackson county from 2000 to 2009 (Felicia T, 2015). Such unintentional deaths of civilians are caused due to the attitude people have towards OTC use. According to a survey study on use of over the counter (OTC) drugs among medical students, nursing and clerical staff of a tertiary care teaching rural hospital in India, it was revealed that 81% of the 300

respondents of the research, bought the medicines by telling the illness and name of the medicines they need (Devang P, 2013).

In 2009, UNODC conducted a study in Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka, to find the status of the OTC drugs misuse (UNODC, 2011). The UNODC report finding shows that the perception or the attitudes play a common role in the action of OTC drugs misuse. These attitudes commonly people have included:

- It is legal to obtain such substances as they are available through pharmacies
- They do not have a damaging effect on health unlike banned hard drugs
- They do not attract a stigma unlike banned hard drugs (UNODC, 2011).

According to the Maldives situational analysis report of 2011, the perception of people of Maldives about the misuse of the OTC drugs need to be changed. And the government currently does not have a proper awareness plan for the changing of people's perception (Holloway, 2011). STO (state trading organization) is currently the only pharmacy which dispenses medicines only with prescription. In Other pharmacies, lack of abiding the health ministry rules is enhancing people to continue using more drugs without prescription.

In the Oxford Textbook of Primary Medical Care, Volume 1, the threat of self-medication is regarded as a hindering thought among the people, due to the easy access of medicines (Jones, 2001). Jones, 2001 continues to say that the level of

perception about OTC medicine changes only when a disease becomes chronic. Our aim should be to bring people's awareness before it's too late.

### **Practice**

In a research done by Department of Pharmacology, Burdwan Medical college in June 2015, it was concluded in the discussion that the use of OTC drugs is important for the community, yet the practice of misuse continues (Aritra G, 2015). The reasons are related to knowledge and perception. Total 84% of the participants knew the effects of misuse of drugs but 58% of the participants agree about the threats related to OTC drugs (Aritra G, 2015).

The practice of OTC drugs is a market for the business men, but a threat for the health of the people of the world. It is estimated that Europe OTC drugs market is worth some €29 billion at consumer prices and represents 36% of world sales (Bond, 2007). The consumers have less knowledge about the effects of the drug, rather the practice of the OTC drugs is fully publicised and depends upon selling in quantity rather than quality (Bond, 2007). It is the people who are badly affected from this open market.

In the International Journal of Pharmacy and Pharmaceutical Sciences in 2011, in an article, 50% of the Bangladesh population suffers from "using non-essential, irrational and even dangerous drugs (Manik c, 2011). The practice of OTC drugs is uncontrollable due to competition among the pharmacies to sell products, and lack of knowledge. Only 55% of the Bangladeshi people can understand what's written on the medicine (Manik c, 2011).

As per the regulations of the MFDA, the regulation restricts the selling of OTC drugs if the drug is not on the published list (Aruma, 2015). However the practice of the pharmacies is not well monitored and hence , misuse of OTC drugs continues (Holloway, 2011).

### **Common diseases**

In addition to the three core reasons, there are some common diseases which people go for OTC drugs. The PFIZER, an American multinational pharmaceutical corporation, in a journal mentions that “9 out of 10 consumers in Europe view self-care as a vital part of the management and prevention of both minor ailments and chronic conditions and diseases” (PFIZER, 2015). Although the aim of selling OTC drugs has its positive effects on the population, the misuse is the concern around the world (UNODC, 2011).

Many people think that fever and colds are a curable illnesses without a medicine. 62% of the study participants of 2<sup>nd</sup> year medical students of Burdwan Medical College, consider illness are not a major problem (Aritra G, 2015). According to the, consumer report.org, common illnesses related to OTC drugs are,

- 1- Gas problems
- 2- heart burn
- 3- diarrhea
- 4- constipation
- 5- premenstrual symptoms
- 6- Allergies
- 7- Migraines
- 8- cough

9- running nose

10- chronic pain

11- wounds

12- Bleeding (Consumer rep., 2015).

Maldivians have the tendency to buy almost any medication from the pharmacy. According to the pharmacist in the point two pharmacists, the most demand is on pediatric medicines, paracetamol, antibiotics, multivitamins and male condoms (pharmacy, 2015).the demand for the Antibiotics in the Maldives might show drug resistant bacteria in the future. In Minivan news, the CEO of the ADK hospital, said that “Antibiotics are the most misused drugs in the country,” (Minivan news, 2011).The symptoms of small flue or cold and other diseases are misdiagnosed by self and the pharmacists and, medicines like antibiotics and painkiller medicines are misused almost everywhere in Maldives. The monitoring system of the Ministry of Health Maldives has been on the focus of world health organization for a long time. As mentioned in the Maldives situation analysis 2011 by WHO, the Ministry of Health Maldives needs to make people aware of proper use of medicines for proper diseases (Holloway, 2011).

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Research design**

Design I have chosen for this study is a quantitative design. A cross-sectional Descriptive study is done to find knowledge, attitude and practice of OTC drugs through a mix interview and self-administered survey of individuals aged 18-65 through convenience sampling method.

#### **3.2 Study Area**

This study area selected for this study is Over the Counter Drugs Prevalence in Male' city. Since OTC misuse is a global problem (Holloway, 2011),the study is focused on finding the Knowledge, Attitude, Practice and common illnesses why people choose to purchase OTC drugs.

#### **3.3 population**

The result of the 2014 census, in Maldives shows that, 407,660 lives in the country (Planning, 2014). A total of, 1072789, which is 38% people are the estimated figure of people who lives in Male' city (Planning, 2014). And 92342 people are within estimated range of the target group. Target population for this study was taken from both male and female population, between the ages of 18-65yrs, who live in the City Male'.

### **3.4 Sampling Techniques**

The most suitable sampling technique selected for this research is convenience sampling method which comes under the Non random sampling method. In this study, the samples were selected from different areas of Male', where this study is conducted, Time constraints, and limited budget for acquiring data and analyzing it were also reasons for the convenience sampling method to be used in this study. To make sure that each individual is not repeatedly chosen as a sample, the study is conducted at the same time on each day for 05 days.

### **3.5 Sample Size**

With the help of Raosoft online sample size calculator, 383 respondents, who buy OTC drugs from pharmacies, were calculated to be selected for the research survey. All the participants were within the target group and from various backgrounds, which currently live in Male'. This is a total of 0.25% of the total population in Male'. Due to the time limitations, 50% of the calculated sample was selected to the study. 192 people out of the 383 samples from the target population were the final amount of the samples for the study.

### **3.6 Research Instrument**

A pretested, mix interview and self-administered questionnaire based survey instrument was used to collect data from the participants. The questionnaire consists of 04 sections. Open ended and close ended questions were included to identify the relations of the dependent variables and independent variable.

- Section A: knowledge
- Section B: Attitude

- Section C: Practice
- Section D: Health Problems

### **3.7 Pre Testing**

Before finalizing the questionnaire to minimize the difficulties and errors in answering the questionnaire several individuals went through the questionnaire. After the second correction is done, the questionnaire was answered by 10 randomly selected respondents with characters of the sample group. The study was conducted for 05 days from 08 October 2016 to 12 October 2016.

### **3.8 Validity and Reliability**

To maintain the validity of the study to represent the target population, sample size was calculated appropriately. To make it reliable, before the pretesting the questionnaire was discussed among 10 peers from the same educational background to see if the questionnaires meet the objectives of the study. After the corrections were done, the questionnaire was shown to 02 expert teachers in the research field. And with the research supervisor assistance the Questionnaire was checked and finalized.

### **3.9 Data Collection Procedures**

The data for this research was collected through a questionnaire. Four assistants were trained for conducting the survey in helping and conducting through the gathering of data.

Data is the fresh data, which was collected by using a cross sectional, pretested survey questionnaires. Each individual was given a consent form to be filled before starting to fill the questionnaires. The questions were answered personally by the participant

and in some cases questions were asked and answers marked according to the respondents answer by the interviewer. The participant answers each question individually without interference of the interviewer.

### **3.10 Framework for Data Analysis**

The prevalence of OTC drugs in relation to the Attitude, Knowledge, practice and common illnesses related were entered as percentages to software called Statistical Package for the Social Sciences (SPSS). The Data from the questionnaires and numerical data as numbers, frequency and percentages was analyzed and final results are developed through SPSS software and shown as charts and figures.

### **3.11 Ethical Consideration**

During the both preparation and implementation of research work to analyzing Data, important points were considered to maintain ethical boundaries. A consent form was prepared for the participant, as a guarantee to inform all the necessary information related to the research, to the participant need and necessity. None of them have been forced or threatened in any circumstances, when they refuse to participate. The privacy of the participants was respected fully. None of the information will be revealed to any person other than research purpose.

### **3.12 Conceptual Framework**

The conceptual framework for this research is taken from the ideas of Theory of As this is a cross sectional descriptive study, the relationship between an independent and dependent variable was not analyzed.

## CHAPTER 4

### DATA ANALYSIS AND RESULTS

Table 4.1: Frequency and percentage of number of participants who participated in the research.

Characteristics	Frequency n= 192	Percentage
18-24 years	56	29.2
25-45 years	112	58.3
>45 years	24	12.5
<b>Total</b>	192	100

From the calculated 383 samples 50%, which is 192 people participated in the research (Table.4.1).

Table4.2: Number of different age who takes OTC drugs

Statement	Frequency n=192	Frequency n=192	Frequency n=192	Frequency n=192
How frequently do you take OTC drugs?	18-24 years	25-45 years	>45 years	TOTAL
Usually	10	12	2	24
sometimes	39	90	18	147
Never	3	8	3	14
<b>Total</b>	56	112	24	192

Among the participants, 112 people are between ages 25 to 45, which are the highest number of individuals in the research in this age range 90 people among the participants do take OTC drugs sometimes in their normal life. And lowest number of

individual participants is at the range between 45 years and above. And from all of the 192 people, 14 of them had never taken OTC drugs (Table 4.2).

Table4.3: Frequency and percentages of Common diseases or indications which participants choose OTC drugs

<b>Statements</b>	<b>N</b>	<b>Percentage</b>	<b>Percent of Cases</b>
<b>Among the diseases and illnesses listed, do you choose OTC drugs for headache?</b>	162	21.0%	<b>85.7%</b>
<b>Among the diseases and illnesses listed, do you choose OTC drugs for fever?</b>	156	20.2%	<b>82.5%</b>
<b>Among the diseases and illnesses listed, do you choose OTC drugs for cold?</b>	144	18.6%	<b>76.2%</b>
<b>Among the diseases and illnesses listed, do you choose OTC drugs body pain?</b>	93	12.0%	<b>49.2%</b>
<b>Among the diseases and illnesses listed, do you choose OTC drugs for cuts and bruises?</b>	72	9.3%	<b>38.1%</b>
<b>Among the diseases and illnesses listed, do you choose OTC drugs for joint pain?</b>	50	6.5%	<b>26.5%</b>
<b>Among the diseases and illnesses listed, do you choose OTC drugs for diabetes?</b>	9	1.2%	<b>4.8%</b>
<b>Among the diseases and illnesses listed, do you choose OTC drugs for hypertension?</b>	6	.8%	<b>3.2%</b>
<b>Among the diseases and illnesses listed, do you choose OTC drugs for gastritis?</b>	81	10.5%	<b>42.9%</b>
<b>TOTAL</b>	<b>773</b>	<b>100.0%</b>	<b>409.0%</b>

85.7% of the cases took OTC drugs to relieve from headache. Few individuals took OTC medications for 2 of the most common non communicable diseases. 3.2% took OTC for hypertension and 4.8% for diabetes (Table. 4.3).

Table 4.4: Frequency and percentages of Common OTC painkiller

<b>Statements</b>	<b>N</b>	<b>Percentage</b>	<b>Percent of Cases</b>
Among some pain killers do you know moov?	27	9.5%	<b>15.6%</b>
Among some pain killers do you know tablet voltran ?	54	19.0%	<b>31.2%</b>
Among some pain killers do you know tablet panadol?	76	26.8%	<b>43.9%</b>
Among some pain killers do you know tablet brufen?	44	15.5%	<b>25.4%</b>
Among some pain killers do you know other types of painkiller?	83	29.2%	<b>48.0%</b>
<b>Total</b>	284	100.0%	<b>164.2%</b>

Apart from other types of painkillers usage of 48%, Panadol, with 43.9%, is the highest number of medication used among the individuals of all ages (Table.4.4).

Table 4.5: Frequency and percentage of how individuals choose OTC drugs

<b>Statement</b>	<b>Frequency n =192</b>	<b>Percentage</b>
<b>How do you decide on which OTC medicines to buy</b>		
Self-knowledge	76	39.6
Family recommends	18	9.4
Friends recommends	5	2.6
Pharmacist recommends	93	48.4
<b>Total</b>	192	100

In the Table 4.5 the findings shows that 48.4% of the individuals purchase OTC drugs with recommendations of the pharmacist. While family influence of 9.4% and friends ideas of 2.6% is lower than expected.

Table 4.6: Number of people who prefer OTC drugs than doctors and for time saving convenience

Statement	n =192
<b>pharmacists in relation to doctors in giving proper medication guidance</b>	
Very good	29
Good	98
Average	47
Weak	18
<b>prescription drugs over OTC drugs in saving time</b>	
Very good	25
Good	68
Average	60
Weak	39

98 people among the 192 participants agree that pharmacist provide good information than doctors. And 68 participants think that OTC drugs saves good amount of time than going to the doctors (Table.4.6).

Table 4.7: Frequency and percentage of individuals with the knowledge of how to use OTC drugs

<b>Statement</b>	<b>Frequency n =192</b>	<b>Percentage</b>
<b>Do you know the route of administration of the OTC drugs?</b>		
Yes	88	45.8
No	40	20.8
To some extent	64	33.3
<b>Total</b>	<b>192</b>	<b>100</b>

The majority of the participant which is 45.8% of the participants said that they knew rout of administration of the OTC drugs. While 20.8% of the individuals do not know how to use the OTC drugs they purchase (Table.4.7).

Table 4.8: Frequency and percentage of participants' belief about side effects of different types of pain killers

<b>Statement</b>	<b>Frequency n =192</b>	<b>Percentage</b>
<b>Does a pain killer have side effects?</b>		
Yes	152	79.2
No	40	20.8
<b>Total</b>	<b>192</b>	<b>100</b>

79.2% of the participants believe that different painkillers contain side effects. But 20.8% do not believe in the side effects caused by painkillers (Table 4.8).

Table 4.9: Frequency and percentage of individual practice of reading the label of drugs they purchase.

Statement	Frequency n =192	Percentage
<b>Do you read the label of the medicines for dosage instructions?</b>		
Yes	86	44.8
No	39	20.3
Sometimes	67	34.9
<b>Total</b>	192	100

Only 44% read what is written as instructions for use in the OTC medications (Table 4.9).

Table 4.10: Frequency and percentage of belief among the participants of which group of people can use OTC drugs

Statement	Frequency n =192	Percentage
<b>OTC drugs can be used by:-</b>		
Children	9	4.7
Adults	183	95.3
<b>Total</b>	192	100

And 95.3% of this research participant believes that OTC drugs can be taken by the adults only. However, the belief that 4.7% of the individuals believe that OTC drugs can be used by children is a concern (Table 4.10).

Table4.11: Knowledge among all participants about OTC drugs

Statement	Frequency n =192
<b>OTC drugs are</b>	
Any drugs prescribed by a medical practitioner	20
Any drugs sold without prescription	106
Any drugs sold by a pharmacist with or without prescription	66
<b>Antibiotics are drugs that fight:-</b>	
Bacteria	155
Virus	18
worms	1
parasites	1
don't know	17
<b>Do you know multidrug resistant germs?</b>	
Yes	58
No	134
<b>Antibiotics can be taken without any prescription?</b>	
Yes	27
No	136
maybe	29

Most of the both Male and female participants, 106 people agrees that OTC medicine is any drugs sold without prescription. 155 of the respondents knew that antibiotics are used to fight against Bacteria. But there are 17 respondents who do not have any information about use of antibiotics. Out of the 192 people 134 does not have any clue

about multidrug resistant germs. Although 136 people believe that antibiotics must be taken with a prescription, 27 respondents support taking antibiotics without a prescription (Table.4.11).

## **CHAPTER 5**

### **DISCUSSION AND CONCLUSION**

#### **5.1 Summary and Main finding**

With the current situation of the world and Maldives, misuse of the OTC drugs will remain a concern for many years to come. Main findings of this research was based on finding the knowledge ,attitude, practice and common illnesses which people tend to purchase OTC drugs among the Maldivians age between 18 to 65 , currently living in Male'. This study is a quantitative study with cross-sectional Descriptive method. Data was collected with a use of a mix interview and self-administered questionnaire. After the analysis of the data through SPSS, results have been given as Numbers, frequency and percentages.

#### **5.2 Discussion**

##### **5.2.1 Knowledge**

In this study, most of the participants with 58.3% were at the age between 25 to 45 years of age. This is a total of 112 people out of 192 individuals who involved in this study. The mode or the most of the respondents are 26 year olds. Lowest age is at 18 yrs. And the oldest person among the respondents is 63 years old. Similar to this study several other studies showed that most of the OTC drug users are between these age groups. According to Ahmet Akici (2013), OTC drugs consumption among 18 to 26yrs, is described as beginning stage of “inaccurate habits” which needs to be well thought-out (Ahmet Akici, 2013).

Whereas in a study done in the United States of America, 81% of the older people that includes, elderly people above 57 years use OTC drugs in their everyday lives (Dima M. Qato, 2009). This contradicts the findings of these study findings which shows only 2.6 % of the participants in this age use OTC drugs in Male’.

Furthermore, at global level 11-21 million people between, 15 to 64 used different kinds of drugs including OTC drugs without proper diagnosis throughout the world (UNODC, 2010). Even in the in the world drug report of 2016 the young age groups and the older individuals of the world do not differ when it comes to “illicit” use of OTC drugs (UNODC, 2016). It has been shown in the report that the reasons behind the misuse of OTC among these age groups differ. Particularly knowledge attitude, practice and different types of illnesses were the culprits, which enhanced the people towards OTC.

In addition, among 192 individuals who participated in this research, 116 male and 76 female genders were not distinguished. Rather than gender selection, age groups of 18 to 24 had 56 participants. Age groups of 25 to 45 had 112 people involved and 45 to 65 had 24 individuals who voluntarily participated. It was noted that all the participants had an educational background to some extent. However, when relating to the educational status with that of a profession, number of people in a quality job is fewer than number of better-educated people. The study focuses on the age relations of the individuals with the knowledge, attitude, practice and common diseases for OTC drugs.

In this study majority of the respondents were able to define the OTC medications in their knowledge. One reason could be the extend of the educational background of the people. Influence of knowledge in the selection of types of OTC drugs were found to

be greatly related according to a study conducted in Burdwan Medical College and Hospital, India (Aritra G, 2015). 47 % of the respondents select knowing the type of OTC medications in relation to the diagnosis. Remaining respondents had some type of knowledge with the influence of the other factors (Aritra G, 2015).

Never the less, in a study result in China, patients' knowledge of antibiotics is higher due to several influencing factors (Janet C, 2014). The study further explains Misuse and self-spending of money on treatment of Antibiotics is a known factor. And most of the study participant knew for which condition antibiotic could be used (Janet C, 2014). Like the study in China, current study figure shows that antibiotics knowledge is prevalent among all 155 respondents out of the 192 study samples. Contrary to China, this study indicates that 136 people do not believe that antibiotics can be used without a prescription. Since the Maldivian Health sector has improved vastly based on the curative focus rather than preventive, most of the Maldivians are familiar with the common types of medications and preventive measures (WHO, 2008).

Evolution of Multidrug resistant germs or the anti-microbial resistant germs is a "complex problem" which WHO warns its member countries about the need to counter its causes (WHO, 2016). Increase in the use of antibiotics among 92% of the study samples was noticeable in a study conducted between 2009 to 2013 in Japan (Yuichi M, 2014). Main reason for such increase in the misuse was that people unaware of the building up of ability of the bacteria to resist the available antibiotics (Yuichi M, 2014). Similar trend is seen in this study, as 134 people or 69.7% of the individuals do not have the knowledge about the multidrug resistant germs.

Current study shows all the participants knew about some type of painkillers available in the pharmacies. Clearly, 79% of the individuals have the knowledge about some kind of side effects of the painkillers. In comparison to a study about Painkiller purchasing in the UK in 2008, clear information is available among the study samples about the type and the risks of misuse of painkillers (Andrew P, 2008). However, it was the risk of continues misuse of painkillers with availability of proper knowledge that feared the researchers findings (Andrew P, 2008).

The current study shows participants have high knowledge regardless of the continuous use of OTC drugs. However 77% of the participants of the study conducted in Bangalore do not have the proper knowledge about the effects of OTC drugs they use (Manjushree N, 2015). It is important to understand the proper information about the OTC drugs for better results and reduce the misuse and unexpected overdose and misuse.

### **5.2.2 Attitude**

The issue of pharmacist giving proper advice than the doctors is rated as at a good level by the majority of the participants. 51% of the total number of individuals believes that pharmacists give much better advice on medications use than the doctors. Various reasons could be behind this trend. In the same way in a report published in the journal.ie, the Irish Pharmacy Union reported that the General practitioners (GP)'s do not understand the proper effects of drugs than the pharmacists, which leads to more people depending on the pharmacists knowledge of the drug use (Hosford, 2016).

Richard J. Cooper (2013) describes the use of OTC medications among the people around the world as mostly due convenience. Time factor is the mostly the most

common convenience among majority of the people. Similarly 35.4% of the respondents of this research believe that OTC drugs can save more time. As the world is getting smaller in terms of time, most of the people in Male' are working against time to achieve their needs in a city. Such trends could lead to use of OTC drugs to save time.

The majority, which is 44.8% of the respondents of this study, read the instructions given in any medication they purchase. As more than half Maldivian current population is in the working age group (Planning, 2014). And young people, the high literacy rate among the Maldivians could be factor for the reading of the instructions given. However reading and understanding what's on medications are 2 important actions need to get better effects of the medicines they purchase. In a report by the Canadian Broadcasting Corporation (CBC), in 2014, that different people interpret what they read in the medicine instructions differently. Not all the people are from medical background and some do have vision problems. Hence report concludes that the misinterpretation could lead to over dosage and serious illnesses in the Canadian community (CBC, 2014).

Significant numbers of the population among the findings of more than 200 articles reviewed by the Uppsala University in Sweden in 2008 found that the pharmacists are illustrated as less informative when giving advice on the type of medication and the rout of administration to the patients (Janet T, 2008). However In the current study, 48.4% of the study participants recommend pharmacists in choosing an OTC drug. It is hugely different from the perception of the study done in Sweden. Factors could be due to different perceptions and expectations of health and lifestyle in different countries around the world.

In a study done in southern Italy in 2015, 71.4% of the parents who use OTC drugs for illnesses in children believe that nonprescription drugs can be used by children. Nevertheless must be used with caution on children (Claudia P V. M., 2015). A cross sectional study done in the suburbs of Odisha, India, among 2554 samples, the young and old adult groups were recommended as the safest age group to use the OTC drugs. And yet this current study shows that 95.3% of the respondents clearly consider adults to use OTC drugs than children.

### **5.2.3 Practice**

It has been shown that in a study that 40% of the Canadian Association of Retired Persons (CARP) members do get proper guidance and instructions about the drugs they purchase than the 30% of the people who says they get instructions from doctors (CDN, 2008). It is believed that in providing information about the medications, pharmacists can play a vital role due to their information of the effects of the medications (CDN, 2008). In the same way the 60.9% people agree that they receive proper information from pharmacists while purchasing OTC drugs. Hence the proper information of the usage and effects of the medications must imply in the better practical use of OTC drugs by the people. Then an additional question arises from this comparison. Can proper information reduce the misuse of OTC drugs?

More than half, 54.2% of the total participants of the current study believe that they can maintain their general health with OTC drugs. This is more than half of the respondents in this study. In a similar study 71% of the respondents out of 1461 people, believed that their general health can be maintained with OTC drugs (Hanna L, 2011).Dispensing OTC drugs requires a proper explanation of how to use it. Hence

most of the people are meant to benefit from OTC drugs use when they have proper knowledge gained from the explanations by the pharmacists.

Equally important, in March 2014, the PFIZER, one of the leading pharmaceutical corporations in the world reviled a report stressing the importance of OTC medications in the current health systems around the world (pfizer, 2014). They added that the effects of OTC drugs in fast treatment and recovery is more among people than the long awaited doctors' consultations (pfizer, 2014). Devang P (2013) found that 84% of a study conducted among 300 medical students, nursing and clerical staff of a tertiary care teaching rural hospital in Gujarat, India, that all of them believed that OTC drugs give fast results than the doctors prescribed medications (Devang Parikh, 2013). In the same way this study found that 53.6% of the people have confidence in recovering fast from illnesses with OTC drugs. In some situations when the time could be a leading factor for such assumptions. In other cases the misuse and abuse could be a fact in the belief of importance of OTC in the treatment.

Then again, 76.6% of the 192 respondents took OTC drugs sometimes in their everyday lives. This shows that although the OTC use is a common belief, in practice people also prefer expert opinions from doctors' consultations in Male'. A study conducted in April 2015 in the southern Italy revealed that 61.5% of the parents are frequent OTC drugs users in the past 6 months (Claudia P V. M., 2015). This is a slight different from the practice of OTC medications by the Maldivians in Male. Due to geographical constrains and quality of life the use of OTC drugs rate differs among Nations.

#### **5.2.4 Common Illnesses**

Among the common diseases and conditions which people tend to purchase OTC drugs 85.70% of the respondents take OTC drugs for headaches. Second most common cause is for different types of fever. And third most common cause is for colds. In contrast to a study in east Bangalore, India, out of 216 patients 26.8% of the patients informed different types of pain as the most common cause for OTC drugs (Manjushree N, 2015). Second most common cause was respiratory infections, Gastro tract problems comes as the third. And although the Maldivians have, headache, as the most common cause of OTC use, in the study made in Bangalore it is the fourth leading cause for the OTC drugs use (Manjushree N, 2015).

#### **5.3 Conclusion**

Misuse and overdosing of OTC drugs is a concern not only in the world, but even within the Maldives. This study enhanced to find out the knowledge ,attitude, practice and common illnesses which people purchase OTC drugs in Male'. Overall knowledge of the participants is high about the OTC drugs. Attitude of the people towards the use of OTC drugs is fairly acceptable. Study demonstrated common Practice of OTC drugs among the majority of the population. And the common illnesses which people use OTC drugs are mostly headache fever and types of cold. Hence it is necessary to take adequate actions to develop a positive thinking among individuals attitude and practice towards over the counter drugs.

## **5.4 Limitations of the study**

A period of 02 months was the time to conduct the research survey, collect data and analyze it, which was a challenge in data collection and analyzing.

Due to time limitations, the research was carried out with only 50% of the target population and research was carried out in Male' only, which limited the number of samples.

## **5.5 Recommendations**

Study results suggest that high numbers of individuals are using OTC drugs for various purposes, despite a greater amount of knowledge and a fairly good attitude towards continuous use of OTC drugs. The practice of continuous use of OTC drugs could lead to the over dosage and misuse of several medicines. Including, different types of painkillers and antibiotics available in the pharmacies and elsewhere. Hence it is recommended to tackle the action of OTC drugs misuse with more research, proper laws, and policies and to implement through enforcement bodies for positive change in people's actions towards OTC drugs use.

### **5.5.1 Recommendation for further research**

Since this study is based for Male' only, the study samples were among the whole population with a huge range of 18 to 65 years old. The most common age groups which are 25 to 45 yrs. can be further studied to know their attitude and common reasons for practice of OTC drugs. And also the male and female population can be studied separately to find the difference of views and practice of OTC drugs. Finally the less supportive policies and laws among the population can be identified through further studies.

### **5.5.2 Recommendation for Law and policy makers.**

Currently Maldives have laws and Policies regarding the OTC drugs sales and marketing within the community. However the strength of these laws and policies depends on how much a law is stressed. Experiences from other countries can be put in to the Maldivian laws and policies. And the supportive policies can be integrated to the implementing bodies in different offices and institutions.

### **5.5.3 Recommendation for enforcement bodies**

Although the Maldives food and drug authority puts toward policies restricting the sales certain types of drugs as OTC drugs, poor supervision and enforcement has led to continuous sales and purchase of drugs as OTC drugs within the country. A strict enforcement and supervision is needed to control the improper sales and purchase of OTC drugs.

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## APPENDICES

### Consent form

#### Informed Consent Form for the participants

##### Part I: Information Sheet

- Purpose of the research

My name is Mohamed Shaaf, and I am a student of, Bachelor of Primary Health Care in Faculty of Health sciences. The purpose of this research survey is to gather information relevant to a final research paper to be submitted in the last semester.

This research survey will try to identify the knowledge, attitude and practice of the people in male'. And find common health problems which people prefer to purchase OTC drugs from pharmacies

You have been selected as voluntary participants, who buy OTC drugs from a pharmacy in male'.

All the questions are presented in a survey form attached to this consent form.

Any information will be used exclusively as research purpose and will be kept confidential.

*#IF ANY QUARIES PLEASE DO NOT HASITATE TO CONTACT ME.*

Mobile: 9862262

Email:shaaf\_5@hotmail.com

Signature of Participant \_\_\_\_\_

Date \_\_\_\_\_

## Questionnaire

### Knowledge, Attitude, Practice, Health problems

# Tick ✓ or write your answer near the answer of your choice

#### (Information)

Q1. Gender

- Male
- Female

Q2. What is your age?

•

Q3. Educational status

- O'level
- A, level
- Diploma
- Degree
- Below O level
- Others (please specify).....

Q4. What is your profession?

.....

**Section A (Knowledge) (tick ✓ inside the box)**

**Q5.** OTC drugs are:-

- Any drugs prescribe by a medical practitioner
- Any drugs sold without prescription
- Any drugs sold by a pharmacist with or without prescription

**Q6.** Do you know the route of administration of the OTC drugs you buy?

- Yes
- No
- To some extent

**Q7.** Antibiotics are drugs that fight:-

- Bacteria
- Viruses
- worms
- parasites
- don't know

**Q8.** Do you know multidrug resistant germs?

- Yes
- no

**Q9** .write some pain killers that you know?

.....

**Q10.** Does a pain killer have side effects?

- Yes
- No

**Q11.** Antibiotics can be taken without any prescription?

- yes
- no
- Maybe

**SECTION B (ATTITUDE)**

<b>QUESTION</b>	<b>VERY GOOD</b>	<b>GOOD</b>	<b>AVERAGE</b>	<b>WEAK</b>
<b>Q12.</b> How much will you rate pharmacists in relation to doctors in giving proper medication guidance				
<b>Q13.</b> How would you rate the prescription drugs over OTC drugs in saving time				

**Tick ✓ in the answer of choice**

**Q14.** Do you read the label of the medicines for dosage instructions?

- Yes
- No
- Sometimes

**Q15.** How do you decide on which medicines to buy from the pharmacy for different illnesses?

- Self-Knowledge
- Family recommends
- Friends recommends
- Pharmacist recommends

**Q16.** OTC drugs can be used by:-

- childrens
- adults

**SECTION C (PRACTICE)**

Please tick the answer of choice

**SA:** strongly agree   **A:** agree   **D:** disagree   **SD:** strongly disagree

No	Statement	SA	A	D	SD
Q17	I review the proper information from the pharmacist about the OTC drugs				
Q18	I can maintain my general health with OTC medicine				
Q19	I recover faster from illnesses with OTC medicines				

**Q20.** How frequently do you take OTC drugs?

- Always
- Usually
- Sometimes
- Never

**SECTION D (COMMON ILLNESSES)**

**Please tick** ✓ **the answers of choice (can choose more than One)**

**Q21.** Among the diseases and illnesses listed, tick the common illnesses you chooses  
OTC drugs? (Can tick more than one answer)

- Headache
- Fever
- Cold
- Body pain
- Cuts and bruises
- Joint and bone pain
- Diabetes
- Hypertension
- Gagasitris