

ASSESSMENT OF MIS USE OF DRUGS (ANTIBIOTICS) AND
CONTRIBUTING FACTORS AT HOUSE HOLD LEVEL IN AGARO
TOWN,02 KEBELE,JIMMA ZONE ,SOUTH WEST ETHIOPIA.

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JIMMA UNIVERSITY
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ABSTRACT

Back ground: drugs are one of the most component in medicine used for diagnosis ,treatment and prevention of varies disease .Among varies types of drug antibiotic are most commonly used .

Therefore, the misuse of this antibiotic leads to various public health problem .In order to overcome this problem such as resistant, enhancing community awareness toward proper and effective use are very important .

Objectives:the main aim of this objectives of study was to asses mis use of antibiotics and contributing factors among house holds in kebele 02 Agaro town.

Method: a community based cross section study was conducted in Agaro town 02 kebele .

The systematic sampling method was used to select a sample of house holds that represents the total population in Agaro town 02 kebele .Every 4th house hold was selected and care takers of the hose hold was interviewed by using structured questionnaire.

Result: out of interviewed respondent ,one hundred six (32%) have inappropriate used the drugs .

Two hundred twenty seven (68%) of respondents did not have awareness about grave hazards of antibiotic misuse .Health institution (40.2%) and drug venders (36%) were the most source of drugs .luck of knowledge (34.8%) and economic reason (32.7%) were the most common reason for antibiotic use other than health institution. Abdominal pain (38.9%) and sore throat (26.4%) were the most commonly once for used antibiotic without medical prescription .The possible reason for taking antibiotic without physician prescription was 33.6% due to high confidence on pharmacist , and 31.2% was due bto economic circumstance.Among mal practice performed by respondent 25.2% stopped taking drug after sign and symptoms of disease disappear and followed by self medication (23.4%).

Conclusion and recommendation :mal practice performed by community such as increase or decrease dose of drug ,stop taking after sign and symptoms of disease disappear and share drug among each other leads to misuse of antibiotics .This misuse of antibiotics leads to antibiotics resistant which was the grave hazards to public health world wide .In developing countries the antibiotics are sold as over the counter drug is one of the important reason for the antibiotic resistance and misuse of it .Most of public did not have knowledge about the grave hazards of misuse of antibiotic, about 68% of them did not have any awareness about the misuse of antibiotic and 36% of them known about it .Finally ,lack of knowledge (awareness) about the grave hazards of antibiotic misuse leads to misuse of it and mal practice .

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CHAPTER ONE:

INTRODUCTION

- **Background information**

Drugs are one of the most component in medicine used for the diagnosis, treatment and prevention of varies disease. Among varies types of drugs, antibiotics are one of the most widely used through the world. It is not just another commodity, but one whose unnecessary and irrational use is particularly dangerous. In Ethiopia, as in the other developing countries, the quality of the health services is far from satisfactory. There is broad recognition that developing countries experience substantial problems in this sphere where as they represent 80% of the word populations. (1).

Irrational prescribing is a habit which may lead to ineffective treatment, health risks, patient non-compliance, drug wastage, wasting of resources and needless expenditure. Several factors affect rational use of drugs such as patients, prescribers, the work place environment, the supply system, lack of drug information and the problem of misinformation, (2,3).

Despite the effectiveness of antibiotics in the treatment of numerous bacterial infections, it is often used inappropriately. This misuse of antibiotics is currently one of the major public health issues worldwide. Although antibiotics are targeted to kill or inhibit the growth of bacteria and have no effect on viral agents it is often inappropriately used to treat viral infections, such as upper respiratory infection. Problems as-associated with the over sue of antibiotics include development of antibiotic resistance, raising costs of health services, and the development of side effects(4).

Worldwide, antibiotics are the most commonly prescribed drugs for children, especially for acute respiratory illness and diarrhea. Increasing antibiotic resistance is usually attributed to overuse and misuse of

antibiotics, it has been estimated that use is unnecessary in 20%-50% of the courses unfortunately; misuse of antibiotics is causing the emergence of resistance pathogens early in life, especially in the developing world where antibiotics are available without prescriptions (5).

The reasons for getting antibiotics by the patients or the care giver are due to their economic circumstances and high confidence on pharmacist. Worldwide the misuse of antibiotics are growing due to less awareness. A higher percentage 65% of antibiotic use was recorded in Ghana (6). And between 30% and 60% of the patient in the primary health care centers received antibiotic in the developed and the developing countries (7).

The emergence of bacteria strains resistant to antimicrobial agents presents a growing concern worldwide. The relationship between antibiotic use resistance development is strong and supported by several studies (24).

Statement of the problem

Societies in all parts of the world use different ways to treat disease and ailments. This includes using drug to treat disease. Drugs treatment are one of the main component in health care. Among varies types of drugs ,antibiotic takes large place.Australians was among highest users of antibiotics in the developed countries, with around 19 million prescription written every years. Therefore, the relation ship between high antibiotic use and resistant development is strong and supported by several studies(10,11). Every time without knowing the effect of misuse of antibiotics, we take antibiotics unnecessarily or incorrectly and we encourage the development of dangerous antibiotic resistance bacteria and contributing to the spread of super bugs in the community(8,9).

In developed world up to half of all patients donot take antibiotics as prescribed and may stop treatment early when they feel better. This may be deliberate act by the patient. It may occurs through misinterpretation or in adequate information. This was result in development of antibiotic resistant bacteria, which is the grave hazards of puplic health through out the world(8,9).In developing countries the antibiotic are sold as over the counter drug is one the important reason for antibiotic resistant and misuse of it.Mal practice or in appopriate practice such as self medication,stop treatment early and over use or under use are result in wastage of resource, increasing resistance of pathogens, serious health hazards and adverse reactions are occurs.

Up to 40% of the total health care budget in developing countries spent on drugs. Even though such budget spent on drugs, There is lack of information about the problems resulted from misuse of antibiotics among community and about the proper efficacy, safety and rational use of

antibiotics among health authority and workers. No supervision or strict rules are applied in the use of antibiotics. They are easily obtained without prescription and available in some shops(12,13). Despite the importance of appropriate and correct use of anti biotic, little is known about proper use of antibiotic and what factors influence these condition resource limited setting like Ethiopia.

Significance of the study

- Health problem is multi factorial, meaning it is related with different factors.
- One of this factor is miss use of drugs or antibiotics which result in antibiotic resistant bacteria that is the grave hazards of public health through out the world.
- The victims for this problem is not only individual using antibiotic improperly, but also affect the whole population indirectly.
- There fore, this study was conducted to assess misuse of antibiotics and contributing factors. So that an appropriate recommendation and intervention method could be suggested to all concerned bodies, in order to prevent health problem associated with misuse of drugs.
- In addition to this the outcome of this, the outcome of this study will give a clue those who needs to do their research on the prevention Of misuse of antibiotics.

CHAPTER TWO

LITERATURE REVIEW

Drugs are any chemical substance that affect the way your body works. It is also a substance which may have medicinal, intoxication performance, enhancing and other effect on our body. It is one of the most component in health science used for the diagnosis, treatment, and prevention of various disease. Drugs are extensively used in medicine when they are likely benefit to the patient. In some instances drugs does not cause apparent harm to the patient. But sometimes they result in allergic even when the patient is not injured. Over use of drugs are an undesirable and demands of money wasting behavioral pattern and hazardous effect on the health of individual. (13).

Among various types of drug; antibiotics are the most common used throughout the worlds. It account for a substantial proportion of the total drug budget in many countries and are often the largest single groups of drugs purchased in developing countries (12,25).

In both developed and developing countries to meet the health needs and demands of the population, medicinal products are used through a country wide system of established in situations. Because of the conflicting goals and needs that must be meet and because of the changing political, economical, and social conditions. The pharmaceutical supply system under goes continuous change in all countries. The experience in developing countries has demonstrated that the disease causing most of the discomfort, disability and death.

In those countries are often preventable or treatable with drugs. Furthermore, the availability and effectiveness of the drugs is a key sector in generating and maintain public interest and participation in health related activities in the countries (14,15).

ANTIBIOTICS.

Antibiotics are substance used to fight infections pathogen or microorganism that can cause particular disease to specific host. They may produced from molds growth on certain soils (pencilline) or made synthetically in laboratory. About 50 (fifty) different type have been developed. Up to now, more than 4,000 antibiotics have been isolated from microbial sources and reported in the literature, and more than 3000 semi-synthetic antibiotics have been prepared. Of these, only about 100 are used clinically as the therapeutic utility not only depends on high antibiotic activity but also on other important properties such as good to relevance, favorable pharmacokinetics etc. These antibiotics are today among the most efficient weapons in the armoury of the physician in his fight against infectious diseases. They are therefore used a large extent and constitute the largest class of medicaments with respect to turnover value. Today, antibiotics are clinically useful antibiotics. These belong to various classes of chemical compounds, differ in origin, mechanism of action and spectrum activity and are thus important and representative examples of know antibiotics. They all are prescription items and should not be used without the advice of physician (11).

The physician may conduct culture and sensitivity tests to help to determine the appropriate drug. Antibiotics are harmful if misused. For example, pencil line is the most widely used and among the softest of antibiotics. It can however cause allergic reaction in some people and bacterial may develop resistance to it. It is important to reemphasize that these should be used as directed by physician and that any side effect or reaction can be reported. Antibiotics are used in non-prescription products that are sold for the treatment of cuts, abrasion and burns. A study done in

Jimma zone indicate that 49% the respondents did not know the frequency and precaution of the drugs and the adverse effect of 91.7% of the drugs were not known by the respondents. Another study done in papu anew guinea show that although some knowledge of quantities and frequency of medication exist, there is much ignorance about the exact timing of administration and duration of courses (11,16)

There is evidence that certain organism are growing more resistance to antibiotics rendering the drugs less effective. There are also indication that drugs are beuy misused and overused. Widespread use and misuse of antibiotic have result in a problem of drug resistance linked to treatment of infections disease. In developing countries, especially the sale of such drugs are poorly controlled and the pharmaceutical industries are dumping obsolete products. Intensive marketing, lack of diagnostic facilities and receptive local cultural attitude to new “wonder drugs” such antibiotics have resulted in dramatic unnecessary use of such drugs. The ideal strategies for treatment of infectious disease guided by microbiological diagnosis and treatment pattern are violated in most developing countries, leading to excessive use of antibiotic and development of resistance (23,24)

Patients non-compliance is likely to be attributable to many different factors. However, some of this problems are certainly due to failure of communication, acceptance, recall and cultural influence are the common one. Even though the proper communication by itself does not garnet that behavioral change will take place. It is evident that for certain drugs patients prematurely discontinue the regimen simply, because they don't know that it is important to continue the treatment as ordered by professional prescribers. Most of studies on compliance, indicated that patient don't take drugs for the complete period of time. A frequent cause of non-compliance in developing countries where drugs are sold at market prices, is inability of the patients to buy full course of drugs needed for the therapy. A study done on compliance of people in one ruler kebele of Jimma indicate that 40% of the respondents said, they terminate administration when the symptoms of the disease disappear and 21.2% of them share their drugs with others even if the drug is not analgesic (11,17)

Irrational prescribing is a habit which may lead to ineffective treatment, health risks, patient non-compliance, drug wastage, wasting of resources and needless expenditure. Several factors affect irrational prescribing such as patients, prescribing, the workplace environment, the supply system, weak governmental regulations, the lack of drug information and the problem of mis information (3).

Despite the effectiveness of antibiotics in the treatment of numerous bacterial infections, it is often used inappropriately. This misuse of antibiotics is currently one of the major public health issues worldwide. Although antibiotics are targeted to kill or inhibit the growth of bacteria and have no effecting viral agents it is often inappropriately used to treat viral infections, such as most of appear respiratory tract infections (URTIS). Problems as-associated with the overuse of antibiotics include development of antibacterial resistance, raising costs of health services, and the development of side effects (4,16). Worldwide, antibiotics are the most commny prescribed drugs for children, especially for acute respiratory illnesses and diarrhea. Increasing antibiotic resistance is usually attributed to over use and misuse of antibiotics, it has been estimated that use is unnecessary in 20-50% of the courses unfortunate; misuse of antibiotics is causing the emergency of resistance of resistance pathogens early in life, especially in the developing world where antibiotics are available without prescriptions (5).

Self-medication can be 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 continued use of a prescribed drug for chronic or recurrent disease or symptoms. It is quite common in many developing countries. It is also hazardous to pregnant women and other group of patients, where drugs must be strictly handled by professionals. A study done on self-medication in Ethiopia reveled that about 14.4% of the community in admixture 22.2% of ze way 01 and 40.5% Zeway 02 and 65.5% of Addis Ababa were using of self-care of modern medication (18,6).

Accessibility to essential drugs and information on their appropriate use is an indispensable element in equitable and rational health services. Over 50% of the world population still has no regular access to essential drugs and yet there is wide spread availability of no-essential, harmful and other antimicrobial irrational uses (13).

Antibiotics and other antimicrobial agents are losing their effectiveness, once a new drug is widely used resistance to it is most likely. According to the WHO 1995 report in hospital alone, an estimated one million bacterial infections are occurring worldwide every day and most of these are drug resistance. One of the contributing factors according to this report was inappropriate use of antibiotics. A study done on the rational use of antibiotics particularly in developing countries has suggested the description of the pattern of antibiotic use in a per urban community in Mexico City (5,15).

Antibiotics misuse was found to be significantly frequent in children, especially when presenting with viral upper respiratory tract infections. Several contributing factors are evidently associated with the over use of antibiotics both at the patients level and doctors level. In addition, lack of health education is one of the major contributing factors in the overuse of antibiotics. Young children's response to medical drugs is different from that of adults. Their bodies are still developing. They require smaller and more accurate dosages. Sometimes they need special preparation such as syrups in order to make the use of medication better. For example in rural communities of many countries, most mothers give paracetamol tablets rather than syrups to their children with fever. Because they believe that paracetamol syrup is not effective and better. Therefore, the use of paracetamol tablets are frequently associated with over dose. Over dose use can damage a child's liver and kidney (14,19).

A large body of empirical literature suggests that attitudes and beliefs contribute substantially to patient decision whether to cooperate with a small letter "x" plan. There are a number of different ways in which drugs

are taken into the body. It may be swallowed (eaten or drink), sniffed and absorbed through the lining of the nose, inhaled through the lungs or injected beneath the skin, in to the muscles or into the vein. Some drugs can be taken in several different ways. The different methods of getting drugs in to the body have important implication for drug effects, the risk of dependence and the risk to health. (20,21).

CHAPTER THREE

OBJECTIVES

3.1 General objectives

To assess misuse of drugs (antibiotics) and contributing factors at household level in Agaro town, 02 kebele.

3.2 Specific objectives:-

- To identify the common source or from where the community largely obtain or use antibiotics.
- To assess the awareness of community to ward hazardous of mis use antibiotics.
- To assess the reason for using antibiotics and the reason for using with out physician prescription.
- To assess factors contributing to misuse of antibiotic and effect of it.

CHAPTER FOUR

METHODS AND MATERIALS

4.1, Study area

The study was conducted in Agaro town. Agaro town is one of the town which is located in Jimma zone Oromia regional state. The town is 390 km from A.A and about 45km from Jimma town. Agaro has five (5) kebeles, and total population of 35,599 from which about 52% are females. The town has 7333 H.HS and has latitude and altitude 7°01'N 36°35'E respectively and elevation of 1560m above sea level. Concerning infrastructures the town has one (1) TVET collage, one preparatory and high school, three (3) elementary schools of government, two governmental health centers and three primary schools of private and clinic of private.

4.2, Study period

The study was conducted from May 1 to June 5,2013.

4.3, Study design

A cross sectional study was conducted in Agaro town 02 kebele which was selected randomly from five kebeles of town.

4.4, Population

4.4.1, Source of population

All populations that found in agaro town 02 kebele. This kebele consists of 1425 HHS. It has also the TVET collage, preparatory and high schools and one health center.

4.4.2, Study population

The study subjects were all selected HHS in Agaro town 02, kebele.

4.4.3, Inclusion and exclusion criteria

Inclusion criteria for enrolment of respondent was sampled HHS in kebele at the time of data collection. The exclusion criteria include the HHS whose respondents /family/was not present at the time and unwilling of respondents and <15 yrs children.

4.5, Sample size and sampling technique

4.5.1, Sample size determination

Sample size was determined by the formula of sample size estimation.

$$n = \frac{(Z_{\alpha/2})^2 p(1-p)}{d^2} \quad \text{where}$$

$$n = \text{sample size}$$

P = proportion of misuse of drugs.

d = margin of error (5%)

$z_{\alpha/2}$ = Standard normal variable at $\alpha/2$

Confidence level of interval = (1.96)

$$n = \frac{(1.96)^2 (0.5) (0.5)}{(0.05)^2} = 384$$

$$(0.05)^2$$

Since the number of 02 kebele populations are <10,000 the following correction formula is used to determine final sample size.

$$nf = \frac{n}{1 + \frac{n}{N}} \quad \text{where, nf = final sample size}$$

$$N = \text{total HHS in 02 kebele}$$

$$n = \text{sample size.}$$

$$Nf = \frac{384}{1 + \frac{384}{N}}$$

$$= 303$$

1425

Adding 10% of non response rate, the final sample size was $303+30 = 333$.

K^{th} value = N/nf where K^{th} = The interval at which to interview the HHS.

$1425/333 = 4$, then every 4th house was interviewed.

4.5.2, Sampling technique

The sampling technique which was used in this study is systematic sampling method. The HHS was selected every 4th households where the 1st house was selected by lottery method. During the interview time, difficulty was raised in finding the family members the house to be interviewed. So in each case the next house was used.

4.6, Study variables

4.6.1, Independent variable

- Sex,
- Age
- Ethnicity
- Occupational status
- Educational status
- Income
- Religion
- Marital status

4.6.2, Dependent variable

- Knowledge toward proper use of drugs
- Risk of misuse of drugs
- Awareness of misuse of drugs.

4.7, Data collection process and data collection technique.

The data was collected by using standardized questionnaire by data collectors. The information was collated from each selected HHS, whose age was >15years old. The questionnaire was delivered to assess on misuse of drugs (antibiotics)

The questionnaires are both open-ended and close ended questions. The response for open ended questions were written as statement while for close ended ones, there were choices to selected from it.

4.8, Data processing and analysis

Data was checked for its completeness and any incomplete information was excluded from entry after data collection. It was processed using tally system for each item and processing carried out by investigators using related methods. The statistical procedure for analysis consists of frequency distribution,percentage composition,and chi square. Additional tables,charts and figures were also used to present the finding.

4.9, Ethical consideration.

From the beginning, the letter of cooperation was obtained form SRP of Jimma University and the head office of Agaro health bereau, then to kebele 02. Each households was respected and asked for their willingness to be involved in the study and they were informed as the collected data is used only for academic purpose and have no any harm to them.

4.10, Data quality assurance

To maintain the quality of data, structured and pre tested questionnaires were used to collected information on misuse of antibiotics. The questionnaire was prepared in English language and then translated to local language i.e Afan Oromo and Amharic. Finally

the questionnaire was checked for completeness by principal investigators.

4.11. PRETEST

Pretest done on ten person of stemated sample size in yabu town 01 kebele who are not involved in actual data collection

4.12, Operational definition

Antibiotics:- are substance that are used to fight infections that are caused by certain disease causing micro organisms.

Allergy:- is the hypersensitivity of the body cells to specific drugs that result in various types of undesirable reaction.

Appropriate use:- the use of drugs as it was prescribed by the physicians

In appropriate use:- The use of drugs wrongly to treat the disease without completing the prescribed course for specific disease.

Dependence:- State of psychic, and sometimes also physical resulting, from the interaction between living organism and drugs.

Drugs:- are chemical substance either natural or synthetic which is used in medicine and affect the way in which organs or tissue functions.

Misuse of antibiotics:- are use of antibiotics without physician prescription, not used for prescribed or specific disease, use adult dose for child and not complete the course of prescribed i.e they left while they get some improvement.

Resistant:- the ability of disease causing micro organisms survive or not to be inhibited or destroyed by antibiotics i.e they protect antibiotics by their own methods and survive in the hosts.

Route of administration:- the ways in which drugs are taken in to the body

4.13, Dissemination of results.

After completion of the research, the finding was disseminated to JU, collage of public health and medical science, department of nursing, CBE office and other responsible bodies.

CHAPTER FIVE

RESULT

5.1 Socio demographic characteristics of study population

A total of 333 study subjects have participated in the study and they were interviewed using structured closed and open ended questionnaires. Of the total respondents females account 224(67.3%) and males account 109(32.7%). Regarding their age distributions majority of the respondents were between 25-34 yrs which account 100(30%) and followed by 15-24 yrs 94(28.2%). Concerning the religions of the study subject, majority were Muslim 207(62.2%) and followed by orthodox 75(22.5%). By ethnicity distribution, majority of study population were Oromo 180(54.1%) and followed by Amhara 61(18.3%).

Concerning marital status of the respondents, majority were married 170(51.1%) and followed by single 116(34.8%). Regarding on the educational status of respondents majority of them 124(37.2%) were grade 7-10 and followed by grad 1-6 83(24.95%). Regarding occupational status majority of respondents 112(33.6%) were house wife and followed by merchant 93(27.9%). Concerning their income majority of the respondents earn 501-1000 which account 128(38.4%) and followed by 1001-1500 that account 34.5%. (table 1)

Table 1. socio demographic characteristics of respondents in Kebele 02 of Agaro town, May 2013.

s.n	Characteristic	Frequency		
			No	%
1	Sex	Female	244	67.3
		Male	109	32.7
		Total	333	100
2	Age in years	15-24	94	28.2
		25-34	100	30.0
		35-44	64	19.2
		45-54	37	11.2
		>55	38	11.4

		Total+	+333	100
3	Religion	Muslim	207	62.2
		Orthodox	75	22.5
		Protestant	44	13.2
		Catholic	30.9	
		Others	4	1.2
		Totoal	333	100
4	Ethnicity	Oromo	180	54.1
		Amhara	61	18.3
		Dawro	44	13.2
		Gurage	40	12.0
		Others	8	2.4
		Total	333	100
5	Marital status	Single	170	34.8
		Married	170	51.1
		Widowed	33	9.9
		Diviorced	14	4.2
6	Educational status	Illiterate	52	15.6
		Grade 1-6	83	24.9
		Grade 7-10	124	37.2
		Grade 11-12	28	8.4
		Grade 12 ⁺	46	13.9
		TOTAL	333	100
7	Occupational status	Govn't employer	18	5.4
		House wife	112	33.6
		Merchant	93	27.9
		Daily labor	28	8.4
		Farmer	40	12

		Students	26	7.8
		Other	16	4.9
		TOTAL	333	100
8	Income	<500	48	14.4
		501-1000	128	38.4
		1001-1500	115	34.5
		>1500	42	12.7
		TOTAL	333	100

5.2 Source of Drugs

Concerning the source of drugs they obtained from, majority of the respondents 134(40.2%) were obtained drugs from health institute and followed by drug vendors 120(36%).(Table 2).

Table 2. Source of drugs from where they obtained or used drugs while they became sick in Agaro town, 02 kebele May 2013.

s.n	Source of drugs	Frequency	
		No	%
1	Health institute	134	40.2
2	Drug vendors	120	36
3	Shops	30	9
4	Neighbors	29	8.7
5	Others	20	6.1

5.3 Reason for use of drugs other than HI

The reason for using antibiotic other than health institute (figure1) was due to lack of knowledge which account the highest percentage 116 (34.8%) and followed by economic reason 109(32.7%).

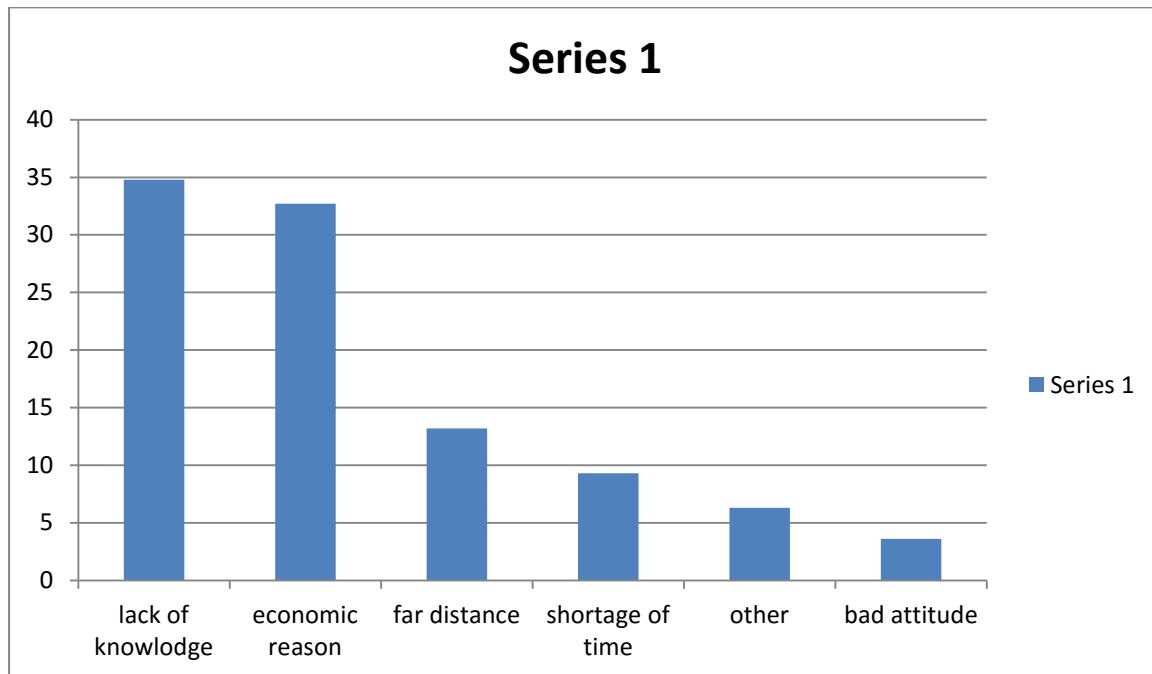


Figure 1. reasons for using antibiotic other than health institutions.

5.4 Inappropriate practice performed by sick individual.

From the study subject, majority of them were stop continuous using of anabatic which account 27 (25.2%) after sign and symptoms of diseas stopped and followed by self medication 25(23.4%).

Table 3: in appropriate practice performed by sick individuals in Agaro town, 02 Kebele. June 2013.

s.n	In appropriate practice	No	%
1	Stop after s/s of disease disappear	27	25.2
2	Increase or decrease dose	16	14.9
3	Share drug among family member	19	17.8
4	Eiving adult dose to child	12	11.2
5	Self medication	25	23.4

6	Use tablets or caps use for wound RX	8	7.5
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5.5 Reason for taking antibiotic without medical prescription.

The study participants were asked the reason of using antibiotic without prescription. Majority of them 112(33.6%) were due to high confidence on pharmacist and followed by economic circumstance 104(31.2%) (fig 2).

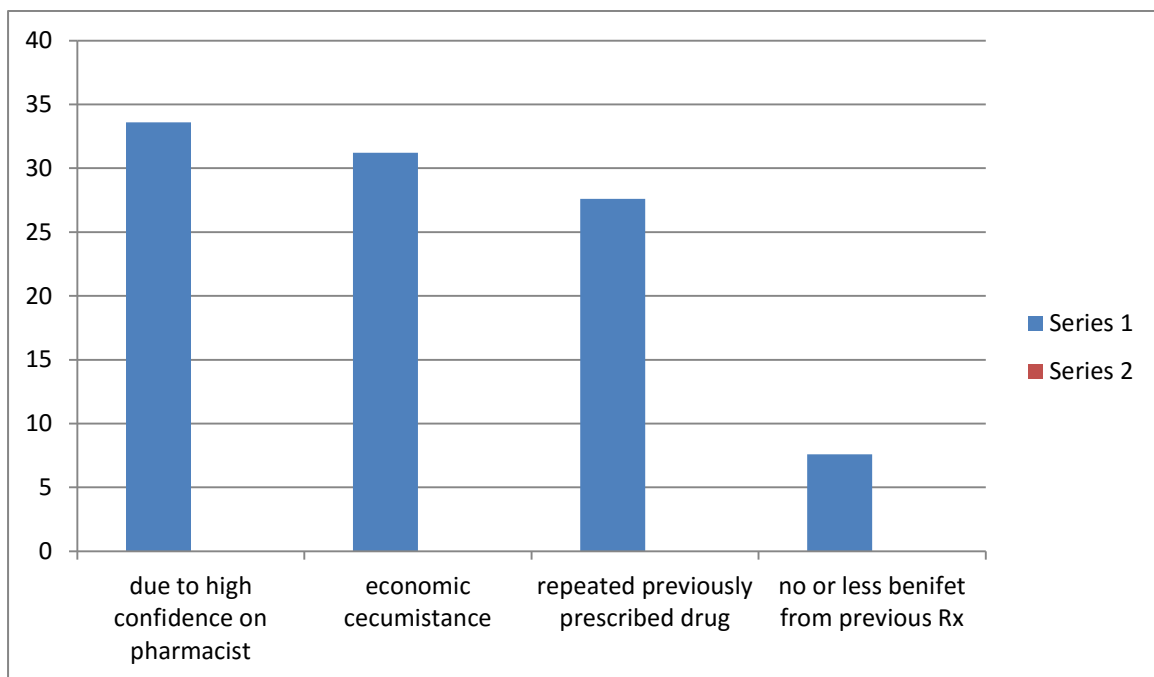


Figure 2. reason for using antibiotic without prescription

5.6 Public awareness about misuse of antibiotics.

From the total of study subjects, about 227(68%) of them did not have awareness about misuse of antibiotics and 106(32%) of them knows about it.(fig 3)

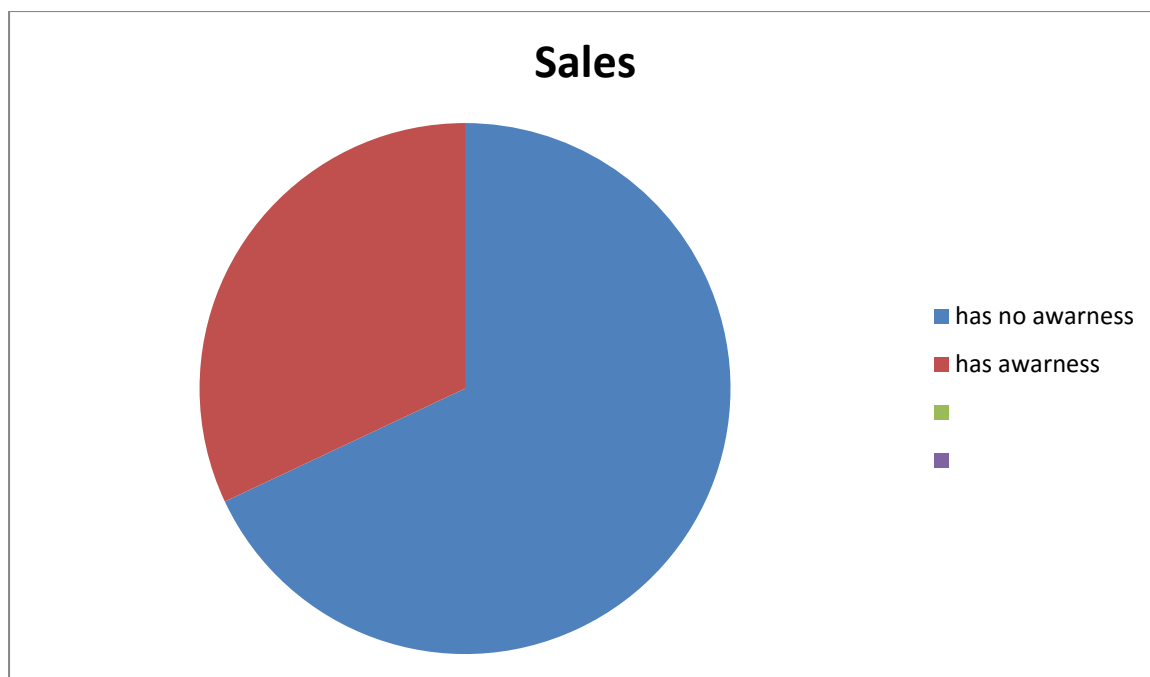


Figure3. public awareness about antibiotic misuse

Table 4. the association of appropriate use for antibiotics by selected characteristics at Agaro town, 02 keble Jimma, South west Ethiopia 2013.

Characteristics		Appropriate use		In appropriate use		p. value
		No	%	No	%	
Age	15-24	70	31.3	24	22.0	
	25-34	70	31.3	30	27.5	
	35-44	44	19.4	19	17.4	
	45-55	18	8.0	19	17.4	
	>55	22	9.8	16	14.7	
• Sex	Male	40	17.9	69	63.3	0.000
	Female	184	82.1	40	36.7	
Religion	Muslim	131	58.5	76	69.8	0.259
	Orthodox	55	24.6	20	18.3	
	Protestant	34	15.2	10	9.2	
	Catholic	2	0.9	1	0.9	
	Other	2	0.9	2	1.8	
Educational status	Illiterate	20	8.9	32	29.4	0.000

	Grade 1-6	57	25.5	26	23.8	
	grade7-10	101	45.1	23	1.1	
	Grade 11-12	10	4.5	18	16.5	
	Grade>12	36	16.1	10	9.2	
Occupation status	Govn't employer	12	5.4	6	5.5	0.000
	House wife	86	38.4	26	23.8	
	Merchant	75	33.5	18	16.5	
	Daily labor	7	3.1	21	19.3	
	Farmer	18	8.0	22	20.2	
	Student	16	7.1	10	9.2	
	Other	10	4.5	6	5.5	
Marital status	Single	74	33.0	42	38.5	0.323
	Ever married	150	67.0	67	61.5	
• Income	<500	14	6.3	34	31.2	0.000
	501-100	98	43.7	30	27.5	
	1001-1500	89	39.7	26	23.8	
	>1500	23	10.3	19	17.4	

Table 5: The association of awareness for mis use of antibiotics by selected characteristics at Agaro town, 02 keble Jimma, South west Ethiopia 2013.

Characteristics		Has awareness		Has no awareness		
		No	%	No	%	
Age in yrs	15-24	12	11.3	82	36.1	0.000
	25-34	30	28.3	70	30.8	
	35-44	28	26.4	36	15.9	
	45-55	26	24.5	11	4.9	
	>55	10	9.4	28	12.3	
Sex	Male	10	9.4	99	43.6	0.000
	Female	96	90.6	128	56.4	
Religion	Muslim	56	52.8	151	66.5	0.312
	Orthodox	28	26.4	47	20.7	
	Protestant	17	16.0	2711.9		

	Catholic	1	0.9	2	0.9	
	Other	2	1.9	2	0.9	
Marital status	Single	41	38.7	75	33	0.314
	Ever married	65	61.3	152	67	
Educational status	Illiterate	12	13.3	40	17.6	0.000
	Grade 1-6	18	16.9	65	28.6	
	grade7-10	28	26.4	96	42.3	
	Grade 11-12	16	15.1	12	5.3	
	Grade>12	32	30.2	14	6.2	
Occupation status	Govn't employer	13	12.3	5	2.2	0.003
	House wife	35	33	77	33.9	
	Merchant	24	22.6	69	30.4	
	Daily labor	6	5.7	22	9.7	
	Farmer	13	12.3	27	11.9	
	Student	12	11.3	14	6.2	
	Other	3	2.8	13	5.7	

CHAPTER SIX

Discussions

This study attempted to assess the misuse of antibiotics and factors which contributed to misuse of drug (antibiotics) among community of Agaro town, 02 keble.

This result show that among 333 of respondents which participated in the study 106(32%) were use the drug (antibiotics) inappropriately the drug they obtained from different sources. The result of this study was similar with the result of study done in Ethiopia on the community of Adami Tulu, Zeway and Addis Ababa(8). The study conducted in Yeman and Ghana were also agree while we compared with this study (5). Another study conducted on availability and proper use of antibiotics in Kenya stated that antibiotic were the corner stone of therapy for infections, with little if any harm to the host, has helped to propagate their designation as “Miracle drug”. To large extent, this concept has lead to the in appropriate (misuse of antibiotic). The consequence of this misuse affect not only the individuals taking antibiotics in appropriate but also indirectly health of other individual who need that specific antibiotic for treatment of disease by forming resistant to that disease which is the grave hazards to public health worldwide. (5). In this study an important factor significantly associated with misuse of antibiotic were age, sex, income educational status and occupational status with ($p < 0.05$). Of the total study subject majority of them have used health institution as a source of drugs for sick individuals with account 40.2%. even though 40.2% were use health institute as a source of drugs, where as the reaming have used other source of drug such as drug vender, shop and neighbors. The possible reasons for preference of other source of drug were include lack of knowledge which account the highest percentage (34.8%), followed by economic reason, far distance and shortage of time etc. this study finding was agree with the study conducted in Jimma zone (13).

Concerning on in appropriate practice performed by the respondents, majority of the (25.2%) stopped the continuous use of the prescribed antibiotic after sign and symptom of disease disappear and they also increase or decrease the dose of drugs, self-medication, share drugs among family member or neighbor and give adult dose to child etc. this malpractice play a great role for antibiotic resistant which was the great health problem throughout the world. (4,8). This study comparable with the study done on compliance of people in one ruler keble of Jimma zone which indicated 40% of respondents terminated (stopped) continuous use of previously prescribed drug when sign and symptoms of disease disappear and 21.2% of them

share drugs with each other even if the drug was not analgesic. This study was also agree with study conducted on self-medication in Ethiopia at Adami Tulu, Zeway and Addis Ababa. (18). This malpractice leads to misuse of antibiotics which if misused result (leads to) the grave hazards or develop resistance to that particular disease(bacteria), which was currently one of the major public health issues worldwide (11)

Regarding on public awareness about hazards of misuse of antibiotic majority of respondents (68%) did not hve knowledge about the grave hazards of misuse of antibiotic and 32 of them known about it. This finding was agree while compared with study conducted in Yeman in 2012, which show 64% of respondents did not have knowledge about grave hazards of antibiotic misuse and 36% them have about it. (25). In this study, an important factors significantly associated with awareness of antibiotic misuse were age, educational status, sex and occupational status with ($p < 0.05$).

Concerning on the taking antibiotic without medical prescription, the highest percentage was for abdominal pain about 38.9% followed by sore throat 26.4%, urinary tract in fections 8.5% and other 26.2% like superficial wounds, etc. the reason for taking antibiotic without medical (physician) prescription was 33.6% due to high confidence on pharmacist, 31.2% was due to economic circumstance, 27.6% was due to repeated previously prescribed and 7.5% was due to nor less benefit from previous treatment.(6).

CHAPTER SEVEN

Conclusion and recommendation

7.1 Conclusions

- This study show that the respondents perform or practice malpractice of antibiotic use such as self-medication, stop taking the drug after sign and symptoms of disease disappeared, share drug among each other, give adult dose to child and increase or decrease dose of drug etc, which leads to grave hazards of public health by for ming resistant.
- There were several contributing factor for the misuse of antibiotics with significant proportion with some characteristics such as Age, educational status and occupation with ($p < 0.05$).
- The awareness of respondent toward misuse of antibiotic was very low.
- The caretakers (sick) individual use antibiotic without physician prescription. This practice must be improved through better patient and physician education of appropriate antibiotic use.
- The source of the drug has also it's own draw back and contributory effect to misuse of antibiotic for the fact that, the sealers of the drug did not give adequate information for the users. Even though, this study indicated health institution as the main source of drug, some of study subject used different source to get the drugs. The possible reason for use of other source of drug were, lack of knowledge, economic reason and shortage of time, etc were the main ones.

7.2 Recommendation

Based on the result of this study, the following recommendations were constructed in order to avoid misuse of drug (antibiotics) with effective result that have bearing on the behavior and practice of health profession, caretakers and community

- I recommend Agaro health bearue to increase awareness of community on grave hazards of antibiotic misused and on mal practice such as stop taking dose of drug when sign and symptoms of disease disappear which used for effective misuse prevention
- There should have to be inter sector link and joint action between ministry of health and the administrative organ in order to avoid informal sales of drug.
- Encouraging appropriate means of providing the poorest who could not buy full dose with full course of therapy, Should have to be applied so that this reduces misuse of drug due to economic reason.
- Evaluations should be carried on the rational use of essential drug so that the risk of misuse of drug can be reduced.
- Further studies should be conducted at regional and national set up and in different par of the country to come up with more representative finding to prevent the risk of antibiotic misuse.

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ANNEX

I questionnaire

Data collection questionnaires, Jimma University collage of public health and medical science department of nursing.

Questionnaire for the data collection on the assessment of misuse of drugs (antibiotics) in Agaro town 02 keble 2005 E.C.

Verbal consent form before conducting the interview. Greeting;

Hello, how are you?

My name is _____ I am currently

A nursing student at Jimma University who is now going to conduct survey. I would like to interview you a few questions about assessment of misuse of drugs (antibiotics) and contributing factors. The objective of the study is to assess misuse of antibiotics and contributing factors, which was important to improve the issue about the misuse of drugs. Your cooperation for the interview is very help ful in identifying the problem related to the issue, your name will not be written in the form. Your participations voluntary and are not obliged to answer any question you don't with to answer.

Interviews name

Signature

Date interview

Part I: Socio demographic characteristics and general information.

- Age
- Sex a. Male b. Female
- Marital status
 - Single b. Divorced c. Married d. Widowed
- Educational status
 - I literate b. read and write c. 1-6 d. 7-10 e. 11-12 f. 12+
- Occupational status
 - Government employer b. House wife c. merchant d farmer
 - e. students f. daily labor j. other (specify
- Religion
 - Muslim b. Orthodox c. protestant d. other (specify)
- How much is your monthly income?
 - <500 birr b. 501-1000 birr c. 1001-1500 d >1500

Part II

Questions to assess misuse of drugs (antibiotics) and contributing factors.

1, Is /are there any family members who was/were sick in the last two month?

- Yes _____ b. No _____

2 ,If yes to the above question what kind of help given to him/her?

- Taken him/her to health institute
- Bought drags and give to him/her
- Given traditional medicine to him/her
- Taken to local healers.

- others

3. Have you used antibiotics without physician prescription?

- Yes _____ b. No _____

4. If he/she was taken to health institution, is there any medication that was given to him/her?

- Yes _____ b. No _____

5. If yes to the question no.4, have you completed the course of antibiotics medication

- Yes _____ b. No _____

6. From where do you get (collect) that drugs.

- Health institute (hospital, clinic, health center)
- Markets
- Shops (kiosks)
- Drug vendors (pharmacy)
- From neighbors (friends)
- Other (specify). _____

7. Is there any cultural or religious influence on the use of drugs?

- Yes _____ b. No _____

8. If the response to question No.6 is from health institute ask the reason.

- Health institute is near
- Drugs are cheap
- Drugs are available
- Drugs are given in full dose
- Drugs are given by professional
- Drugs are given after examination

9. If the response to question No.6 is other than health institute ask the reason

- Far distance
- Economic status
- Lack of knowledge
- Shortage of time
- Bad attitude
- Other (specify).

10. Is there any of the following have been practiced in your family?

- Increase or decrease dose of drugs
- Stop after symptoms disappears
- Share drug among family members
- Self medication
- Given adult dose to child
- Add lab lets, capsules on wound.

11. Did you have any awareness about misuse of antibiotics or grave hazards of misuse of it?

- Yes _____
- b. No _____

12. Why they are taking antibiotics without medical prescription?

- Due to economic circumstance
- Due to high confidence on pharmacist.
- Due to repeated the previously prescribed drugs
- Due to less or no benefit from previously RX.

13. For what reason you taking antibiotic without medical prescription

Sore throat b. Abdominal pain c. UTIS d
