A Comparative Study on Self Medication Practice Between Some Urban & Rural Areas of Bangladesh

A Dissertation submitted to the Department of Pharmacy, East West University, in partial fulfillment of the requirements for the degree of Masters of Clinical Pharmacy and Molecular Pharmacology

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DECLARATION BY THE CANDIDATE

I hereby declare that this dissertation, entitled ***"A Comparative Study on Self Medication Practice Between Some Urban & Rural Areas of Bangladesh"*** is an authentic and genuine research work carried out by me in partial fulfillment of the requirement for the Degree of Masters of Clinical Pharmacy and Molecular Pharmacology under the guidance of **Nishat Nasrin**, Senior lecturer, Department of Pharmacy, East West University, Dhaka.

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CERTIFICATE BY THE SUPERVISOR

This is to certify that the dissertation, entitled ***"A Comparative Study on Self Medication Practice Between Some Urban & Rural Areas of Bangladesh"*** is an authentic research work done by **Baudrul Mohammad Shahjalal**, ID: 2013-03-79-015, in partial fulfillment of the requirement for the Degree of Masters of Clinical Pharmacy and Molecular Pharmacology.

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Dedicated To My Beloved Parents and Honorable Teachers

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List of abbreviations

e.g. = *exampli gratia* = for example

Et al. = *et alia* = and other people

etc. = et cetera = and the other

Fig = Figure

PPI= Proton pump inhibitors

ABSTRACT

Self medication practice is continuously increasing due to ignorance and to treat common diseases. This study was a community-based, cross-sectional survey carried out in some rural and urban area of Bangladesh, to explore self-medication behaviour among the general population, in which data was collected via direct interviews with respondents using a previously prepared questionnaire. This study investigated 530 respondents from different age groups. The majorities of respondents were male (81.51%) aged between 30-60 years, in which urban 82% & rural 81%. Most of them were married with secondary or academic level of education. The main reason for practicing self medication was simple disease & previous experience with the same condition followed by considering the current condition simple with no need to consult a physician. Retail pharmacies were revealed to be the commonest source of information about the self medicated drugs followed by previous Prescription and family members or friends. Pain was the commonest indication identified for self medication followed by headache, back or muscle pain, Common Cold, Fever, Gastritis, Allergy, Drugs used in treating these conditions were proton pump inhibitor, the commonest, followed by antibiotics, paracetamol, antihistamines, non-steroidal anti-inflammatory drugs, H_2 Blockers and sedatives. This study illustrated that many Bangladeshi patients can easily practice self medication for the management of wide range of conditions whether it's simple or not.

Chapter One

INTRODUCTION

1. Introduction

In recent years there has been an increasing trend in self medication practice in both developed and developing countries (Ali *et al.* 2012).

Self medication is defined as the use of medication by a Patient on his own initiative or on the advice of a Pharmacist or a lay person instead of consulting a medical practitioner. (WHO, 2000)

Medicines for self-medication are often called 'nonprescription' or 'over the counter' (OTC) and are available without a doctor's prescription through pharmacies. In some countries OTC products are also available in supermarkets and other outlets. Medicines that require a doctor's prescription are called prescription products (Rx products).

1.2 Self-care

Self-care is what people do for themselves to establish and maintain health, prevent and deal with illness.

It is a broad concept encompassing:

• Hygiene (general and personal);
• nutrition (type and quality of food eaten);
• lifestyle (sporting activities, leisure etc.);
• environmental factors (living conditions, social habits, etc.);
• socioeconomic factors (income level, cultural beliefs, etc.);
• self-medication.

1.3 Self medication

Self-medication is the treatment of common health problems with medicines especially designed and labeled for use without medical supervision and approved as safe and effective for such use. (IPF , 1996)

Self-medication is defined as "the use of drugs to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of a prescribed drug for chronic or recurrent disease or symptoms" (Bowen,2000; Awad, 2005)

1.3.1 The benefits of responsible self-medication

In a world of scarce government and in many countries scarce individual resources, responsible self-medication should be a cornerstone of healthcare provision and health policy.

Responsible self-medication can:

- Help to prevent and treat symptoms and ailments that do not require a doctor;
- Reduce the pressure on medical services where health care personnel are insufficient;
- Increase the availability of health care to populations living in rural or remote areas;
- Enable patients to control their own chronic conditions.

These benefits translate into patient and consumer wellness and productivity, economic gain for employers, and cost savings to healthcare budgets through reduced medicine budget cost and reduced physician visits.

1.3.2 Conditions can be treated through self-medication

In most countries patients and consumers are able to have direct access to products for many conditions, such as: Acne, Allergic conjunctivitis, Arthritic pain, Caries prevention, Cholesterol lowering/lipid control, Colds, Cold sores, Constipation, Cough, Dermatitis/eczema, Diarrhea, Emergency contraception, Erectile dysfunction, Fever, Flu prevention and treatment, Hemorrhoids, Hay fever, Headache, Indigestion/heartburn, Insomnia, Male pattern baldness, Mild/moderate pain, Minor cuts and bruises, Mouth ulcers, Nausea, Neural tube defect prevention, Smoking addiction, Sore throat, Symptoms of PMS, Topical Bacterial infections and Weight management.

The list of treatable conditions and available products continues to grow as the benefits of responsible self-medication are realized.

1.3.3 Organizational view points about self-care and self-medication

Many healthcare organizations have made important statements on self-care and self-medication, singly or jointly with WSMI. Some selected illustrations only are given here:

The World Health Organization (WHO): "It has become widely accepted that self-medication has an important place in the healthcare system. Recognition of the responsibility of individuals for their own health and awareness that professional care for minor ailments is often unnecessary has contributed to this view. Improvements in people's general knowledge, level of education and socioeconomic status in many countries form a reasonable basis for successful self-medication." (Guidelines for the Regulatory Assessment of Medicinal Products for use in Self-Medication. 2000).

The International Federation of Pharmacists (FIP): "Nowadays people are keen to accept more personal responsibility for their health status and to obtain as much sound information as possible in order to help them make appropriate decisions in health care…Pharmacists and the manufacturers of nonprescription medicines share the common goals of providing high quality service to the public and encouraging the responsible use of medicines." (Joint Statement by The International Pharmaceutical Federation and the World Self-Medication Industry, 1999).

The International Council of Nurses (ICN): "Self-medication is a key component of self-care that is particularly significant in an era of increasing chronic illness and well-informed health care consumers. Optimizing responsible self-medication is an important and underused resource for health and provides an opportunity for collaboration and consultation among consumers, nurses, pharmacists and physicians." (Joint Statement by the International Council of Nurses and the World Self-Medication Industry,2003)

1.4 The Basis for Self-Medication

1.4.1 Interested consumers

Every day, everywhere, consumers reach for self-care products to help them through their common health problems. They do so because it may be easier for them, it may be more cost or time efficient, they may not feel their situation merits making an appointment with a healthcare professional, or they may have few or no other options. The challenge and

opportunity for governments, healthcare professionals, and providers of self-medication products, then, is to have a responsible framework in place for self-medication.

There is evidence that consumers can and do practice self-medication responsibly. There is also support showing consumers recognize and respect nonprescription medicines. As a whole, they use them appropriately, carefully, and safely; and they read nonprescription drug labeling.

Studies show people are typically cautious and careful when they do turn to nonprescription medicines. They read labels, and they generally take products for less than the maximum period of time indicated on the label.

We also know consumers are taking a more active role in their healthcare, including through self-medication. For example, 59 percent of Americans polled say they are more likely to treat their own health condition now than they were a year ago. 73 percent would rather treat themselves at home than see a doctor, and six in 10 say they would like to do more of this in the future.

In parallel to consumer interest is the health information explosion, made possible by technological advances that improve access to information that is more relevant and more useful to the end user. Consumers now have more tools to take an active role in their health care, and they are using them. One research firm estimated 65 percent of people who visited the Internet in a 12-month period went to health-related sites.

Finally, aging populations, increased interest and emphasis on wellness and disease prevention, and consumer empowerment themes are all trends prevalent in many societies. Self-medication fits into these trends as well.

1.4.2 Society and public health

Society benefits from a citizenry that is better informed about healthcare and therefore more able to exercise self-reliance. Having the tools available to help consumers practice such self-reliance also allows scarce health resources to be directed toward illnesses or conditions that require treatment in the professional healthcare system. Having appropriate nonprescription medicines available can also reduce illegal use of prescription products without a prescription – something which occurs too frequently in some

countries, and is sometimes referred to as “self-prescription.” In Mexico, for example, an increase in the availability of nonprescription medicines helped to reduce the estimated rate of “self-prescription” by 20 percent from 1989 to 1999.

In some cases, nonprescription medicines provide treatment in areas which are otherwise under-served. Certain preventive measures, or those more tied to behavior and the need for non-health oriented support are examples, such as smoking cessation. On the latter, a 152 percent increase in the use of nicotine replacement therapy in the US the first year after its switch to nonprescription status yielded an estimated 114,000 to 304,000 new former smokers annually. That is up to 300,000 people each year who are able to reduce their risk of lung cancer, emphysema, stroke, heart attack and complications in pregnancy because of self-care products that help them stop. Today there are 1.1 billion smokers worldwide, and this number is expected to reach 1.6 billion by 2025. Readily available products to help people quit smoking takes on even greater importance in the context of this worldwide threat.

1.4.3 Cost benefits in self-medication

An aging population and growing healthcare costs raise the question of needs out-stripping available funds if the solvency of healthcare financing systems is to be maintained. For example, by 2010 the percentage of the population over 65 is projected to reach 22 percent in Japan and 16 percent in Europe. Meanwhile, access and affordability of healthcare are essential. Self-responsibility is one aspect in that picture, and nonprescription medicines are a part of that. Used appropriately, self-medication can increase access and improve the cost-benefit picture in certain areas.

1.4.4 Government and health professional outlooks

Many national and international organizations have looked at how best to establish and structure national drug policies within their healthcare systems. As a starting point, one fundamental to keep in mind was articulated at an International Conference on Primary Health Care, held in Alma-Ata in 1978:

“People have the right and duty to participate individually and collectively in the planning and implementation of their health care.”

In line with a philosophy of individual participation and empowerment, the World Health Organization has stated that responsible self-medication can:

- Help prevent and treat symptoms and ailments that do not require medical consultation;
- Reduce the increasing pressure on medical services for the relief of minor ailments, especially when financial and human resources are limited;
- Increase the availability of health care to populations living in rural or remote areas where access to medical advice may be difficult; and
- Enable patients to control their own chronic conditions.

As the most accessible form of health care, self-medication fills a series of valuable and sometimes crucial functions for individuals and healthcare systems. That healthcare systems as well as individuals benefit from self-medication emphasizes the need for clear policies by national governments. Those policies should recognize the positive role played by products specifically intended for self-medication and should meet their citizens' desires to take an active role in their health. As a US Commissioner of Food and Drugs noted:

"The Food and Drug Administration accepts the concept of self-medication. The consumer demands it; the law provides for it; and it is in fact a vital part of our nation's health care system."

In Europe, the European Parliament stated that it:

"Considers that responsible self-medication should be further promoted, which will foster the growing desire of the European Union's citizens to take responsibility for their own health and also help reduce health expenditure. In recent years, responsible self-medication has been identified as an important element in long term health policy by the institutions of the European Community."

Health professional organizations have also drawn attention to the importance of self-medication. The World Medical Association, for example, published a statement on self-medication in 2002, drawing attention to some of the themes in this publication – the importance of a clear prescription-nonprescription distinction and the role and importance

of labeling for safe and effective use, as well as guidance for physicians and their patients regarding responsible self-medication. The International Pharmaceutical Federation adopted a joint statement on self-medication with WSMI to highlight the common goals of our two groups: to provide high quality service to the public and to encourage the responsible use of medicines. The International Council of Nurses also adopted a joint statement on self-medication with WSMI to promote the responsible use of medicines. (WSMI,2006)

1.5 Role of the pharmacist in self-medication

The pharmacist has several functions, outlined below.

1.5.1 As a communicator

• The pharmacist should initiate dialogue with the patient (and the patient's physician, when necessary) to obtain a sufficiently detailed medication history;

• in order to address the condition of the patient appropriately the pharmacist must ask the patient key questions and pass on relevant information to him or her (e.g. how to take the medicines and how to deal with safety issues);

• the pharmacist must be prepared and adequately equipped to perform a proper screening for specific conditions and diseases, without interfering with the prescriber's authority;

• The pharmacist must provide objective information about medicines;

• The pharmacist must be able to use and interpret additional sources of information to satisfy the needs of the patient;

• The pharmacist should be able to help the patient undertake appropriate and responsible self-medication or, when necessary, refer the patient for medical advice;

• The pharmacist must ensure confidentiality concerning details of the patient's condition.

1.5.2 As a quality drug supplier

• The pharmacist must ensure that the products he/she purchases are from reputable sources and of good quality;

• The pharmacist must ensure the proper storage of these products.

1.5.3 As a trainer and supervisor

To ensure up-to-date quality service, the pharmacist must be encouraged to participate in continuing professional development activities such as continuing education.

The pharmacist is often assisted by non-pharmacist staff and must ensure that the services rendered by these auxiliaries correspond to established standards of practice.

To achieve this pharmacist must develop:

• Protocols for referral to the pharmacist;

• Protocols for community health workers involved with the handling and distribution of medicines.

The pharmacist must also promote the training and supervise the work of non-pharmacist staff.

1.5.4 As a collaborator

It is imperative that pharmacists develop quality collaborative relationships with:

• Other health care professionals;
• national professional associations;
• the pharmaceutical industry;
• governments (local/national); and,
• patients and the general public.

In so doing, opportunities to tap into resources and expertise, and to share data and experiences, in order to improve self-care and self-medication, will be enhanced.

1.5.5 As a health promoter

As a member of the health-care team, the pharmacist must:

• participate in health screening to identify health problems and those at risk in the community;

• participate in health promotion campaigns to raise awareness of health issues and disease prevention; and

• provide advice to individuals to help them make informed health choices.

1.5.6 Specific situations

In many developing countries, the ratios of pharmacists and pharmacies to population are so low that access to pharmaceutical care is impeded. In such cases, consultation with other health workers or community health care workers, household corers and other appropriate lay people, provided they have received the appropriate pharmaceutical training and orientation, should be encouraged (WHO, 1994).

Chapter Two

LITERATURE REVIEW

Journal Review:

2.1 Self-medication practice among patients in a public health care system

(Alghanim, *et al.* 2011).

In a study, community-based, cross-sectional survey carried out in Riyadh city, the capital of Saudi Arabia, to explore self-medication behavior among the general population. The study population consisted of all patients attending primary health care (PHC) centers in Riyadh city during July 2009. Five PHC centers were selected using cluster random sampling in order to represent the 5 geographical areas of Riyadh city (north, east, south, west and centre) where in each PHC centre, a sample of 100 adult patients (18–65 years) was selected using systematic random sampling i.e. total of 500 adult patients were surveyed. In this study showed that Respondents who had practiced some sort of self-medication during the past 2 weeks were 177 (35.4%) of the sample. OTC drugs purchased from private pharmacies were the most commonly used source of self-medication, reported by the majority of self-medicated patients (79.1%). The use of left-over medicine was also prevalent and reported by almost half of respondents who practiced self-medication (48.6%). Those who obtained medications from their relatives, friends or neighbors constituted nearly one-third of self-medicated respondents (30.5%).

The study identified patients' reasons for self-medication. The commonest was that the illness was regarded as minor (80.2%). More than two-thirds of respondents (70.1%) indicated that they self-medicated because health care facilities were unavailable at times when they needed care. More than half of self-medicated respondents (52.0%) reported that they did so because they lacked the time to visit formal health care facilities. More than 40% of self-medicated patients indicated that the cost of consultations with the doctor was a reason for self-medication. Other reasons for self-medication were expectations of less/no benefit from modern health care, remoteness of health care sites and convenience.

2.2 Self medicated antibiotics in Bangladesh: a cross-sectional health survey conducted in the Rajshahi City (Mohitosh *et al.* 2014)

In another study was evaluated the prevalence of self-medication with antibiotics for the treatment of various diseases by the peoples of Rajshahi city in Bangladesh in March-

April 2014. For this purpose, a self designed standard questionnaire was developed by the Principle investigator, Mohitosh Biswas, Lecturer of Pharmacy Department of Rajshahi University. The questionnaire contained some basic variables: Age and sex of patients, the types of antibiotics commonly purchased, the reasons for which the peoples engaged in antibiotic self medication, the self recognized symptoms for which the drugs were used, the duration of use of these drugs as well as the patient's compliance regarding the self medication of antibiotics.

It was found that 347 (26.69%) out of 1300 participants experienced self medication with antibiotics where 83.57% accounted for males and 16.43% females. The highest percentage of patient's (56.48%) aged between 21–30 years purchased the antibiotics without prescription Followed by 18.73% in the age group between 11–20 years and 12.68% in the age group between 31–40 years. The patient's who were aged over 60 years (2.02%) purchased the least amount of antibiotics whereas the peoples aged between 0–10 years didn't take any non-prescription antibiotics. The key reasons found for the self medication of antibiotics was the pre-experience (45.82%), suggestions from others (28.24%), knowledgeable of the antibiotics (16.14%), reduction of doctor's fees (6.34%) and no confidence with doctor's medication (3.46%). Diarrhea, dysentery and food poisoning constitute the disease symptoms/conditions for which antibiotics were most commonly used in this study while 12.97% of responding patients used antibiotics for infections which include lower and upper respiratory tract infections, urinary tract infections, gastrointestinal infections, dental infections and skin infections. Acute respiratory infection was the condition associated most frequently with non-prescription antibiotic use.

2.3 Self Medication Practice among Iraqi Patients in Baghdad City (Ali *et al.* 2014).

One study conducted in Baghdad, the capital of Iraq, from February to December 2012 was a community-based, cross-sectional survey consisted of individuals attending the community pharmacy asking for self medicated drugs. This study involved interviewing the patients in these community pharmacies. The patients were ≥ 15 years old and were included in the study after they gave the researchers (pharmacists) a verbal consent. The researcher recorded the information in a previously prepared questionnaire. edication

were included in this study. They were relatively middle aged with an average of 41.9 ± 12.8 years with the range of 15–80 years. Of these respondents, 216 were males and 132 were females (62% versus 38% respectively). Ages of 250 respondents (71.8%) were between 30–60 years, sixty four respondents (18.4%) were aged 15–30 years and 34 respondents (9.8%) were older than 60 years. Regarding marital status, most of the respondents were married [278 respondents (79.9%). About 30% of the respondents (104 individuals) considered their monthly income less than moderate (≤ 500,000 ID) while the rest either finished secondary study [126 respondents (36.2%)] or they were post graduate [134 respondents (38.6%)]. This study classified the occupation of the respondents into employed, unemployed, and retired. Employed respondents were 162 (46.6%), unemployed respondents were 156 (44.8%), and the retired respondents were only 30 (8.6%). shows that about 60% (208 respondents) self medicated at monthly intervals, while 21.3% (74 respondents) practiced self medication weekly and the remaining 66 respondents (18.9%) practiced self medication every 6 months or even longer. This study also investigated the source of information about the drugs used for self medication and found that 212 respondents (60.9%) knew about these drugs from a previous prescription, while 180 respondents (51.7%) got the information from community pharmacists. More than one third of the respondents obtained their information from their parents, relatives, or friends. Other sources of information were another member of health staff (21.8%), drug directions (10.3%) and the least common was advertisements or televisions (7.4%).

2.4 A Study of the Prevalence of Self-Medication Practice among University Students in Southwestern Nigeria (Osemene, *et al.* 2012)

A study was estimated the prevalence of self-medication with antibiotics and antimalarials among university students in southwestern Nigeria and evaluate the factors associated with self-medication to collect data from 2000 university students using a convenient sampling technique. majority of the respondents 1827 (91.4 %) were involved in self-medication practices while 173 (8.7 %) stated that they were not. The prevalence of self-medication was generally high among the middle age groups of 25 - 34 and 35 - 44 years. The 15 – 24 and ≥ 45 year's age groups exhibited lower prevalence of self-medication behavior. However, females exhibited higher prevalence of self-medication

than their male counterpart. At the undergraduate class levels, the prevalence of self-medication increased marginally from 1st year to 5th year students. However, postgraduate (PG) students exhibited a lower prevalence of self-medication than other categories of students.

2.5 Evaluation of self medication among professional students in North India: proper statutory drug control must be implemented (Rohit, *et al.* 2010)

A questionnaire-based survey approved by the Research and Ethics Committee of the College. A self-developed, pre validated questionnaire consisting of both open-ended and closed-ended items were used. The study population comprised professional students of the U.P. Technical University, Lucknow. These were young men and women, all Indian nationals, who had 1-4years ago joined the professional college. The objective of this study was to describe and examine the branded medicines used by professional students, awareness, trust in medicine system, reasons behind self medication, drug information resources, danger findings and knowledge of drug profile. Samples of 1175 young students belonging to different regions of North India were selected randomly from two institutions of U. P. Technical University. An inclusion criterion was 17-25 years (mean age 20.13+2.32). A total of 153 students were excluded in accordance with the exclusion criteria like incomplete information. The prevalence of self medication among professional students was 87.00%. About 82.97% students had a positive trust in allopathic medicines,80.82% students learn self medication from doctors prescriptions provided during their prior illness.15.65%were alcoholic,16.73% were smokers,11.74%students with chronic problems ,who were considered in danger findings. Only 43.93% students were about drug interaction. Most of the self medication was involved with headache and fever, cough & cold, gastrointestinal Infection, mouth ulcer & Throat infection. Respondents were using Schedule H drugs/potent drugs for minor illness. The results are based on feed backs which were provided by respondents included in study.

Significance of the study

Self-medication is a global phenomenon and potential contributor to human so by this study we can understand using pattern, prevalence of self medication.The practice of self-medication is common worldwide in both developed and developing countries and may even be more common that the use of prescribed medication.Self medication makes economic savings for national health care systems and put more responsibility on individual patients in managing their conditions in well educated manner. Although self medication practice is common in both developing and developed countries, higher degree of prevalence was found in the developing world. The higher degree of prevalence in the developing countries could be attributed to many causes such as the ability to obtain wide range of drugs over the counter, poor regulatory practices, limited access to health care facilities and the availability of illegal sellers of medications. By this study we can also know the reasons behind the using of self medication and their knowledge about the medicines. We can know about the source of information of self medication. The frequency of taking self medication can be known from this study. Which types of medicines are frequently using for self medication in which area can be determined by this study.

Aim and Objectives

01. To investigate the prevalence of self-medication use among the people of Bangladesh.

02. To determine the frequency and reasons for self-medication.

Chapter Three

METHODS AND MATERIALS

3. Materials and Methods

3.1 Type of the study

It was a survey based study.

3.2 Place of the study

This study was done among the people of Bangladesh.

3.3 Study Population

In this study, 530 people were included. Both male and female were included in the study.

3.4 Study Period

Study period was from November 2014 to October 2015.

3.5 Data collection paper

A data collection paper was made and compiled all the information and data of the people in an organized manner**.**

3.6 Data analysis

All the data were collected properly and then checked. After that the collected data were entered into Microsoft Excel and then the result was shown in pie chart and calculated the percentage of the parameter of the awareness about self medication.

Chapter Four

RESULTS

4. Results

4.1 Gender

Graphical representation is given below.

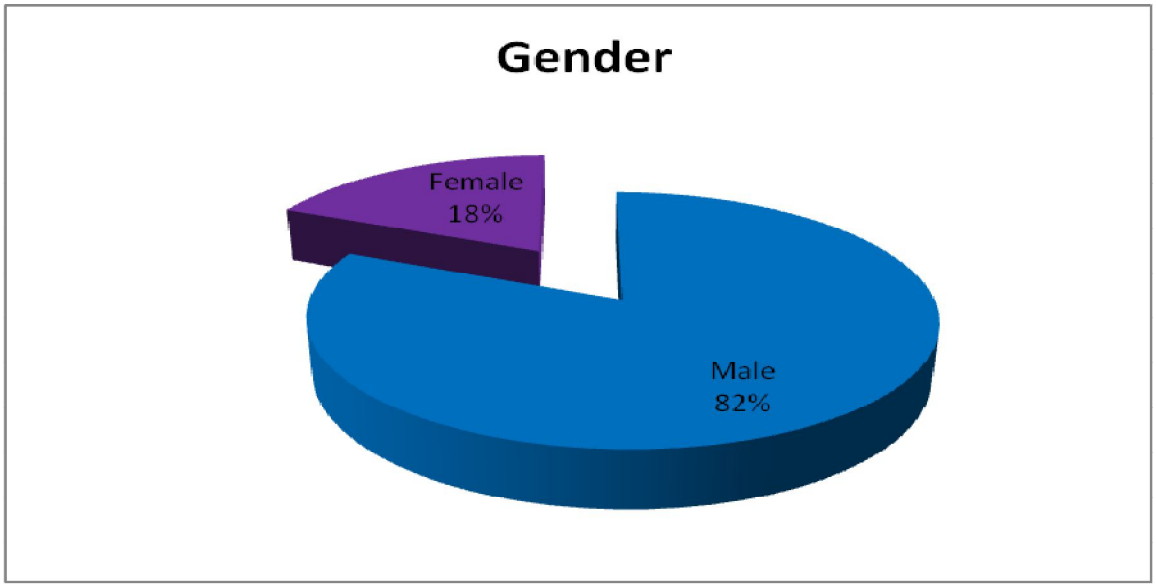

Fig 4.1 This graphical data shows that the total respondents were 530, in which Male respondent were 82% and female were 18%, which shows Male have the highest response value than women.

4.2 Area Distribution

Graphical representation is given below.

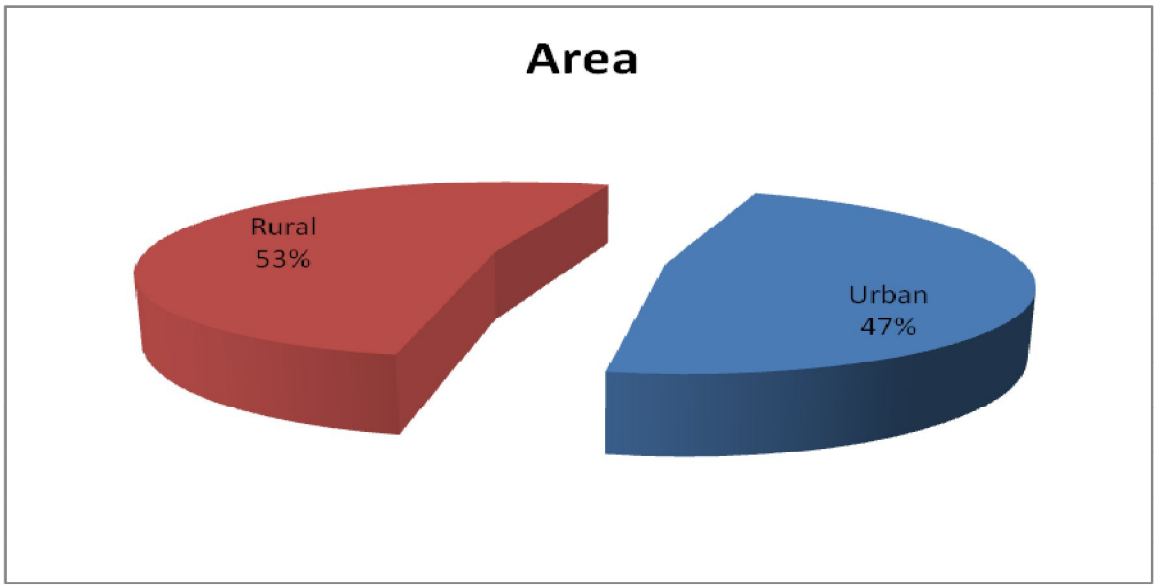

Figure 4.2 This graphical data shows that in total of 530 respondents. Urban respondents were 53% persons and rural were 47% persons, which shows Rural have the higher respondents over urban.

4.3 Comparison of urban and rural male and female.

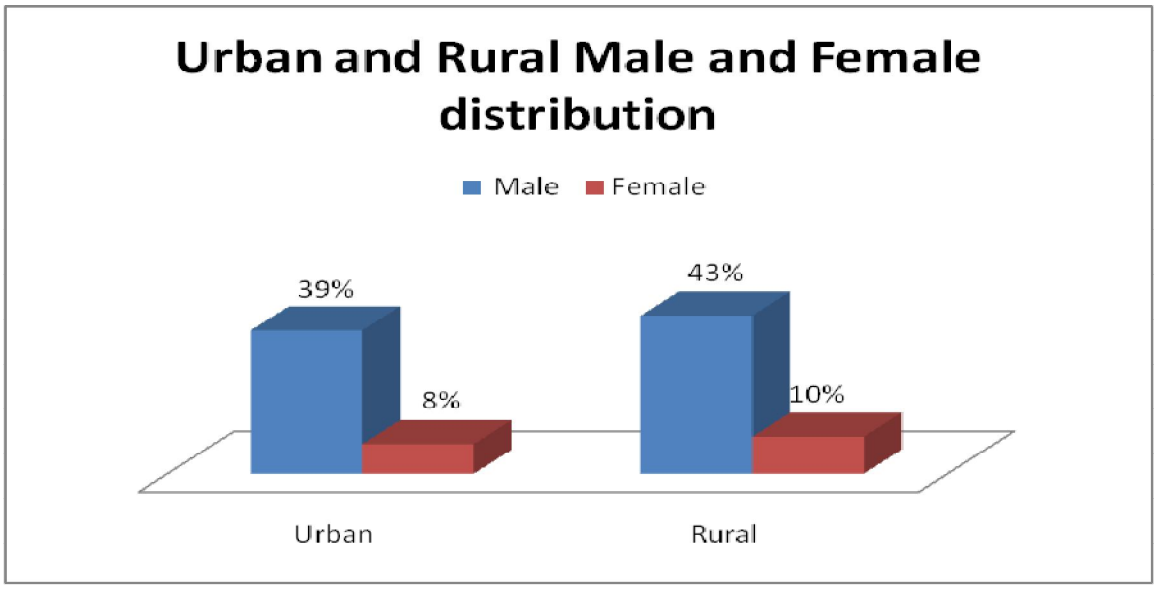

Figure 4.3 This graphical data shows that the total respondents were 530, in which Urban Male respondent were 39% and female were 8%, in case of rural male respondents were 43% and female respondents were 10%.

4.4 Age Distribution

The number of total participants were 530, their age variable are given below.

Graphical presentation are given below

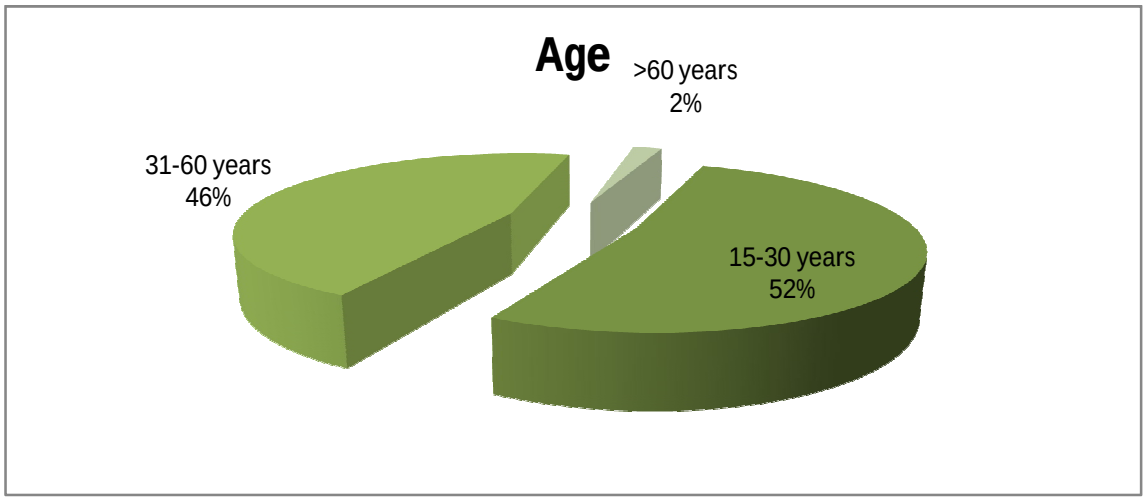

Figure 4.4 This graphical data shows that the total respondents were 530, in which age variations were 15-30 years = 46 % and 31-60 years = 52% and above 60 were 2%, which indicates that middle aged persons have the higher trend to take self medication.

4.5. Comparative age distribution in rural and urban respondents.

The graphical data are below

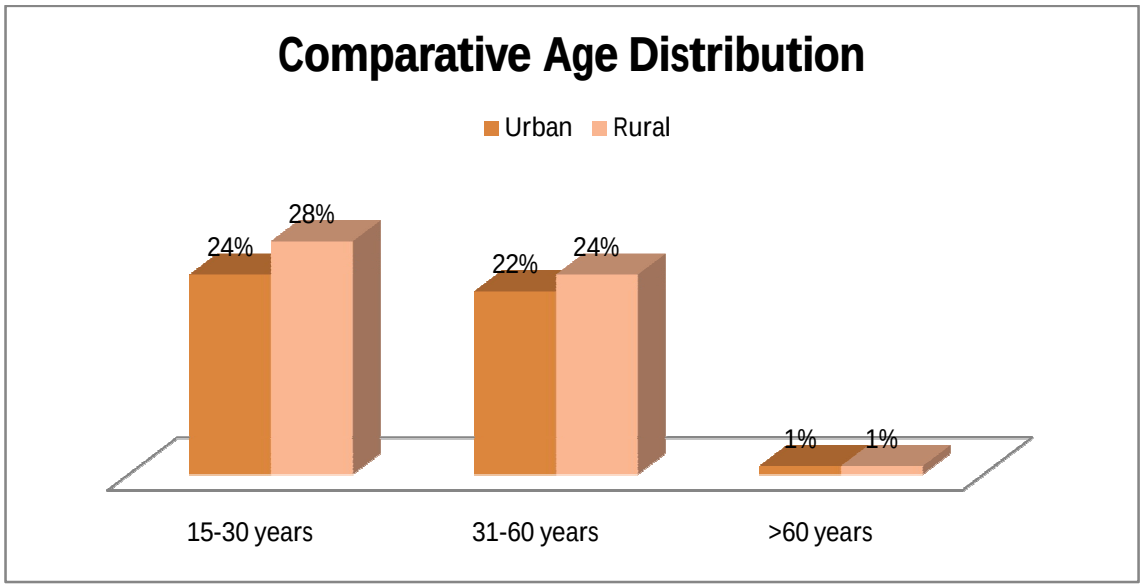

Figure 4.5 This comparative graphical data shows that, age variation 15-30 years had 24% urban and 28% rural and age variation 31-60 years 22% urban and 24% rural and age above 60 have 1% both in urban and rural.

4.6 Marital Status

Regarding marital status, most of the respondents were married. They are given below

Graphical presentation of marital status are given below

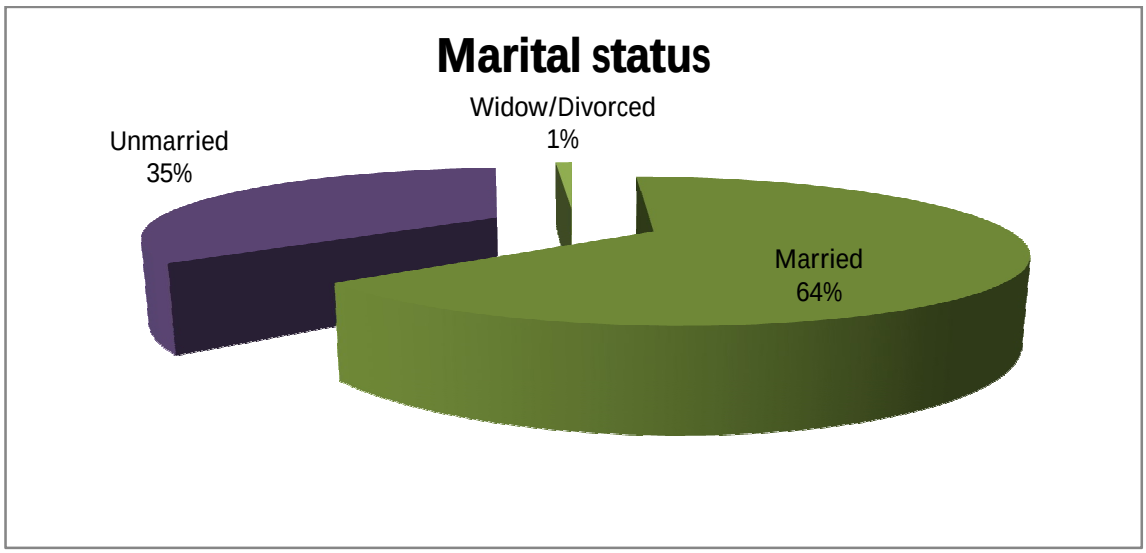

Figure 4.6 This graphical data shows, Married respondents were = 64%, Unmarried = 35 % and widow/divorced were = 1%.

4.7 Comparative marital status of rural and urban respondents

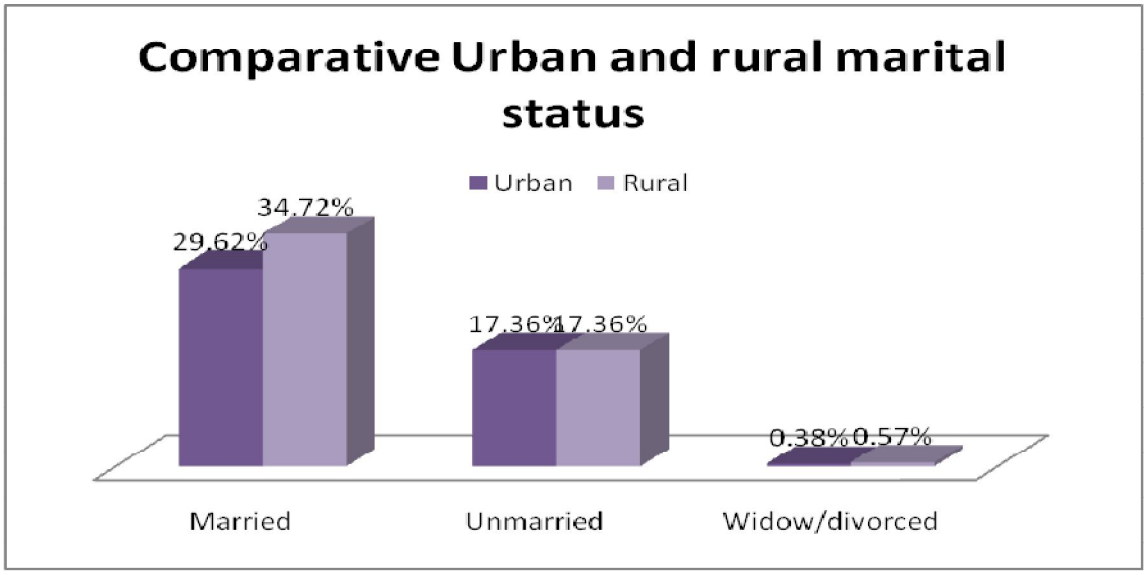

Figure 4.7 This graphical data shows that the rural area has the highest married respondents (34.72%) in the rural area.

4.8 Respondent income per month

Respondent's income per month on the basis of taka (Bangladeshi money) is given below.

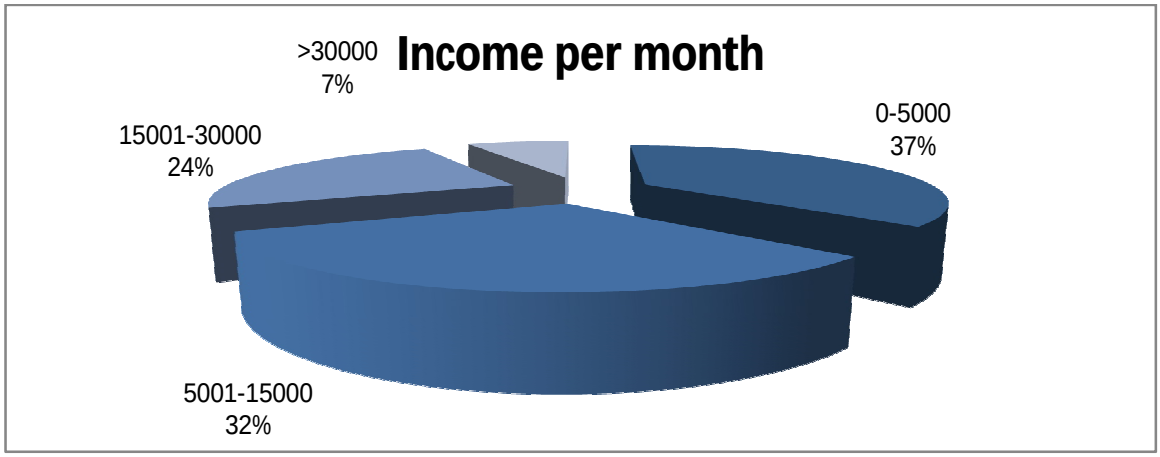

Figure 4.8 This graphical data shows, In come range 0-5000 was = 37%, 5000-15000 = 32 % and 15001-30000 = 24% and >30000 =1 %

4.9 Comparative income of rural and urban area

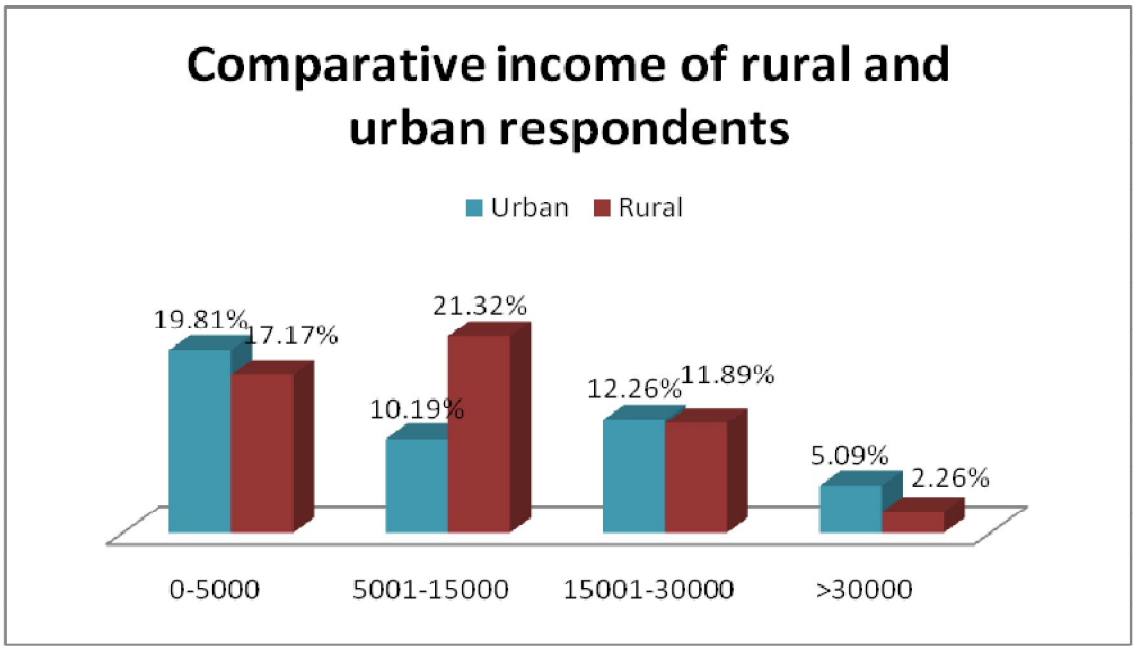

Figure 4.9: These income ranges of respondents are shown in taka.

4.10 Educational Level

The education level of the respondent are given below.

Graphical presentation are given below

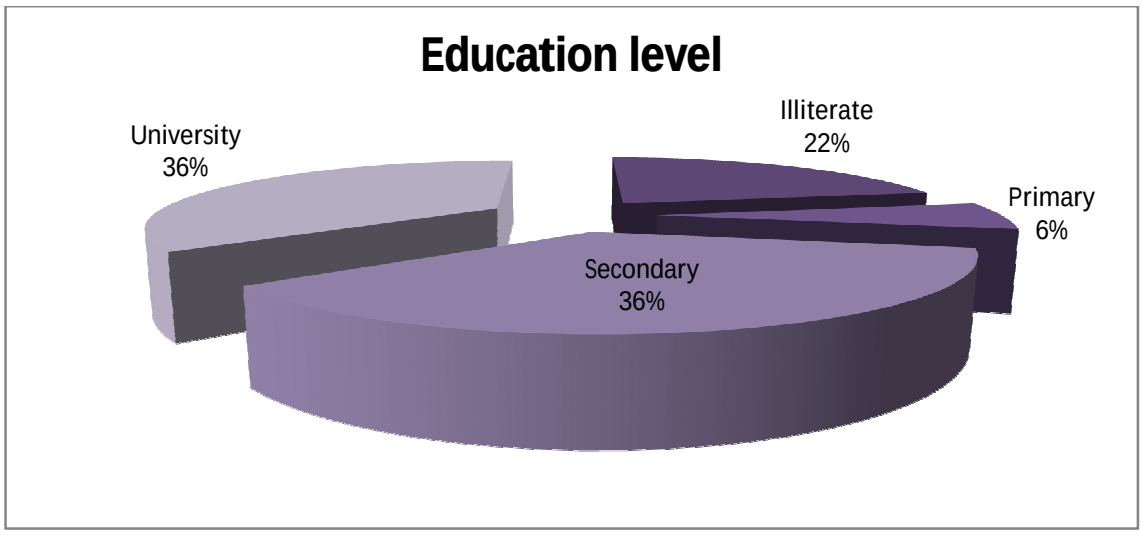

Figure 4.10 This graphical data shows that educated people has the more trend to take self medication. 71% of total respondents who are educated and taking self medication.

4.11 Comparative educational level of respondents in rural and urban areas

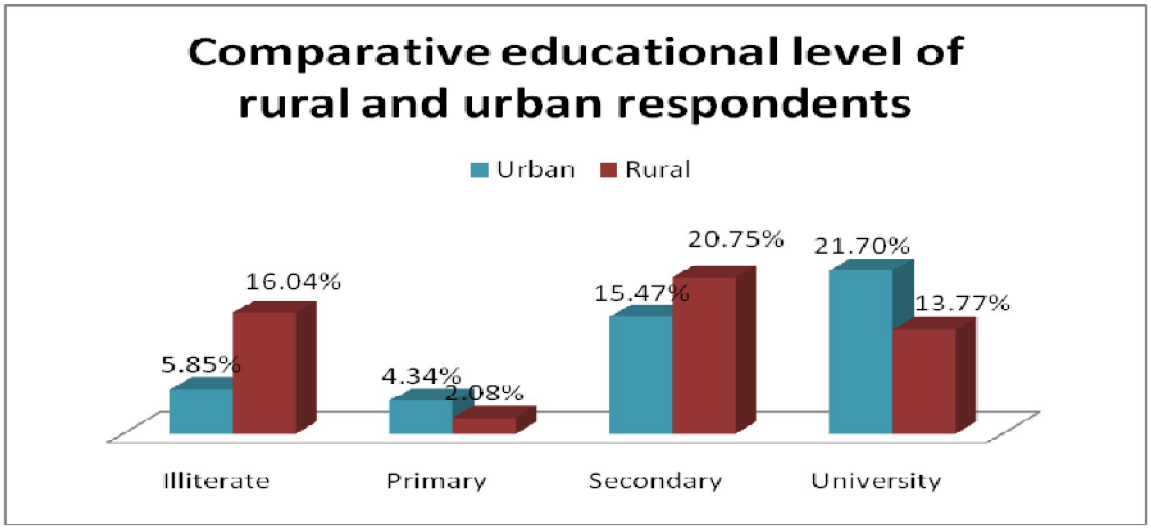

Figure 4.11 This comparative graphical data shows that rural area has more illiterate(16.04%) persons in contrast of urban area whose are taking self medication.

4.12 Occupation

Occupational data of respondents are given below.

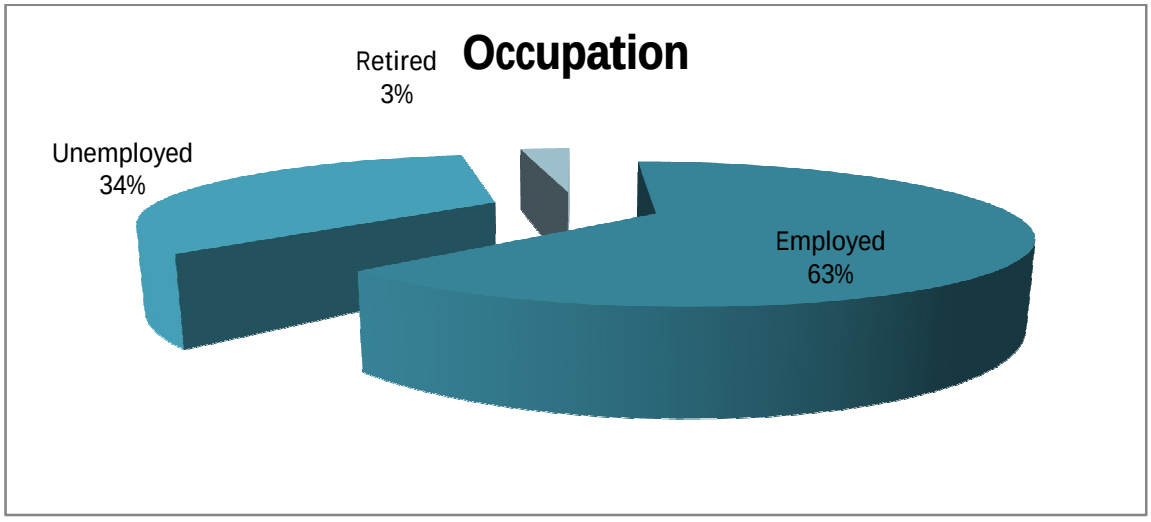

Figure 4.12 This graphical data shows that (63%) of total respondents are employed and (34%) of total respondents are unemployed and (3%) are retired from their job.

4.13 Self medication frequency

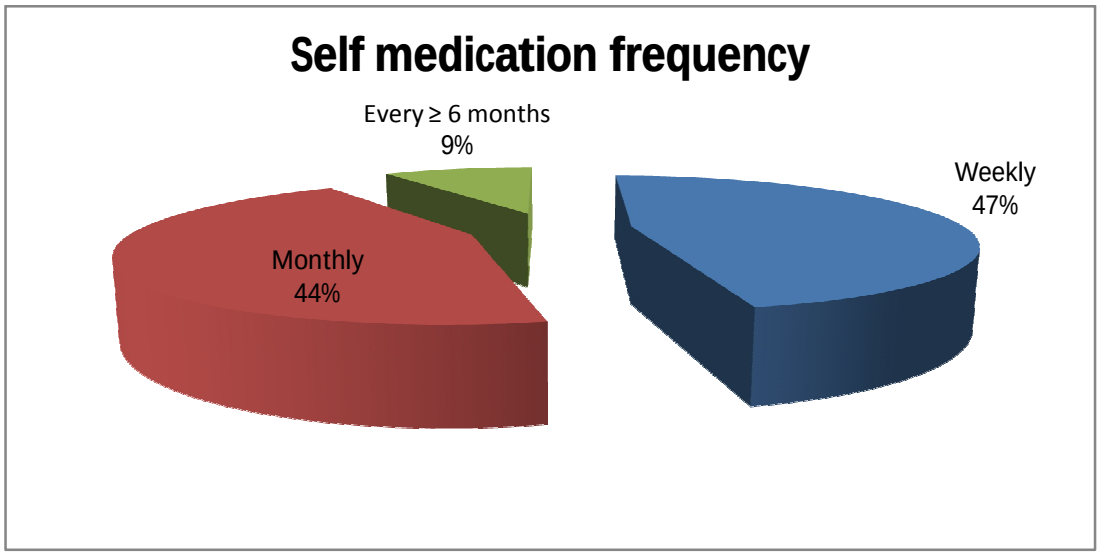

Figure 4.13 This graphical data shows that (47%) of total respondents are taken self medication weekly and (44%) are taken self medication monthly and (9%) are taken self medication equal or every six months.

4.14 Comparative frequency of self medication

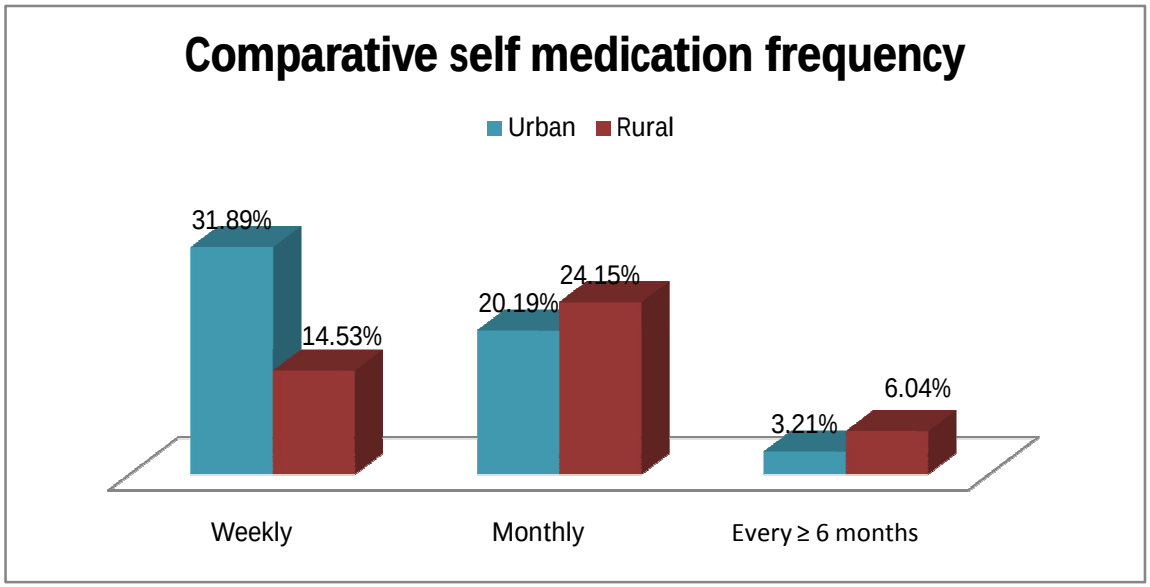

Figure 4.14 This comparative graphical data shows that 31.89% urban take self medication weekly 20.19% Monthly and 3.21% in every ≥ 6 months whereas, in case of rural area this percentage is 14.53% weekly, 24.15% monthly and 6.04% every ≥ 6 months.

4.15 Reasons of self medication

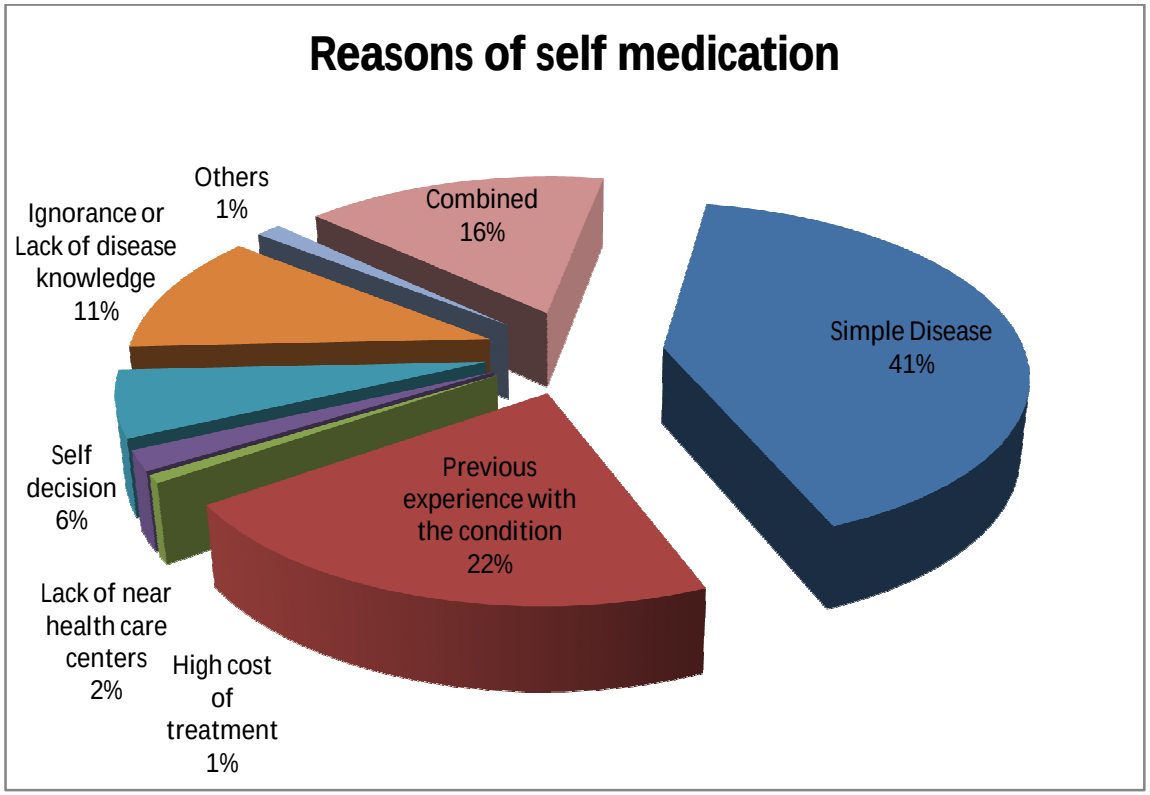

Figure 4.15 This pie diagram shows that 41% people are taking self as in simple disease,22% Previous experience about the condition, Self decision 6% and in ignorance or lack of disease knowledge is 11%.

4.16 Comparative reasons of self medication

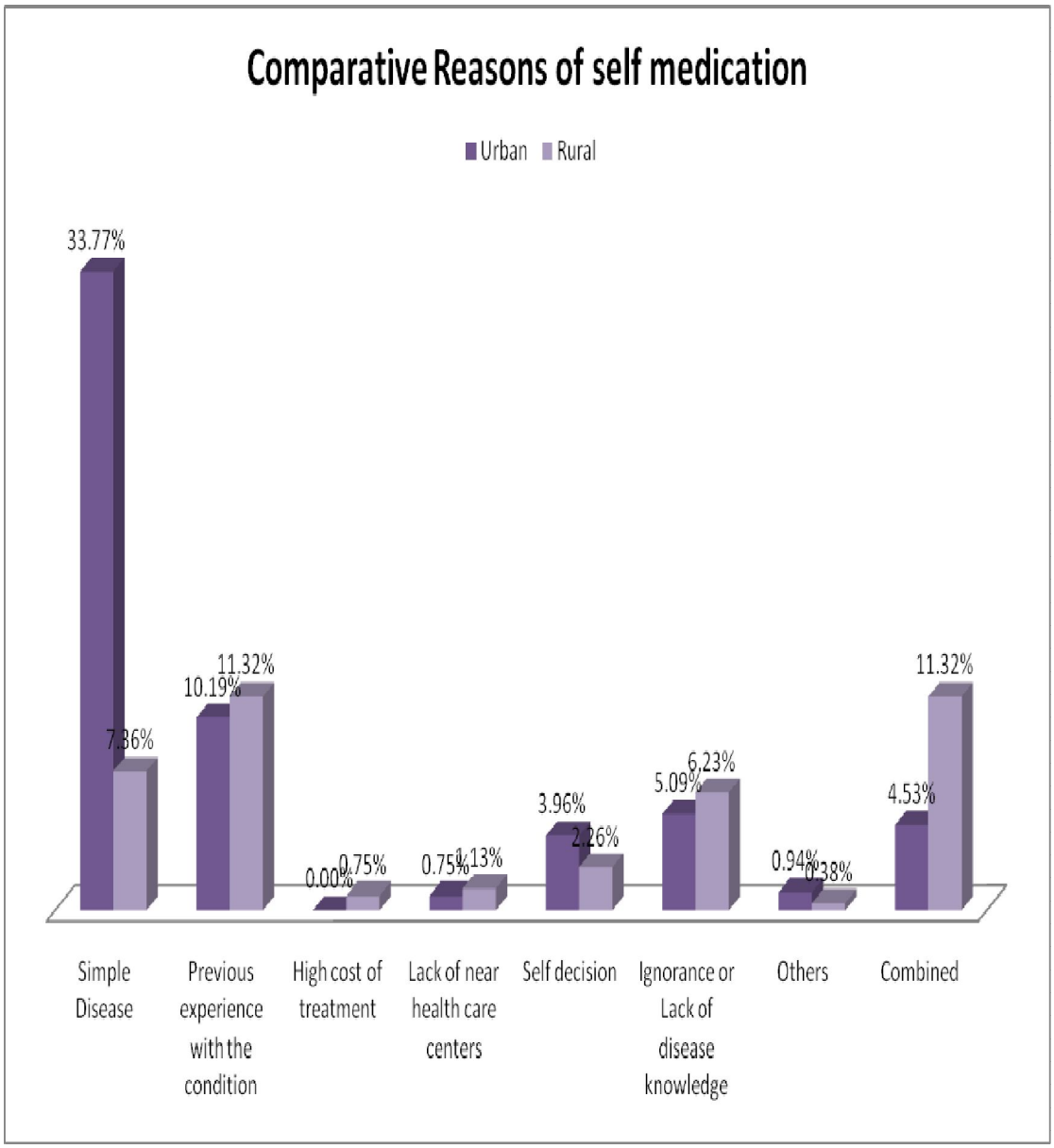

Figure 6.8.2 This comparative graphical data shows that urban people take more self medication then rural people in case of simple disease. Simple Disease has the highest value as a source (33.77%).

4.17 Source of information

In case of source of information about a drug most of the people gather it from the retail pharmacists (63%).

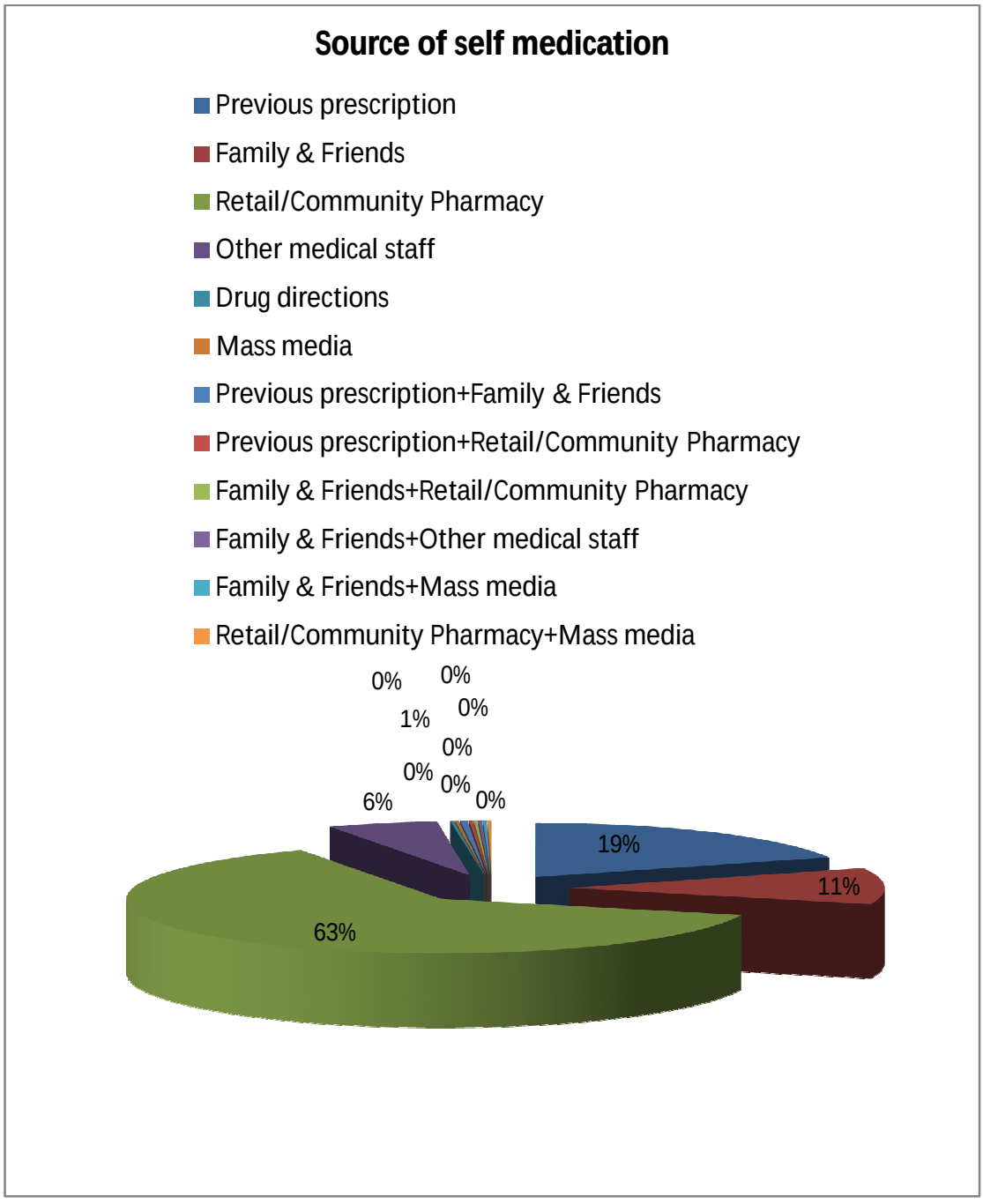

Figure 4.17 This graphical data shows that the major information source is the retail/community pharmacy (63%). Then the 2nd major source is previous prescription (19%). Family and friends also another source of information (11%).

4.18 Comparative Information source in rural and urban area.

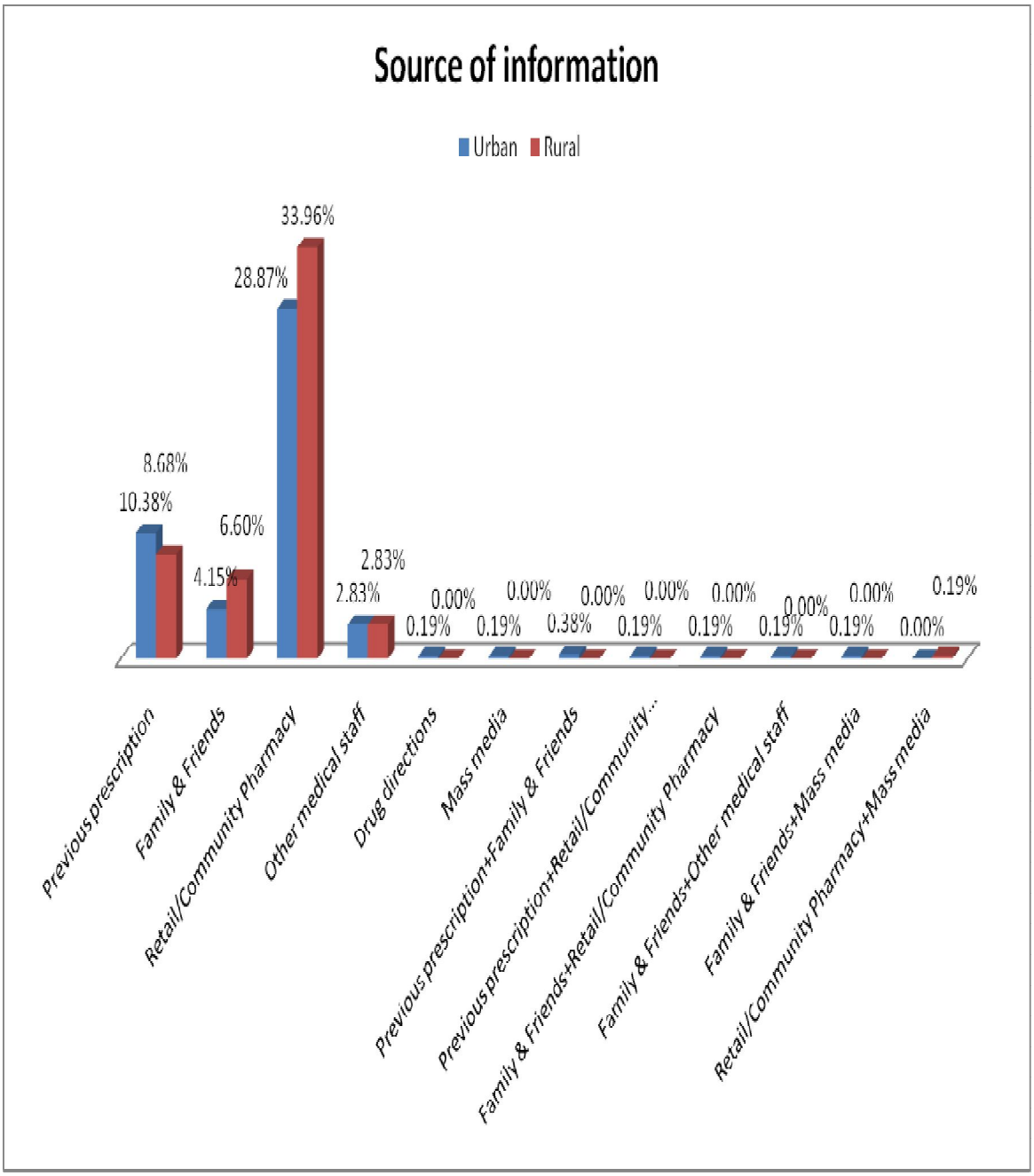

Figure 4.18 In case of the comparative study graphical data shows that the major information source is the retail/community pharmacy (63%) in which (54%) is in the urban area.

4.19 Indication for self medication

The indication in which against self medications being taken are given below. Some patients have more than one indication which is given to the individual entity.

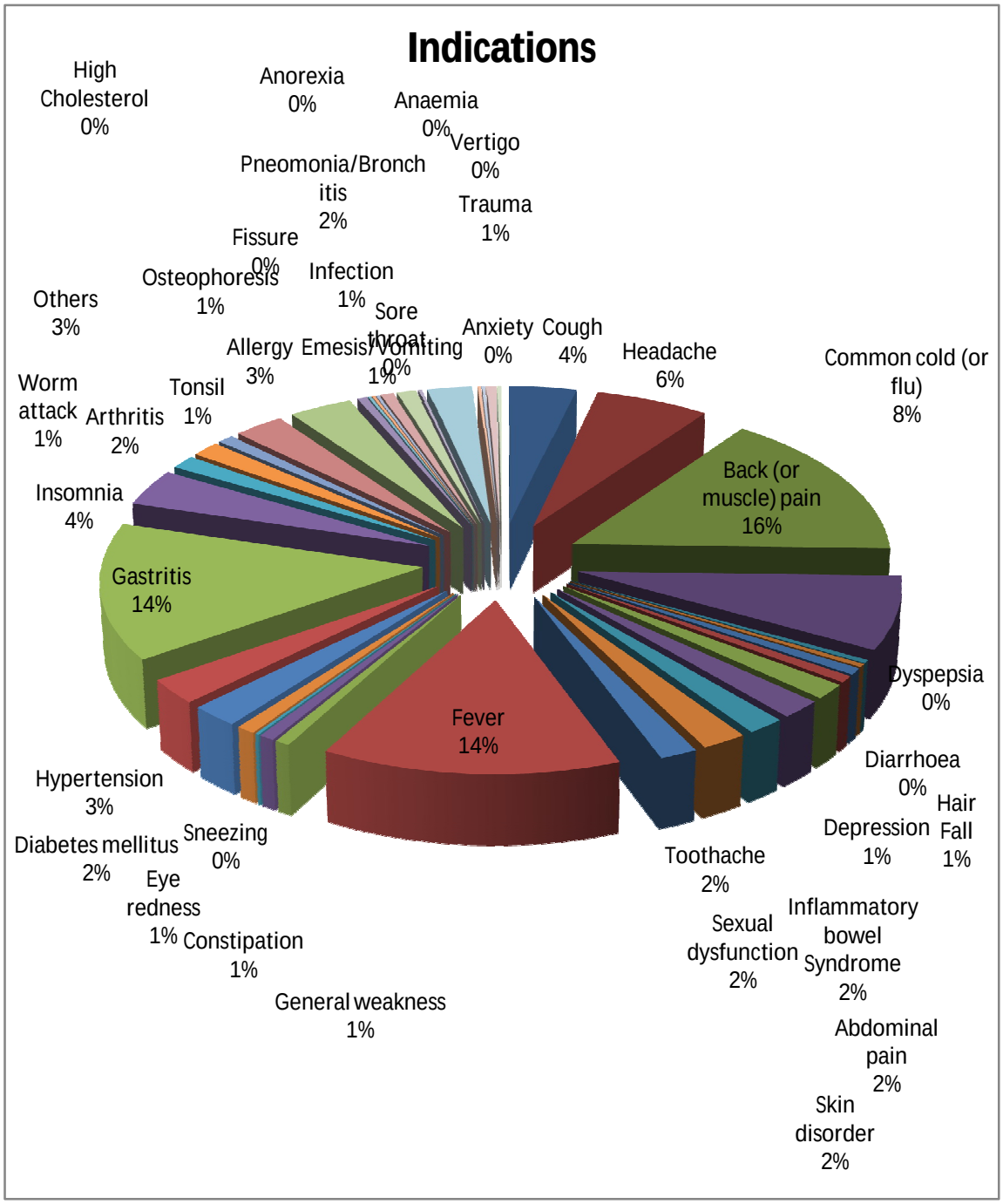

Figure 4.19 This graphical presentation shows that the pain (17%) fever (15%) and gastritis (15%) has the highest indication for self medication. It also shows that in case of some critical issue like diabetes, hypertension, and arthritis people taking self medication.

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4.20 Comparative Indication

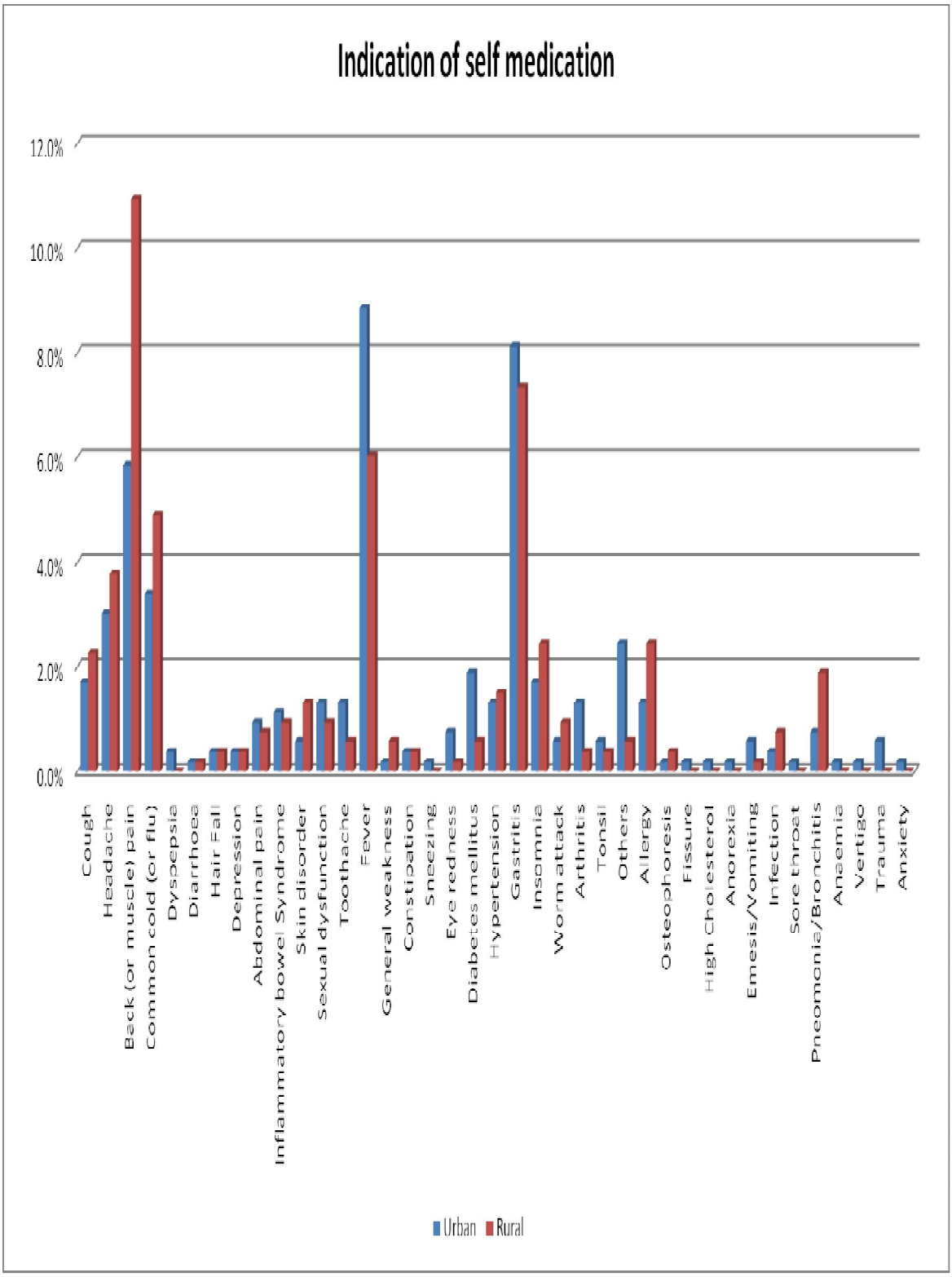

Figure 4.20 This graphical presentation shows that the pain (17%) most in rural (65%), fever (15%),Common cold (59%) have in the rural area. Urban area is more sensitive for gastritis then the rural.

4.21 Medications for self medication

Some patients is taken more than one medication at a time for a single or multiple purpose which is given to the individual entity.

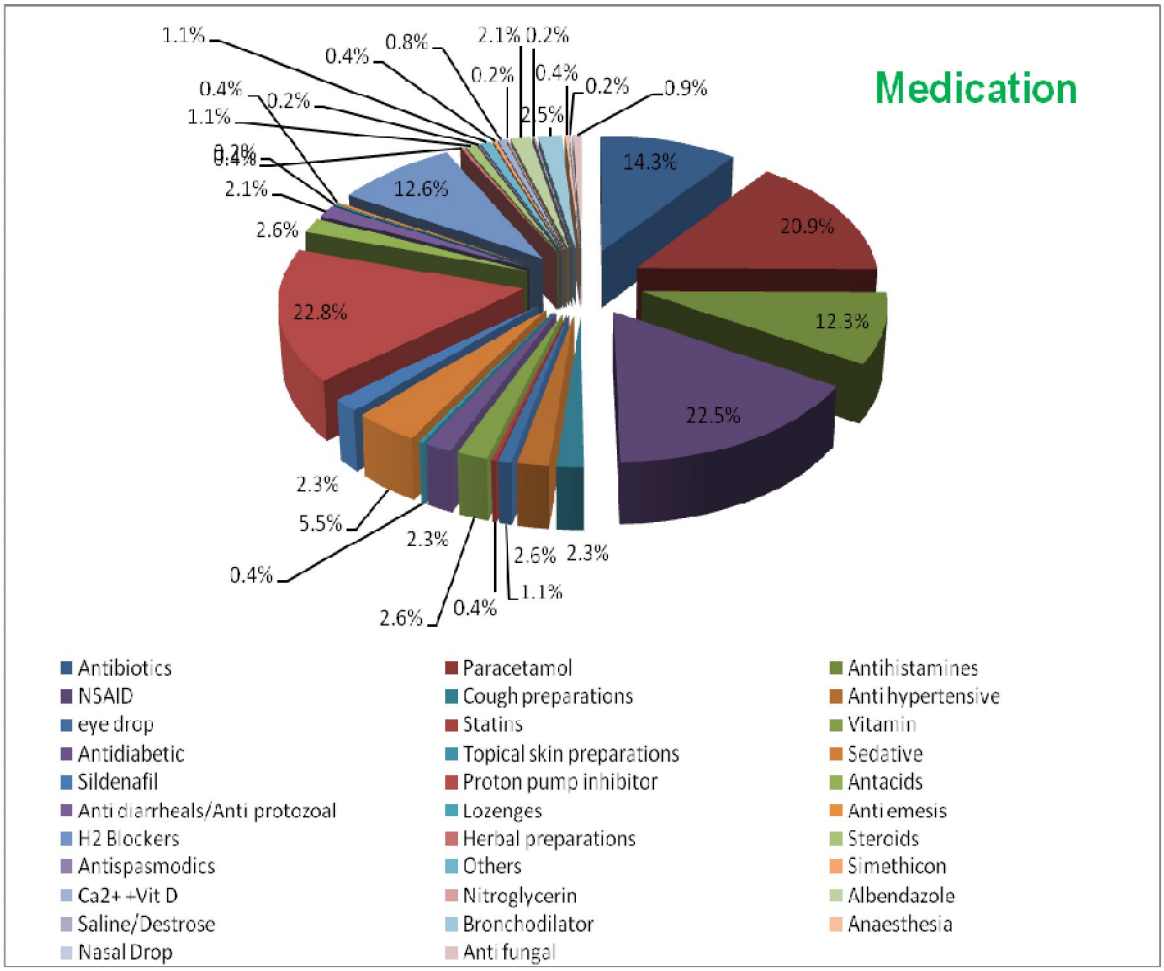

Figure 4.21 This graphical presentation shows that the use of antibiotic is (14%). (Paracetamol 21%), Non steroidal anti inflammatory drug (22%) and proton pump inhibitor has the highest value (23%).

4.22 Comparative data of medication

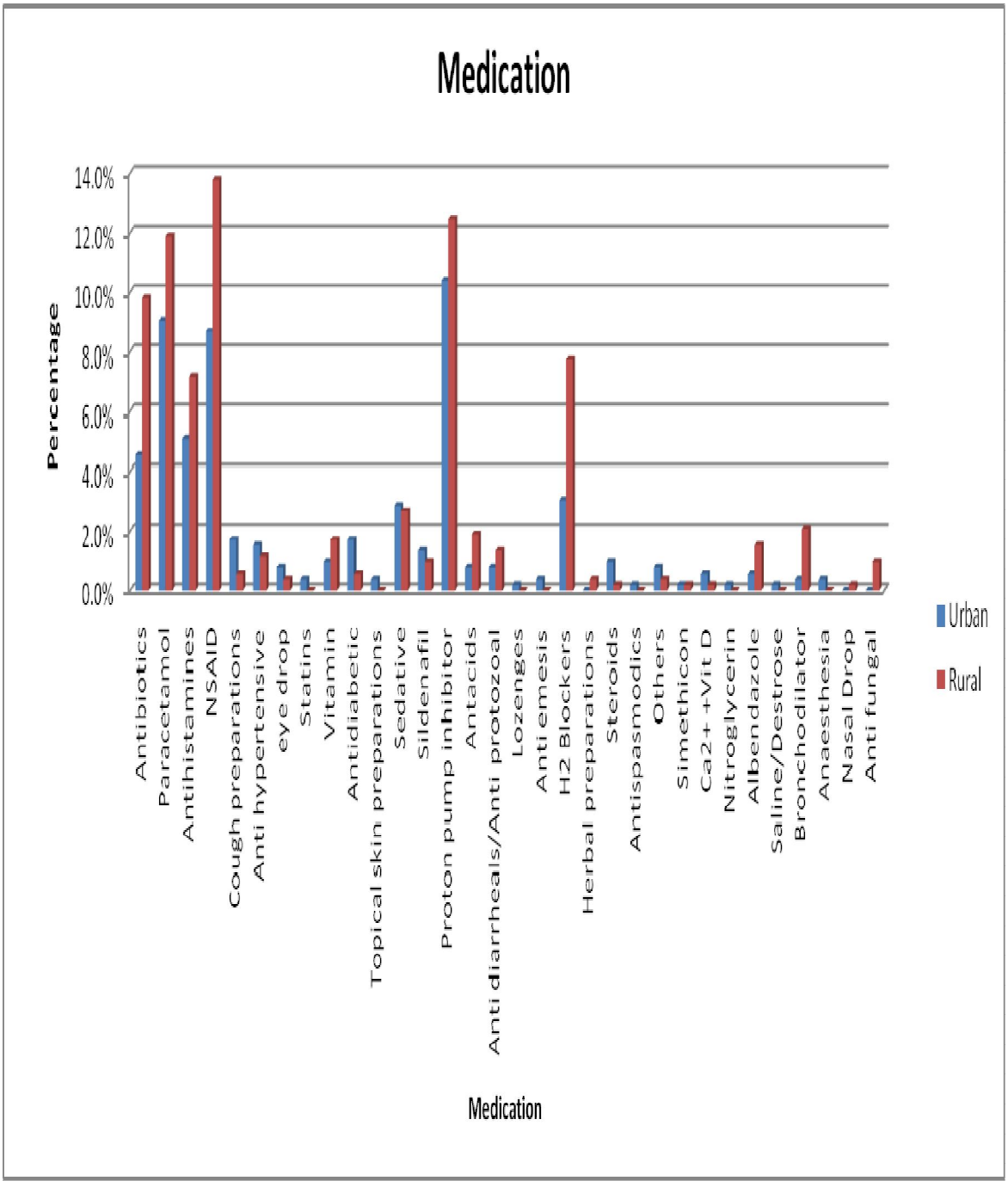

Figure 4.22 This data shows that the rural area has the more trends to taken antibiotic (52%) instead of the urban. Also same in case NSAID and proton pump inhibitor and h2 blockers.

Chapter Five

DISCUSSION & CONCLUSION

Discussion

The study was conducted to 15 different places with varying sociodemographic characteristics and time considerations.

Comparing results of this study with those of other studies conducted in other countries seems somewhat difficult due to differences in cultures, health care systems and the roles of community pharmacies. This study found that male respondents practiced self medication to larger extent than females. This result is consistent with the result of another study (Ali *et al*. 2014) and contradicts others (Chua, 2011; Carrasco *et al*, 2009).

This study indicated that about 98% of study populations were 15-60 years old and this seems logical since these individuals have greater ability than older individuals to move and seek medications due to fewer incidences of having joint or cardiovascular diseases than the older persons (Alan, 2010; Lakatta, 2002; Brian, 2012)

In this study, most respondents were married due to religious and traditional considerations which encourage marriage at young ages.

About two thirds of the study population ranked their monthly income less than good income. This result is consistent with other studies conducted in third world countries which found that majority of population practicing self medication were of low economic status (Solomon, 2003)

This study demonstrated that about 71% of respondents were literate. This could be explained by increasing percentage of educated individuals in the general population.

The main major reason mentioned by 41% of respondents was simple ailment which did not require physician consultation; this finding is consistent with results of other study which showed that patients perception of their current conditions as simple conditions to be the dominant cause behind practicing self medication (James *et al*,2008)

The 2nd reason of practicing self medication for two thirds of study population was experience and knowledge of treatment from similar previous ailments; this could be explained by the ability of people to remember medications whether prescribed or over

the counter (OTC) used for similar previous conditions especially if these medications were successful in improving such conditions or symptoms. (Aris, 2011)

The most important source of information of self medication reported in this study was the retail pharmacists who have the license to sell the medicine but not to prescribe.

The 2nd important source is the previous prescription which needs to be re-consulting.

Friends and family who suffered the same condition can also an important source of information, which have to be developed.

The study showed that some conditions treated by self medicated drugs were simple and the patients did not require seeing a doctor for these conditions, but other conditions were different and would otherwise require medical supervision for further evaluation or treatment.

It is obvious that pain (17%), Fever (15%) and gastritis (15%) is the main indication of the self medication. Where have some critical issue which needs to be consult with physicians like diabetes and hypertension.

The respondents used many types of drug classes for self medications; some drugs were OTC and could be dispensed according to patients' requests, while other self medicated drugs were prescription only medications and should be dispensed only according to a physician prescription.

About 14% of study population used an antibiotic. In which in urban its 32% but in case of rural it's threatening about 68%. Rural people has the trend to get rid of from the disease as early as possible. That's why they are more eligible to take antibiotics.

Sedatives (5%) cough preparations (2%) which may have the intend to abuse. Antidiabetic (2%) and Antihypertensive (3%) also be a problem which have the source either retail pharmacist or previous prescription, which can be a threat.

Conclusion

In conclusion, the result of this survey based study suggests that there is an urgent need for health education in the study population in order to increase their level of awareness and knowledge about Self Medication. The Bangladeshi individuals who practiced self medication were of different sociodemographic characteristics. Which illustrated that many Bangladeshi patients can easily practice self medication for the management of wide range of conditions whether simple or not. For managing their conditions, these patients can obtain many types of drug classes; even prescription only medications could be dispensed for self medication purposes as well as the OTC drugs. Therefore, it is strongly recommended to encourage the general population to have greater attendance to primary health care centers and to initiate education programs for them to specify the conditions that could be treated by self medication practice. Other recommendation is to reinforce the drugs which could be dispensed legally and safely from the retail pharmacies without a medical supervision. These measures will help to reduce the consequences of either suboptimum or exaggerated treatment of some conditions and in the same time reduce the hazards of misuse or side effects of certain types of drugs.

Chapter Six

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REFERENCES

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