Factors Affecting Consumers' Buying Decisions of Medicines of Different Country Origin: In Particular Reference to Addis Ababa

Sekina Nasir

St. Mary's University, Ethiopia

Abstract

This study is conducted to assess the factors affecting consumer buying decision of medicines of different country origins. The study used convenience sampling method to select 177 pharmacies located in the four sub-cities of Addis Ababa and distributed a total of 200 questioners to consumers' who visited the selected pharmacies during the data collection period. According to the result educational level and age does not have significant association in selecting specific country medicine. However, income has an impact on the selection of specific country medicine. Price and COO of the medicine have an impact on purchasing decision of consumers. According to this study consumers' consider the COO of the medicine during purchasing process and majority of them select a specific country medicine. Mostly they prefer the drug from developed countries and are willing to pay more for drugs produced in the developed countries due to the perception that drugs from developed countries have high quality and are more effective than similar drugs from developing countries. This is also supported by the finding of less flexibility to switch to cheap alternative medicines from different COO. However, most of them agree that drugs from different country has similar side effect. Generally an extensive educational program and awareness creation is required regarding the similarity of generic drugs from different countries with respect to their effectiveness, safety and quality of the drugs.

Introduction

Timely and effective use of medicines can ensure effective treatment of many illnesses and avoid or delay the need for costly hospital treatment for patients. Through time the number of medicines that have been introduced in the market is increasing. However, the cost of drugs for many illnesses is beyond the budget of a large segment of the world population, especially in the developing countries. In those countries majority of the population still buy the medicines through out-of-pocket payment which is as high as 80% of healthcare spending (Ham R. *et al*., 2011). High out of pocket prescription drug cost is associated with medication non adherence and adverse health outcomes, and several studies have indicated cost-related prescription drugs non adherence. The use of generic medicines provide the opportunity for major savings in health care expenditure directly to the consumers as well as to the government, given that they are generally lower in price than their brand-name equivalents (Omojasola A. *et al*., 2012).

According to Kotler *et al*., (2005) generic products are less expensive and often offer prices as much as 40 percent lower than those of main brands. Generic prescription of drug costs less for the consumer but have comparable effect. The US food and drug administration (FDA), which regulates the pharmaceutical market in the United States, allows drug companies to produce a comparable drug and call it by its generic name. FDA defines generic medicines as a drug product that is comparable to innovator product (brand drug) in dosage form, strength, safety, route of administration, quality and performance characteristics, and intended use (Dipiro T. *et al*., 2003). After the expiry date of the patent or other exclusive rights of the innovator, generic version of the drug can be marketed by the same manufacturer or different manufacturer from different country.

To increase the utilization of generic drugs by the consumers it is important to understand the major factor which influences them to select one product from another of different countries. There are various factors which affect the selection of one country product from other. Such as: the perception of consumer for the country of origin, price-quality relationship, the individual demographic characteristics, personality and self concept and also it affected by psychological factors like motivation, learning, beliefs and attitudes and others (Kotler & Armstrong, 2006; Solomon *et al*., 2006).

Statement of the Problem

One third of the world's population lacks access to essential medicines which have negative impact on the overall health system. Access to medicines significantly affect by affordability of the medicines (Ham R. *et al*., 2011). The introduction of generic drugs in the market provides the opportunity for curbing the rising pharmaceutical cost without scarifying the quality of health care. Barriers to the use of generic drugs can occur at a number of points, including state laws on generic substitution, factors related to availability of generics, and consumer and prescriber perceptions and behavior (ASPE staff, 2010).

There is an information asymmetry between patients and health care providers' as a result physicians and pharmacists act as patients' agents in selecting appropriate drugs and influence the consumers buying decision. However; patients have a freedom to choose a brand or generic drug of a specific country. This buying decision depend on consumers knowledge about the specific generic or branded drugs, the drugs the patient is now using or has used in the past, general knowledge about generics and branded drugs, and financial situation (ASPE staff, 2010). Besides this consumers

tendency to compare the quality, efficacy, safety of a product with its price and county origin has significant impact on their purchasing decision.

Consumers often infer that higher priced brands possess higher quality than do lower-priced brands. Price-perceived quality is an inference based on the popular adage "you get what you pay for" (Hawkins & Mothersbaugh, 2010). Country of origin (COO) is also used as a quality cue in which consumers interpret products more positively when they are manufactured in a country they perceive positively. In some cases, people have come to assume that a product made overseas is of better quality, and products from industrialized countries are rated better than are those from developing countries. The origin of the product can thus act as a product attribute that combines with other attributes to influence evaluations (Solomon *et al*., 2006). However; the quality, safety, and efficacy of generic drugs compare to brand drug or each other is the same irrespective of the price and the manufacturer (Dipiro T. *et al*., 2003). The study aims were assessing the factors which affect consumers' buying decision of medicines of different country origins.

Research Question

To investigate the problems stated above the following research questions were proposed for investigations.

- What is the perception of consumers towards medicines of different country origin?
- To what extent price does affect the selection of a specific drug?
- To what extent pharmacists influence consumers on the selection of a specific medicine?

- Does the demographic characteristic of the consumers affect their buying decision?

Objectives of the study

General Objective

To identify the factors that affect consumers buying decision of medicines of different country origins

Specific Objectives

- To determine the perception of consumers towards medicines of different countries
- To examine the extent to which price influences the buyers' purchase decision of medicines
- To examine the extent to which pharmacists influence the consumers purchase decision
- To determine the extent to which the demographic characteristics of the consumers are related to their buying behavior

Significant of the Study

The study helped to identify areas of deficiency in customers knowledge about the efficacy, safety, and quality of brand and generic drugs of different countries and this is helpful in developing a plan to create awareness about generic and brand drugs through healthcare provides (physicians, pharmacists, and nurses). In addition, this research paper can be used as a baseline for those who want to carry out further and in depth research on the consumer buying decision of medicines or other related issues.

Limitation and Delimitation of the Study

The present study offers important information on the various external and internal factors which affect consumers purchasing decision of medicine. However, lack of related research conducted in this area makes it difficult to compare the results with other findings. The study focused on the effect of perception, price, demographic characteristics and pharmacist influence on consumer behavior of purchasing medicine. The study populations were taken from 20 pharmacies from Bole, Kirkose, Lafto and Yeka sub cities of Addis Ababa due to shortage of time and finance to cover all the sub cities.

Research Design and Methodology

Research Design

The research utilized the descriptive approach based on a cross sectional study design. The quantitative method (self administered questionnaire) was employed in the data collection process.

Population and Sampling Techniques

The study population constitutes of patients who were visited the selected pharmacy during the data collection period. The sampling frame was the 177 pharmacies located in the four sub-cities (63 in Bole, 25 in Yeka, 41 in Kirkose and 48 in Lafto). From each sub cities five pharmacies were selected by convenience sampling method to make a total of 20 pharmacies. The customers also selected from each pharmacy using the convenience sampling method. 200 samples were taken based on the recommendation for convenience method by the scholar Malhotra and for each pharmacy 10 questioner were given to make the sample.

Sources of Data

The study utilized the primary data from customers who visited the selected pharmacies during data collection period and the secondary data were

collected from books, internet, and documents from the Addis Ababa health bureau.

Method of Data Collection

The primary data for the study were collected through self administered questionnaires to customers who visited the selected pharmacies during data collection period. A total of 200 questioners were distributed. Out of this 20 of them are not returned. The remaining 180 questioners were analyzed and interpreted.

Data Analysis Method

Completeness of the collected data was checked and cleaned by the principal investigator. Then the data entered and analyzed using the statistical package for social science (SPSS) version 20.0. Results are expressed as mean ± standard deviation (SD), frequencies and percentages. The summarized data were presented in the form of table and graphs.

Ethical Consideration

The study conducted in each pharmacy after obtaining the permission from the relevant bodies in the respective pharmacy. Prior information was provided to administrative body of each pharmacy about the nature and purpose of the study through the letter from the school. Participants of the study were asked for consent before participating in the study. During the consent process, they were provided with the information regarding why they selected to be involved in the study, and what was expected from them. The data was accessed only by the researcher and data collector and every precaution was considered for keeping the confidentiality of the data.

Data Presentation, Analysis, and Interpretation

Questioners were used to collect the data from consumers' who visited the selected pharmacies during the data collection period. Based on the rule for convenience method the sample size were 200. A total of 200 questioners

were distributed to consumers'. Out of these 20 of them are not returned. This means that the rate of return were 90%. The remaining 180 questioners were analyzed and interpreted.

Socio-demographic characteristics and general information about the study population

The study population was comprised of 106 (58.9%) males and 74 (41.1%) females. The mean age of the consumers was 30.93 ± 9 years which range from 18 to 81 years. Distribution of the consumers according to age groups revealed that 55 (30.6%) of the consumers fell into the 18 to 24 years bracket, 66 (36.7%) of the consumers fell into the 25 to 31 years bracket, 28 (15.6%) fell in the range of 32 to 38 years, while 21 (11.7%) and 10 (5.6%) were in the brackets of 39 to 45 years and 45 years and above respectively. This shows those males are more participated in purchasing of medicine than females.

Out of the total study population, 12 (6.7%) were in grade 1 to 8 range, 47 (26.1%) were in grade 9-12, 21 (11.7%) of the consumers have certificate, while 56 (31.1%) and 44 (24.4%) of the respondents have diploma and degree and above respectively (table 1.1). This result indicate that majority of the respondents have diploma, degree and above which is helpful to provide information and to communicate easily.

Distribution of the respondents based on their monthly income revealed that 28 (15.6%) of them does not have any income, 25 (13.9%) of them have monthly income of less than 1000birr, 46 (25.6%) of them fell in 1000-1999 income range, while 48 (26.7%) and 33 (18.3%) of the consumers' have monthly income in the range of 2000-3999 and 4000 and above respectively (table 1).

Table 1: Socio-demographic characteristics and general information about the study populations

Variables	Frequency (%)
Gender	
Male	106 (58.0)
Female	74 (41.1)
Age (Mean ± SD)	30.39 ± 9
18-24	55 (30.6)
25-31	66 (36.7)
32-38	28 (15.6)
39-45	21 (11.7)
Above 45	10 (5.6)
Educational Level	
1-8	12 (6.7)
9-12	47 (26.1)
Certificate	21 (11.7)
Diploma	56 (31.5)
Degree and above	44 (24.4)
Monthly Income	
No income	28 (15.6)
<1000	25 (13.9)
1000-1999	46 (25.6)
2000-3999	48(26.7)
4000 and above	33 (18.3)

Analysis of the Major Findings

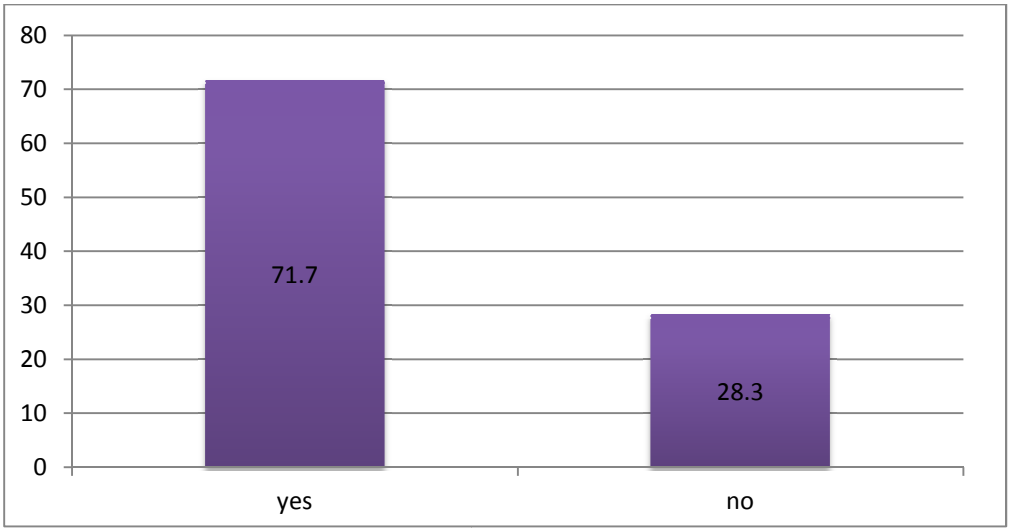
More than 50% of the respondents [26.1% strongly agree (SA) and 25% agree (A)] that when they purchase a drug the country of origin is the first piece of information they would consider table 1.2. These result revealed that more than 50% of the respondents consider the COO of the drug while purchasing the medicines; which indicate that the country of the medicine can act as a product attribute that combines with other attributes to influence evaluations of products.

Table 2: The COO of the drug is the first piece of information while purchasing the medicine

Level of agreement	Frequency	Percent
Strongly agree	47	26.1
Agree	45	25
Neutral	32	17.8
Disagree	40	22.2
Strongly disagree	16	8.9

Not only considering the country of origin, 129 (71.7%) of the consumers select a specific country medicine while the rest 51 (28.3%) of them do not selected specific country (fig. 1).

Figure 1: selection of specific country medicine



The stratification of selection of a specific country drug according to age shows 36 (27.9%) in 18 to 24 years, 45 (34.88%) were in 25 to 31 years, 21 (16.27%) in 32 to 38 years, 19 (14.72%) in 39 to 45 years and the rest 8 (6.2 %) were in the age group of above 45 years. Table 1.3 below indicates that there is no significant association between these age groups and selection of a specific country drug ($p>0.05$, CI 95%). Stratification based on income shows 13 (10.07%) has no income, 18 (13.95%) earn an income less 1000birr, 38 (29.46%) within 1000-1999, 34(26.35%) within 2000-3999 and 26 (20.15%) earn an income range more than 4000birr. Table 1.3 below shows that there is no association between selection of specific country medicine and having no income and earning an income less than 1000birr. However, there is an association with selection and earning an income 1000birr and above ($p=0.002$ for income range 1000-1999, $p=0.035$ for 2000-3999, $p=0.011$ for income >4000, CI 95%).

Stratification based on educational level shows 7 (5.4%) in grade 8-12, 25 (19.38%) in grade 9-12, 16 (12.4%) have certificate, 46 (35.65%) have diploma, and 35 (27.13%) have degree and above. Below table 3.4 indicates

that there is an association between selection of a specific country medicine and be in grade 9-12 (p=0.01, CI 95%) and for the rest there is no association (p>0.05, CI 95%).

Table 3: Selection of specific country medicine against age, educational level and income

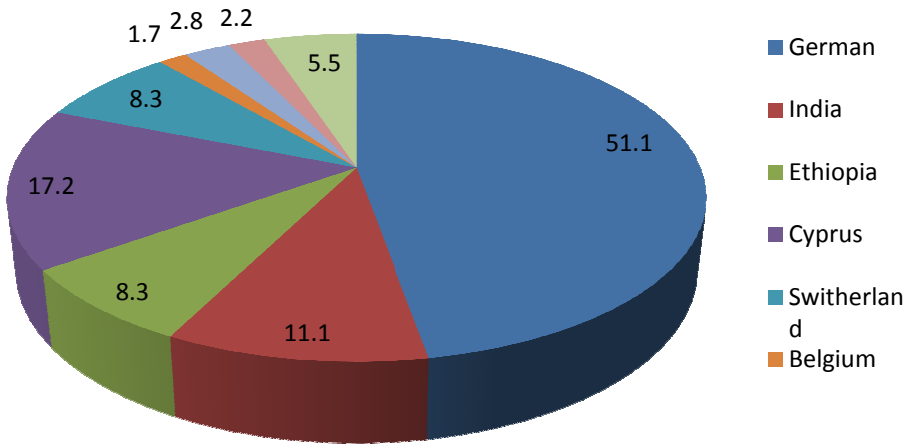
Selection of specific country	Frequency	P value
Age		
18-24	36(27.9%)	0.374
25-31	45(34.88%)	0.454
32-38	21(16.27%)	0.750
38-45	19(14.72%)	0.425
>45	8(6.2 %)	0.99
Educational Level		
Grade 1-8	7(5.4%)	0.141
Grade 9-12	25(19.38%)	0.01
Certificate	16(12.4%)	0.759
Diploma	46(35.65%)	0.743
Degree and above	35(27.13%)	0.4
Income		
No income	13(10.07%)	0.465
<1000	18(13.95%)	0.063
1000-1999	38(29.46%)	0.002
2000-3999	34(26.35%)	0.035
>4000	26(20.15%)	0.011

Out of the 129 who select the country 92 (51.1%) of them choose medicines from German, 20(11.1%) of them from India, 15 (8.3%) from Ethiopia, 31 (17.2%) from Cyprus, 15 (8.3%) from Switzerland, 5 (2.8%) from Egypt, 4 (2.2%) from Kuwait, 3 (1.7%) from Belgium, and 11 (6.1%) from other countries (fig 2). In this study, 58 (32.2%) of the consumers agreed and 49 (27.2%) of them strongly agreed that they always prefer to buy drugs which produced in the developed countries table 4. More than 70% of the consumers selected the medicines from developed countries. This result is supported by the finding that around 60% of them agreed that they prefer to use the drug which produced in the developed countries. This indicates that consumers prefer to use drugs from industrialized countries and they rate dugs from developed countries better than those drugs from developing countries.

Table 4: Preference to use drugs which produced in the developed countries

Level of agreement	Frequency	Percent
Strongly agree	49	27.2
Agree	58	32.2
Neutral	32	17.8
Disagree	30	16.7
Strongly disagree	11	6.1

Figure 2: The selected countries



From the respondents 70 (38.9%) of them agree and 25 (13.9%) strongly agree to pay more for a drug produced in the developed countries than for a similar piece of drug from developing countries. 43 (23.9%) and 9 (5%) of them disagree and strongly disagree to pay more for a drug produced in the developed countries table 1.5. This implies that the respondents not only select the drug from developed countries they are willing to pay more for drugs produced in these countries.

Table 5: Agreement to pay more for drugs produced in the developed countries

Level of agreement	Frequency	Percent
Strongly agree	25	13.9
Agree	70	38.9
Neutral	33	18.3
Disagree	43	23.9
Strongly disagree	9	5.0

From the respondents 70 (38.9%) of them agreed that they prefer to use the drug from specific country which they bought previously. Only 7 (3.9%) of

the consumers strongly disagree to choose their previous country drug table 1.6. 56 (31.1%) and 74(41.1%) of the consumers were strongly agreed and agreed respectively to pay extra money for good experienced medicine from previous purchase. Only 8 (4.4%) of them strongly disagreed to pay additional money table 6. This implies that consumers prefer to use drugs which they have a previous experience and they are willing to pay extra money for previously purchased good experienced medicine.

Table 6: Preference to use the drug which purchased previously

Level of agreement	Frequency	Percent
Strongly agree	42	23.3
Agree	70	38.9
Neutral	43	23.9
Disagree	18	10
Strongly disagree	7	3.9

Table 7: Agreement to pay extra money for good experienced drug

Level of agreement	Frequency	Percent
Strongly agree	56	31.1
Agree	74	41.1
Neutral	20	11.1
Disagree	22	12.2
Strongly disagree	8	4.4

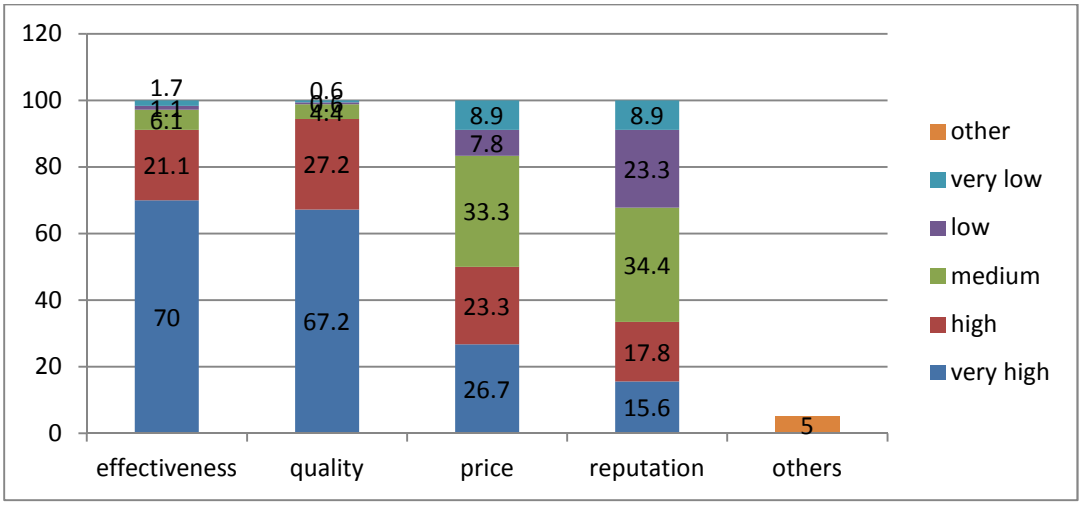
From the respondents 75 (41.7%) of them have medium level of flexibilities to switch to a different country drug if a cheaper alternative is available and 34 (18.9%) of them have low level of flexibilities to switch to another country table 8. These result revealed that consumers not only willing to pay extra money for previously experienced drug but also they are less flexible to switch to a cheaper alternative from another country drug.

Table 8: Flexibility to switch to a cheaper alternative drug from different country than the usual one

Level of agreement	Frequency	Percent
Very high	15	8.3
High	28	15.6
Medium	75	41.7
Low	34	18.9
Very low	28	15.6

The consumers rate their concerns when selecting the country of origin of the drug. Majority of them are highly concerned for effectiveness and quality of the medicine. Figure 3 below indicate their level of concern for effectiveness, quality, price, reputation, and other such as: expire date of the drug.

Figure 3: level of Concern while selecting the country origin of the drug



The major concerns of the consumers while selecting the specific country were quality and effectiveness. The result showed that more than 90% of the consumers highly concerned for quality (67.2% very highly and 27.2% highly) and effectiveness (70% very highly and 21.1% highly). This implies that the COO is used as a quality cue to interpret products. Consumers have medium concern for price and reputation compare to quality and effectiveness. This may be due to the fact that medicines are important for the health of an individual's so people are highly concerned for the efficacy of the medicine rather than the price and reputation of the product.

62 (34.4%) of the respondents often ask the pharmacist about the country of the medicine before buying the drug and 14 (7.8%) of them very rarely ask the pharmacist about the country table 9. Almost half of the consumers purchasing decision are highly influenced by the information provided by the pharmacist regarding the specific country drug. Only 5 (2.8%) and 8 (4.4%) of them has very low and low pharmacist influence respectively table 1.10.

Table 9: Pharmacist suggestion about the country of the medicine

Level of agreement	Frequency	Percent
Very often	35	19.4
Often	62	34.4
Sometimes	43	23.9
Rarely	26	14.4
Very rarely	14	7.8

Table 10: Pharmacist influence on consumers purchasing decision

Level of agreement	Frequency	Percent
Very high	53	29.4
High	89	49.4
Medium	25	13.9
Low	8	4.4
Very low	5	2.8

The above results indicate that individual seeks information about various brands from professionals or independent group of experts. And majority of the respondents influenced by the information provided by the pharmacists. This influence is based on an information asymmetry between pharmacists and consumers and the expertise of the pharmacist about medicines.

General description about the perception of the study population for different country medicines

The perception of the respondents for medicines of different COO with regard to the effectiveness, quality, and safety of the medicines were assessed. Table 11 below indicates the respondent level of agreement for the above parameters. Fifty five (30.6%) and 40 (22.2%) of the respondents were strongly agreed and agreed respectively that the quality of the medicine is

determined by the COO. From the respondents 52 (28.9%) of them agreed that medicines from developing countries have less quality compared to developed countries. About 54 (30%) of the consumers disagreed that medicines of different countries are equally effective. Only 22 (12.2%) of them agreed that they are equally effective. 53 (29.4%) and 62 (34.4%) of the respondents have neutral position for less effectiveness of medicines from developing countries and similar side effects of drugs from developed and developing countries respectively. 35 (19.4) and 57 (31.7%) of the respondents strongly agreed and agreed that there is a relationship between the price and effectiveness of the drug. From the respondents 65 (36.1%) of the consumers disagreed that expensive drugs have better effectiveness.

According to these result consumers use the quality of the drug as a cue to interpret products. The respondents consider the drug which produced in the developing country having low quality. This is contradicting with the fact that drugs from different country with different brand name have similar quality. Based on the result majority of the respondents (30% D and 17.2% SD) that drugs from different countries are equally effective. However, the disagreement is opposite from the reality that generic medicines are equally effective irrespective of the manufacturer. However, more than 40% (26.7% D and 14.4% SD) that the drugs produced in developing countries have less effectiveness compare to drugs from developed countries. This implied that irrespective of their disagreement about the equal effectiveness of drugs from different countries consumers do not consider drugs which produced in the developing countries to be less effective. Majority of the respondents (16.7% SA and 27.8% A) agreed that drugs from different country origin have similar side effect; which is similar to the theory that generic medicines have similar side effect. Around 45% of the respondents (36.1% D and 9% SD) that expensive medicines have better effectiveness. However, significant

number of the respondents, 27.8% of them agreed and 7.2% of them strongly agreed that expensive medicines have better effectiveness; which may be explained by the theory that consumers infer that higher priced product possess higher quality than do lower priced brands and on the popular edge that " you get what you pay for".

Table 11: Perception of the study population for different country medicines

Statements	Level of Agreement frequency (%)				
	SA	A	N	D	SD
The COO of the drug determines its quality	55(30.6)	40(22.2)	34(18.9)	29(16.1)	22(12.2)
Drugs made in developing countries have less quality than similar drugs from developed countries	32(17.8)	33(18.3)	52(28.9)	37(20.6)	26(14.4)
Drugs from different country are equally effective	20(11.1)	22(12.2)	53(29.4)	54(30)	31(17.2)
Drugs from different country has similar side effect	30(16.7)	50(27.8)	62(34.4)	29(16.1)	9(5)
Drugs made in developing countries are less effective than similar drugs from developed countries	14(7.8)	39(21.7)	53(29.4)	48(26.7)	26(14.4)
Price does not have relationship with the effectiveness of the medicine	35(19.4)	57(31.7)	42(23.3)	38(21.1)	8(4.4)
Expensive medicines have better effectiveness	13(7.2)	50(27.8)	35(19.4)	65(36.1)	17(9)

NB: SA- strongly agree, A-agree, N- neutral, SD- strongly disagree and D-disagree.

Conclusion and Recommendation

Conclusion

- The study showed that most of the consumers are male, in which the majority lies within 25-31 years of age. More than 50% of the respondents have diploma and above and most of them earn an income range between 1000-3999.

- Price and COO of the medicine have an impact on purchasing decision of consumers. According to this study consumers' consider the COO of the medicine during purchasing process and majority of them select a specific country medicine. Most of them select and prefer the drug from developed countries and almost half of the respondents agreed to pay more for drugs produced in the developed countries. This is also supported by the finding that most of the respondents are less flexible to switch to cheap alternative medicines from different COO.
- Most of the demographic characteristics of the consumers do not have an association with selection of specific country medicine. Based on the result, there is no association between selection of COO of the medicine and age, educational level except consumers who are in grade 9-12 range. However, there is an association between consumers who earn monthly income 1000 and more and selection of the COO of the medicine.
- Consumers considered that the country origin of the drug determines its quality and there is a difference in effectiveness of the drug from different countries. Significant number of consumers considers that drugs from developing countries have less quality and are less effective than similar drugs from developed countries. However, most of them agree that drugs from different country has similar side effect.
- Price may also have an impact on purchasing decision of some consumers. Significant number of consumers tends to relate the price of the medicine with its effectiveness and some of them belief that expensive medicines are more effective than the cheapest one. However, most of them does not considered that expensive medicines are more effective that the cheapest one.

- There is an information asymmetry between pharmacists and consumers as a result consumers tend to seek information from pharmacist about the country origin of the medicines. Not only they seek information, the result revealed that majority of them influenced by the information provided by the pharmacist.

Recommendation

Based on the findings of the study, it is recommended that

- Educational program and awareness creation is required regarding the similarity of generic drugs from different countries with respect to their effectiveness, safety and quality of the drugs. And it is important to provide information that there is no relationship between these factors and the price of the medicine.
- The collaboration of healthcare professionals is important to address these issues in various contact points with the consumers. Especially pharmacists are the final healthcare professionals who have direct contact with the consumers and they have an influential power in purchasing decision of an individual. So pharmacist should play a great role to disseminate the information and to work on behalf of the consumers.
- Local product manufacturers and those who import drugs from developing countries should improve their marketing strategy because consumers have less positive perception for this country drugs.

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