

Impact of Socio-Economic Status in the Selection of Pharaceutical Brand



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SUBMISSION OF REPORT

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Sir,
I hereby submit my MBA Research project titled “**Impact of Socio-Economic Status in the Selection of Pharmaceutical Brand**” for your kind approval please.
I am obliged to you for your continuous support and useful guidelines that enabled me to accomplish this assignment.
Yours Sincerely,

Dr. Shafi'i Abdullahi Ma'alim Mohamed

CERTIFICATE

Certified that the study entitled, **Impact of Socio-Economic Status in the Selection of Pharmaceutical Brand** is carried out by **Dr. Shafi'i Abdullahi Ma'alim Mohamed** under my supervision and it fulfills the requirements prescribed by the Dow University of Health Sciences for the degree of MBA Pharmaceutical Management. This research study is an outcome of his personal effort

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ABSTRACT

Socio- economic status plays an important role in every walk of life. Its impact ranges from very small scale to very large scale. This research considers how socio-economic status of the society affects the prescribers and the customers in selection of pharmaceutical brands. The data is collected from the physicians and pharmacist whom we selected for our research study by asking open ended questions and filling the questionnaire with the answers of the entire relevant questions related to socioeconomic status. From our result it is evaluated that physicians normally take into account the socioeconomic status of the patients while prescribing medicines for them. For example mostly doctors prescribe generic Omeprazole brand Risek 68%. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as physicians prescribe to them. The reason of prescribing is its availability and quality. While upper class purchase this due to its quality.

While most prescribed brand in the generic Salbutamol is Ventoline 68%. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as physicians prescribe to them. And the reason of prescribing is also its availability and it is not that much expensive. While upper class purchase this due to its quality.

In the generic Cefixime Cefspan 64% is the most prescribed brand in the selected three areas. Other most prescribed brand for the same generic is Cefiget 36%. People of different socio-economic classes use these brands due to various reasons.

CHAPTER 1 INTRODUCTION

Socio-economic status plays an important role in every walk of life. Whether its education, health or living standards, direct impact of socio-economic status can be observed on all these factors. Socio-economic status refers to class, privilege and benefits of an individual in a society. In other words a person of strong socio-economic status enjoys greater benefits than a person with lower socio-economic background (Terry, 2013). As advance technology has changed the traditional methods of medical science, different devices for operating patients have been designed and developed. New researches have been made in the field of pharmaceuticals in order to increase its effectiveness and quality.

Different pharmaceutical brands have been developed by GlaxoSmithKline, Roche, Sanofi-Aventis, Abbott, Pfizer, Johnson & Johnson and Merck companies to provide different quality of medicine using same or slightly different formulae. If a doctor wishes to provide better medical care to his patients then he has to keep socio-economic status of the patient and society in his mind as impact of socio-economic status can be observed when it comes to expensive medication of different pharmaceutical brands. Similarly, a person belonging to lower socio-economic class will not suggest expensive medication of pharmaceutical brands for himself. This is one reason why third world countries have poor medication and health care (Terry, 2013).

According to a report by Lichtenberg (2013), around 6 million children die each year due to lack of medical facilities and expensive treatment. Measures of varying levels of effectiveness are being taken in order to provide access to medical care. Also one reason that the authorities can't control the prices of these drugs is that since pharmaceutical companies never reveal the actual cost of their research work therefore it is difficult to control the prices of such drugs which make medicine as "exorbitant luxury" afforded only by the higher socio-economic class (Terry, 2013).

As we talk about the responsibility that these pharmaceutical companies owe to its customers, we should keep in mind that these companies have been established for selling their drugs for profit. Lowering the cost of drugs can directly affect the quality of drugs. Poor quality drug is another health crisis for public, as substandard quality drugs or vaccination can prove to be deadly. Either inappropriate production can result in poor quality drugs or inappropriate distribution can turn genuine drugs into poor quality.

Since socio-economic status effects every decision of the community therefore the decision about health will also be affected. Since the role of physician in health decision is also important along with patient, therefore, it becomes the domain for both (Lichtenberg, 2013). Impact of socio-economic status on pharmaceutical brands can be seen from both doctor and patient's side. A physician will only provide medication of a pharmaceutical brand that is affordable by his patients and a patient will only afford a medicine of a pharmaceutical brand that his socio-economic status allows him (Fischer, Leeftang and Verhoef, 2010). Therefore socio-economic is strongly related to pharmaceutical brands. Socio-economic status determines preference for a particular pharmaceutical brand. In Pakistan, community may be categorized as high, middle and low on the basis of socio-economic status. 40% of the population of Pakistan resides under the line of poverty which makes it impossible for them to attain any sort of medical medication of any pharmaceutical brand due to belonging to the least socio-economic status (Terry, 2013).

This class of least socio-economic status suffers from a higher rate of diseases specially the children suffers from low birth weight as quality medicines and supplements of renowned pharmaceutical brands are not given to their mothers. Studies show that rate of low birth weight increases with decreasing socio-economic status (Terry, 2013). In Pakistan no systematic study has been undertaken in this area therefore the present study will not only be the guiding study on the concerned topic but will also open a new window for researchers to work on this important area. As we research more on this topic, we need to know the impact

of socio-economic status that effects the selection of pharmaceutical brands by the patient in different socio-economic classes of Pakistan. Other than this, we need to know impact of socio-economic status that effects the selection of pharmaceutical brands by the physicians practicing in populations with different socio-economic status (Fischer, et al., 2010).

If we take effective steps on this issue, we can improve the socio-economic status of people and can decrease the impact of it on pharmaceutical brands to provide basic medical facilities to them (Terry, 2013).

AIM AND OBJECTIVES OF THE RESEARCH

To know impact of socio-economic status of the population on the selection of pharmaceutical brands.

PROBLEM STATEMENT

Socio-economic status determines preference for a particular pharmaceutical brand.

SIGNIFICANCE OF THE STUDY

In Pakistan community may be categorized as high, middle and low on the basis of socio-economic status. Since socio-economic status affects every decision of the community therefore the decision about health will also be affected. Since the role of physician in health decision is also important along with patient, therefore, it becomes the domain for both. In Pakistan no systematic study has been undertaken in this area therefore the present study will not only be the guiding study on the concerned topic but will also open a new window for researchers to work on this important area (Fischer, et al., 2010).

CHAPTER 2

LITERATURE REVIEW

Healthcare expenditures have been increasing around the world, so is the case in the developing countries where a considerable portion of disease management cost leads to medicine price. 40% of the population of Pakistan lives under the line of poverty (Terry, 2013). Such low socio-economic status and its impact regarding choosing a better health care is out of question for these people. A doctor keeps in mind the socio-economic status of society when prescribing medication. Pharmaceutical brands themselves make medication of different quality keeping in mind the regions. Prescribing different medicines or generic substitutions of medicines are often practiced by physicians and pharmacists. The main motto behind this is to cut off the cost of disease management, particularly when costs cannot be afforded by the masses (Fischer, et al., 2010).

Studies have been done to see the relationship between patient's socio-economic status and physician's preference on multisource solid hypoglycemic and antihypertensive drugs. A relation exists between medicine price and patients, socio-economic status (Hanson and Chen, 2007)

Relationship between individual's socioeconomic status and health outcomes resulted in positive. These results were identified by research work done in applied socio medical. Inequality implies in two dimensions social and economic, as we talked about the complexity of socio-economic variables (Holmes, 2013). Accumulative exploration has recognized applicable pointers of the economic and social measurements of the socio-economic status in diverse culture and social context. The global health care system is mostly unfair meanwhile lower sections undergo from the cumulative belongings of living at the underprivileged conclusion of numerous theoretical scopes fundamental to modern theory is communal epidemiology (Fischer, et al., 2010).

In the beginning as we discussed that a questionnaire was given to field workers and mostly to patients suffering from diabetes, hypertension (N=506), to determine the socio-economic status and its impact on the diet, drugs and behavioral issues. This study was conducted in Lahore Pakistan. Relationship between potential socio-economic factors was tested with Spearman's Statistics (Bowen, et al., 2009). Patients socio-economic status was indicated by their income and occupation Spearman's $Rho=0.08$, $p<0.01$. People belonging to lower SES were prescribed cheaper and low quality medicine as compared to higher socio-economic status people.

From expensive oral hypoglycemic and antihypertensive drugs to substandard generic versions can surely save your money but endanger your life. There are almost 10 diseases in Pakistan that are increasing among the people. Many studies have been conducted for it (Shrank, et al., 2006). Due to dust and pollution and season changing, commonly children suffer from chest infection. In adults we can see diseases like diabetes and high blood pressure because of unhealthy life style. Besides unhealthy life style socio-economic problems also affect health. Since no proper water treatment plants are commonly available in Pakistan therefore a majority of people suffers from diarrhea and other problem caused by it. Toxic material from industries are not properly treated and drained into sea which affects the fish habitat under water. The food from such toxic water indirectly affects us. This is also due to socio-economic status that healthy and quality food is not available. This problem will also be discussed in this research (Fischer, et al., 2010).

Bacterial and inflectional problems that are viral and is caused due to the air bacteria that also result in fever asthma as there is dust in the air always and also there is hypertension in the population which is chronological, but can also lead to heart strokes. There are also gastric problems and the major causes are the unhealthy life styles. This research is actually conducted because of these diseases are getting high day by day and there is less awareness about the different medicines and brands that are in the country. This is

the reason why the areas that are sampled in this research to actually know the preference and also to make the people aware of what generally are being used in the country (Bowen, et al., 2009).

Many examples in the scientific literature regarding socio-economic factors such as income, education and ethnicity can be found. These factors can contribute to the development of disease. Recently, income below poverty level has been linked with increase in obesity. A lower income results in less consumption of healthy and hygienic foods, such as fruits, vegetables and supplements, and more consumption of poor or sometimes stale quality food. A study in the journal "Sleep Medicine" conducted in May 2011 revealed that sleep complaints were observed in people with least amount of education. Besides this unemployment or earning less than \$75000 annually also had sleep problem compared to those who were rightfully employed and making at least \$75000 annually (Saunders, et al., 2011). From these studies we can conclude that employment or unemployment affects, sleep problems. Occupation plays a key role in providing a better socio-economic status but balance should be maintain so that health (both mental and physical) would not at risk (Campbell, 2013). Since lack of sleep weakens the immunity level of body, a person is at higher risk of developing diseases. Increase obesity can develop diabetes and heart diseases. A study was published in 2011 in the journal of Clinical Endocrinology and Metabolism. Sleeping for four or less than fewer hours for just one night creates insulin resistance which is associated with the risk of developing diabetes and obesity (Saunders, et al., 2011).

In November 2011, the journal of BMC Cardiovascular Disorders reported that risk factor of developing heart diseases is independent of socio-economic status (Saunders, et al., 2011). This conclusion is similar to those of other published studies regarding income and education as it relates to heart diseases. In addition, eldest residents and low-income persons desire brand name to some general drugs, which is important for the reason that people, who have age more than 65 years of age and on the other hand, those who meet the necessities for government support are frequently on management healthcare sequencers, which possibly will increase government charges as a payer and responsible of healthcare services.

In this fast moving world where everyone wants to be rich and upgrade their socio-economic status, when viewed through a social status lens, class, privilege, benefits and control over resources is emphasized. Furthermore, if we take SES as a continuous or gradient variable it will reveal inequality regarding access to distribution of resources. In this race of socio-economic status, competition in market, work pressure, meeting the deadlines has given birth to stress and various other health issues (Chrystyn, 2013). These issues not only reside in the lower class socio-economic people, it belongs to the higher class socio-economic people as well. Difference lies between the fact that the higher class can afford better quality medication of pharmaceutical brands and the lower class can use substandard manufactured medicines. Labor class of Pakistan suffers from various diseases but high quality branded medicine is not available to them. Researches reveal that people belonging to different socio-economic class experience different levels of health, factors that lead to deteriorating health conditions are still needed to be identified. Socio-economic status can be a major cause of deteriorating health and work stress. Lower socio-economic status means less benefits and higher mental stress which can cause significant decrease in physical health.

In the same way, several pharmaceutical corporations have long advertised openly to some general physicians, some authors declare that physicians have a habit to unfortunately recommend medicines if they depend on only on statistics from pharmaceutical concerns. Since the reduction of pharmaceutical brands, due to which pharmaceutical industry advancement funds have developed and cleaned some of the prominence from physician advertising to external marketing, which inspires physicians in order to research medicines further than the info provided by pharmaceutical companies. On the other hand, if physicians deny prescribing demanded medicines that are unsuitable or preventable, recommend general medicines notwithstanding of patient predilection, and inspire lifestyle alteration as conflicting to drug interferences, this alteration in recommending performance possibly will have an influence on pharmaceutical corporation as well as their advancement approaches.

Due to job conditions, sometimes an individual has to be exposed to damaging environment including lead, carbon dioxide and toxic industrial waste. People belonging to the lowest SES hierarchy have higher chances to be exposed to such harsh environment. Cheap land, poorer neighborhoods usually which are located near industrial areas, toxic waste and highways. Housing quality is very low for these lower class SES families and medical care is even worse than this. Other problems include greater residential crowding and noise. Within home, crowding is more dangerous for health as compared to area. Poor long term memory, low hearing, reading deficits and higher level of urinary catecholamine among children and hypertension in adults is usually observed. In Pakistan, children of low SES who are migrants or cannot afford school earn an income by picking trash and selling them to recycling industries. Such children are at higher risk of developing diseases as they are in close contact with unhygienic and bacterial environments.

Socio-economic status (SES) is often indicated as combination of education, income and occupation. Common concepts among people of SES are social status or class of a group or individual (Bowen, et al., 2009). Lower education, poverty and poor health; ultimately affect our society as a whole. Though every government make policies to ensure moderate SES to lower SES class people in a society, tax and social security in USA has somehow reduced SES; whereas in Pakistan no such social security is provided to the people. Therefore masses still suffer from lower SES which makes it hard for them to be even treated with basic medical care. Psychological disturbance due to low SES can result in suicide or mental health problems such as depression, anxiety, sleep deprivation, alcoholism or criminal activities in a society. In order to pursue wealth, resources and better quality of life dishonestly, a person might turn towards criminal activities to bridge the gap between socio-economic status and these parameters, which is commonly seen in different societies around the world. Behavioral issues and ethic sense can be disturbed due to low SES.

Other side of impact is related to minorities in the society. Minorities and racial discriminated people are also victims of lower socio-economic status because to some extent decisions regarding education, jobs, health, housing, favors and benefits in a society are based on these. Common example in Pakistan is the transgender community that suffers from this type of discrimination. As they are deprived of the bounties of a quality life, their requirement when it comes to their health is neglected and because of low income they are not able to afford quality medical care. Other examples are the Hindu, Shia, Hazaraian communities which are targeted on the base of race. Lower SES leads to poverty which eventually results in violence, criminal activities are performed in order to upgrade the socio-economic status by considering it as an easy way. According to studies conducted, poverty struck family members are more likely to be victims of violence. Racial and ethnic minorities who are also of lower SES are at an increased risk of victimization (Pearlman, et al., 2004).

As we talk about how socio-economic status has left marks on mankind's health, we should keep in mind an important factor that also has its impact on health of an individual and that is education. Education and complete information is very important when it comes to choosing the right medication for diseases and pharmaceutical brands. It is also a significant factor when it comes to socio-economic status. An educated person will deal with health problems more maturely than an uneducated person. Education plays a vital role with respect to awareness and knowledge regarding medical care and choosing a trusted pharmaceutical brand. Better health care and education is strongly linked with income as well.

In order to be well informed and able to afford quality education, income should be sufficient enough. Higher income can provide better education, recreation, nutrition and other facilities. In order to enjoy benefits and luxuries a person must belong to higher socio-economic status as its impact can be seen on the preference of different brands whether its clothes, medical care, housing or technology. People belonging to lower SES suffer significantly in terms of education, income and health care. Negative health at the time of birth is related to lower SES, as proper supplement and vitamins are not provided to mother who affects the baby's health throughout the lifespan. Overall a family also feels the effects of socio-economic status. Lower SES has been linked to domestic crowding, a condition which has negative consequences for

adults and children, including higher psychological stress and poor health outcomes (Melki et al., 2004). Personality of a child can be determined from the socio-economic status. Emotions, behavior, moral and ethics that develop throughout life reflect the socio-economic status a person belongs to. Vulnerable groups include children, young people, ethnic minorities, migrants, and older people are therefore targeted by fake manufactures of doubtful pharmaceutical brand. These people get affected from SES as proper awareness and complete information regarding health care and diseases is not provided to them. Also lower SES links towards poor mental health outcomes.

Since people are now more conscious regarding their status in society. They tend to work hard and earn that high socio-economic status by hook or crook. Stress is not good for someone who worries all the time therefore an increase in stress among people can commonly be witnessed in the society. Work stress has developed a risk factor for hypertension, diabetes, and upper extremity musculoskeletal back problems and cardiovascular diseases. Further researches have been made on workers having white collar jobs and impact of socio-economic status on their health. White collar workers were tested and heart diseases were predicted due to high demands and low decision control (Kuper and Marmot, 2003).

Men belonging to low socio-economic status has shown increase blood pressure because of job strain (Landsbergis, et al., 2003). Modest increase in systolic blood pressure was revealed when white collar workers were exposed to cumulative job strain (Guimont 2006). Fatigue and sleep depreciation were seen in blue collar workers associated with work related accidents or overtime (Cochrane, 2001; Barger et.al, 2005). Low income stress can lead to smoking, preference to smoking was seen double in blue collar workers than in white collar workers (Sorensen, et al., 2004). Infertility in male workers has been associated with job burnout for persons working in industrial environment or on construction sites (Scheiner, et al., 2002)

CHAPTER 3 METHODOLOGY

RESEARCH METHOD

As the research is a deep study on pharmaceutical preferences therefore survey was conducted for data collection. A standard questionnaire was distributed among prescribers and pharmacies in different areas to understand the preference of the physicians and the patients. The standard questionnaire had closed ended questions especially related to socio-economic status. Pretesting of questionnaire was made before applying at larger level.

RESEARCH PHILOSOPHY

Every research has some leading research philosophies, in the same way this specific research has also two sorts of philosophies. First one is positivism and the other is phenomenology. Positivism explains about the facts that have been improved regarding this research and on the other hand phenomenology research philosophy is regarding the present experience, as this is a qualitative analysis of primary data, therefore methods used to analyze the data of this research should be relatively dissimilar from more out-dated or quantitative approaches of research.

COLLECTION OF PRIMARY DATA

For this research data was collected with the help of a questionnaire survey. Several questions were asked from the selected audience including 75 physicians and 75 pharmacies in order to get primary data. On the behalf of their responses further outcomes were estimated for this research.

SAMPLE SIZE

Sample size for this research is 150. The research included 75 physicians and 75 pharmacies in high, middle & low socio-economic setups in Karachi Pakistan.

DATA ENTRY AND ANALYSIS

The screened data was double entered. The data was properly secured under lock and key. To analyze the data statistical software SPSS (Version 17) was used.

VALIDITY OF THE RESEARCH INSTRUMENTS

Validity of research instrument refers to the extent to which the instrument measures what it is supposed to measure (Amin, 2005).

In this study, face validity, content validity, construct validity and external validity were applied. These criteria were chosen after consulting with the research supervisor and academic experts in the field of research methodology.

The face validity, content validity and construct validity were confirmed by pretesting of the questionnaire. The external validity is based on the extensive literature study that was undertaken in the research.

RELIABILITY OF THE RESEARCH INSTRUMENT

Reliability of the instrument refers to the degree to which the said instrument consistently measures whatever it is measuring (Amin, 2005).

Singleton, Straits and Straits [1993: 121] feel that reliability may be improved through conducting pre-tests on a small sample of persons similar in characteristics to the target group.

In this study, pre-testing of small number of physicians and pharmacies were conducted by the researcher.

LIMITATION OF THIS RESEARCH

The low size of the sample is the main limitation of this study. Therefore, responses may vary when the same research is done with the help of a large sample size.

CHAPTER 4 RESULTS AND FINDINGS

PHARMA ANALYSIS

Table 4.1

		Area			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Cant (higher Socio-economic Group)	25	33.3	33.3	33.3
	Gulshan-e-Iqbal (middle Socio-economic Group)	25	33.3	33.3	66.7
	Orangi Town (Lower Socio-economic Group)	25	33.3	33.3	100.0
	Total	75	100.0	100.0	

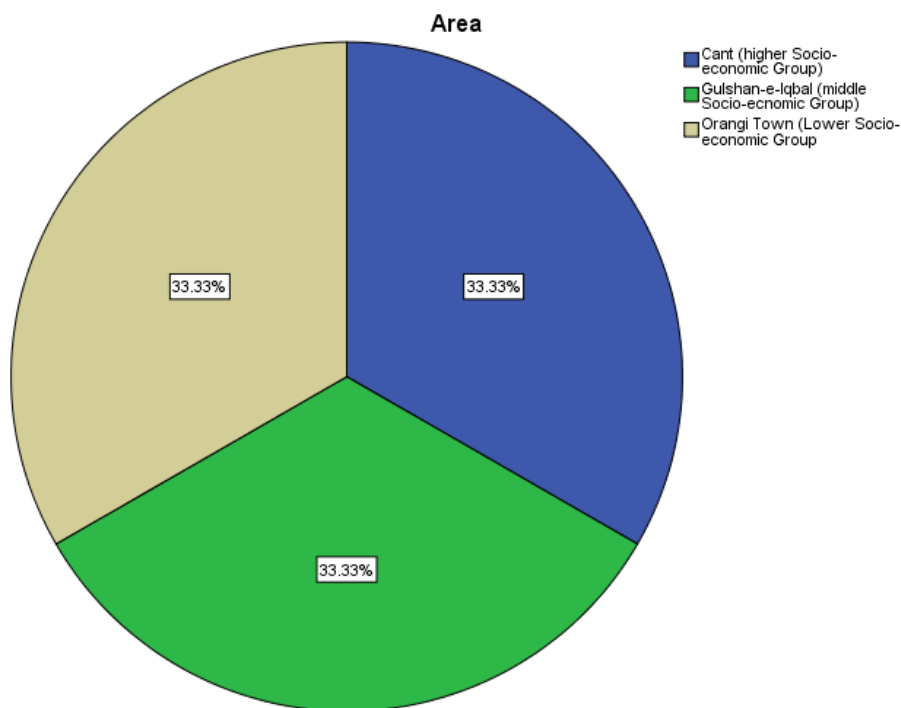
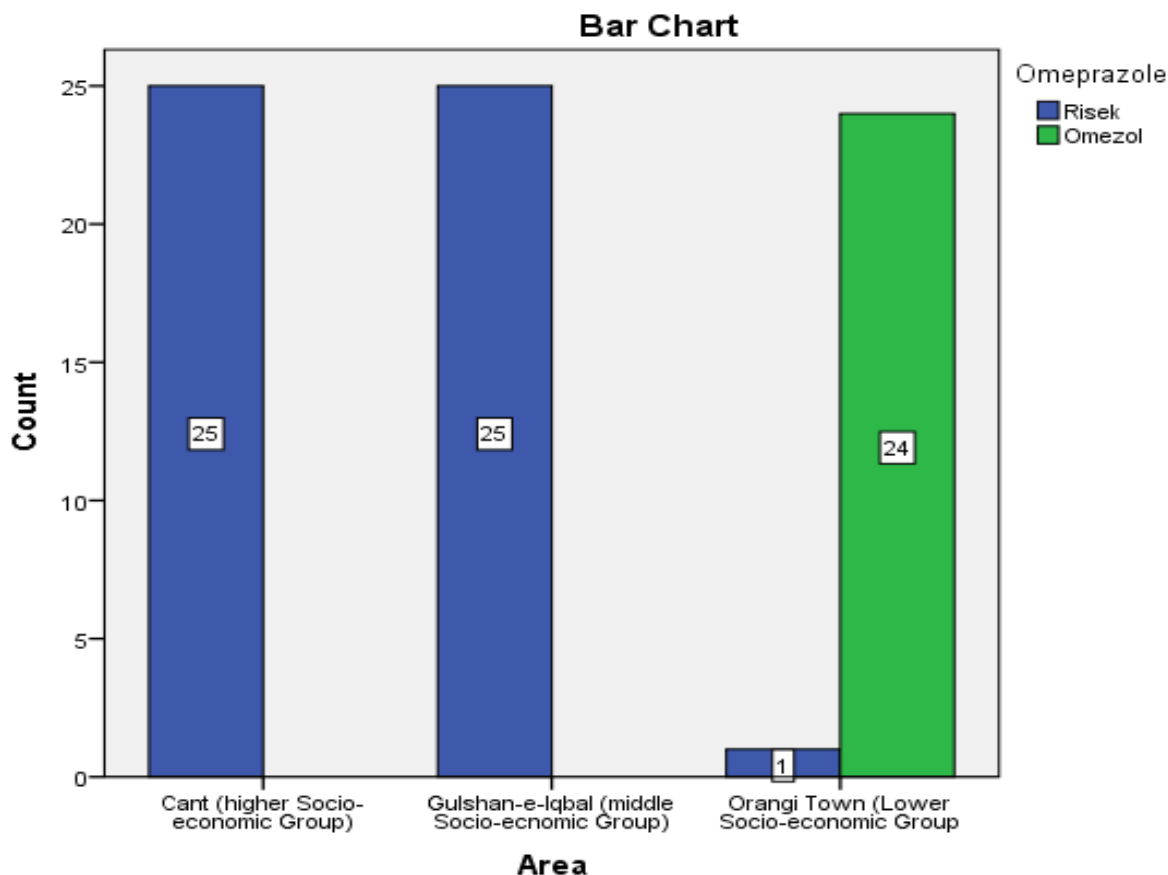


Table 4.2

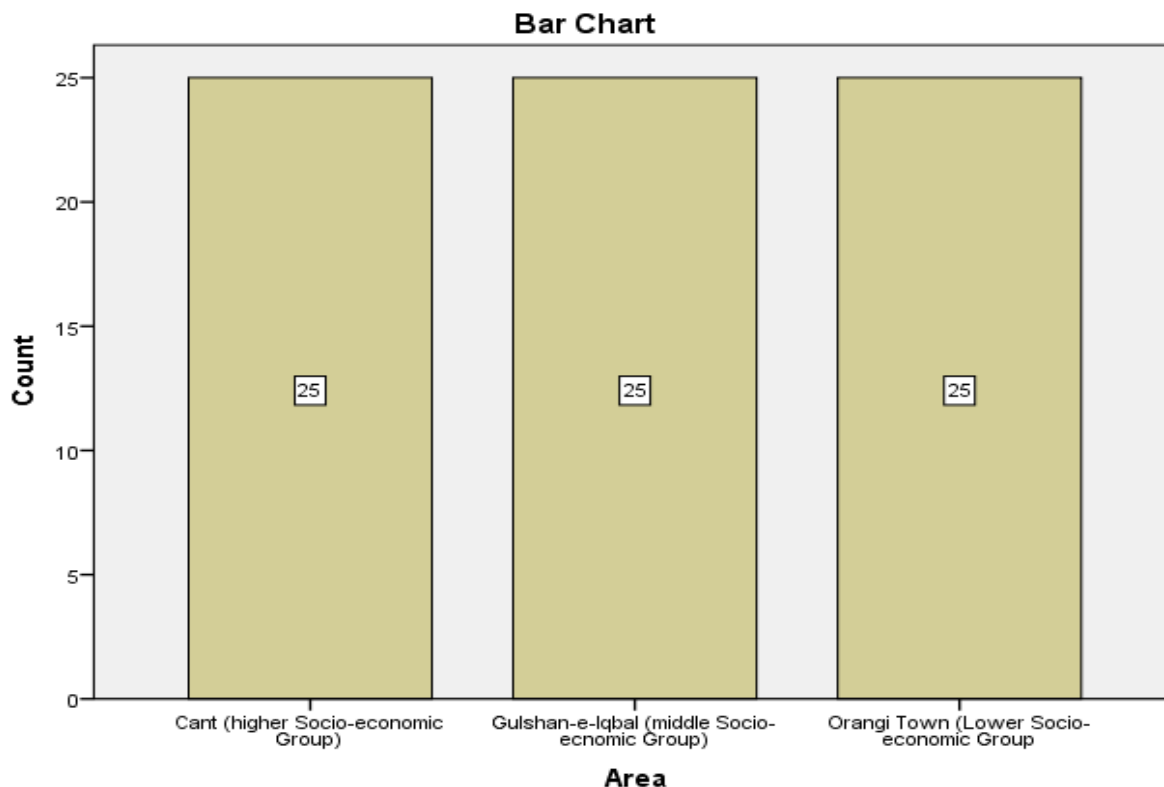
Area * Omeprazole Cross tabulation			Omeprazole		Total
			Risek	Omezol	
Area	Cant (higher Socio-economic Group)	Count	25	0	25
		% within Area	100.0%	.0%	100.0%
	Gulshan-e-Iqbal (middle Socio-economic Group)	Count	25	0	25
		% within Area	100.0%	.0%	100.0%
	Orangi Town (Lower Socio-economic Group)	Count	1	24	25
		% within Area	4.0%	96.0%	100.0%
Total		Count	51	24	75
		% within Area	68.0%	32.0%	100.0%



In the above Table and graph, it is shown that Risek is the most salable brand in the selected three areas and it's around 68%. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as physicians prescribe to them. The reason of prescribing is its availability and quality. While upper class purchase this due to its quality.

TABLE 4.3

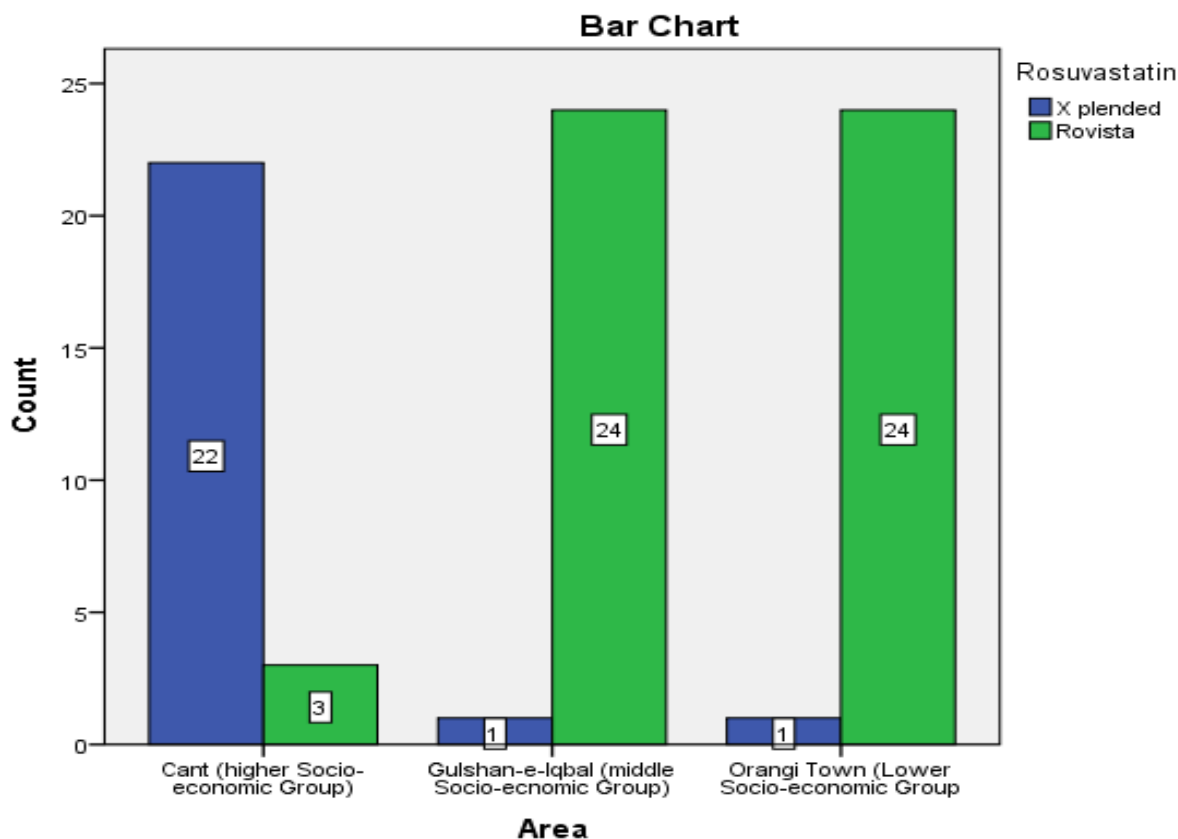
Area * Amlodipine Besylate Cross tabulation			Amlodipine Besylate	Total
			Norvasc	
Area	Cant (higher Socio-economic Group)	Count	25	25
		% within Area	100.0%	100.0%
	Gulshan-e-Iqbal (middle Socio-economic Group)	Count	25	25
		% within Area	100.0%	100.0%
	Orangi Town (Lower Socio-economic Group)	Count	25	25
		% within Area	100.0%	100.0%
Total		Count	75	75
		% within Area	100.0%	100.0%



In the above Table and graph, it is shown that Norvasc Is the most salable brand in the selected three areas and it's around 100%. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as physicians prescribe to them. And the reason of prescribing is also its availability and it is not that much expensive. While upper class purchase this due to its quality.

Table 4.4

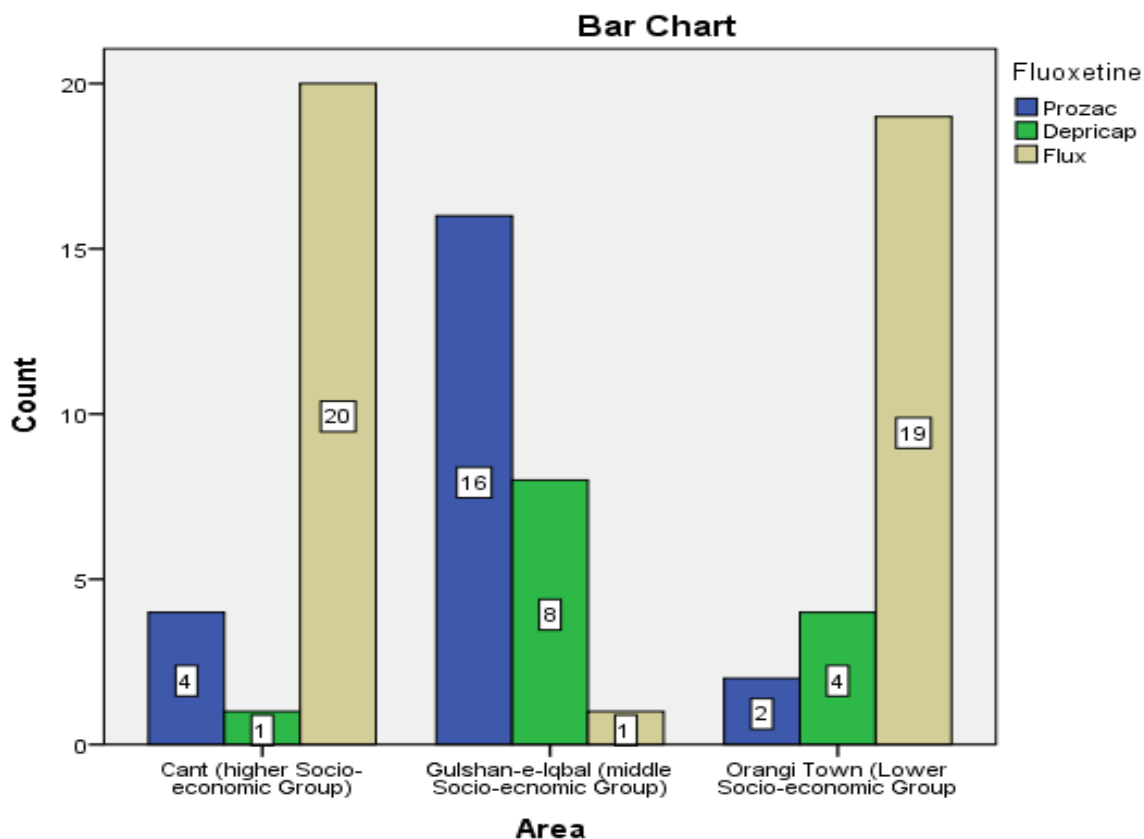
Area * Rosuvastatin Cross tabulation		Rosuvastatin		Total	
		X plended	Rovista		
Area	Cant (higher Socio-economic Group)	Count	22	3	25
		% within Area	88.0%	12.0%	100.0%
	Gulshan-e-Iqbal (middle Socio-economic Group)	Count	1	24	25
		% within Area	4.0%	96.0%	100.0%
	Orangi Town (Lower Socio-economic Group)	Count	1	24	25
		% within Area	4.0%	96.0%	100.0%
Total		Count	24	51	75
		% within Area	32.0%	68.0%	100.0%



In the above Table and graph, it is shown that Rovista is the most salable brand in the selected three areas and it's around 68%. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as physicians prescribe to them. And the reason of prescribing is also its availability and it is not that much expensive. While upper class purchase this due to its quality.

Table 4.5

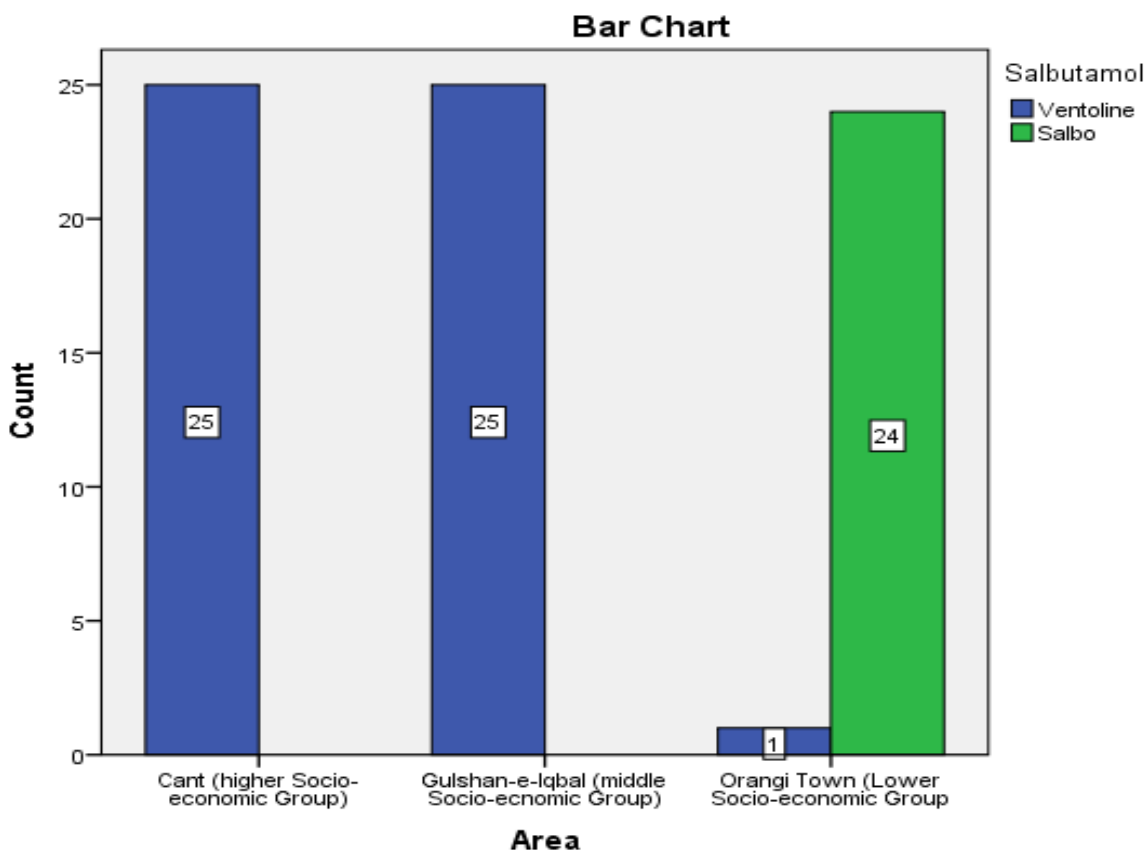
Area * Fluoxetine Cross tabulation		Fluoxetine			Total	
		Prozac	Depricap	Flux		
Area	Cant (higher Socio-economic Group)	Count	4	1	20	25
		% within Area	16.0%	4.0%	80.0%	100.0%
	Gulshan-e-Iqbal (middle Socio-economic Group)	Count	16	8	1	25
		% within Area	64.0%	32.0%	4.0%	100.0%
	Orangi Town (Lower Socio-economic Group)	Count	2	4	19	25
		% within Area	8.0%	16.0%	76.0%	100.0%
Total		Count	22	13	40	75
		% within Area	29.3%	17.3%	53.3%	100.0%



In the above Table and graph, it is shown that Prozac 29.3% and Flux 53% are the most salable brand in the selected three areas.

Table 4.6

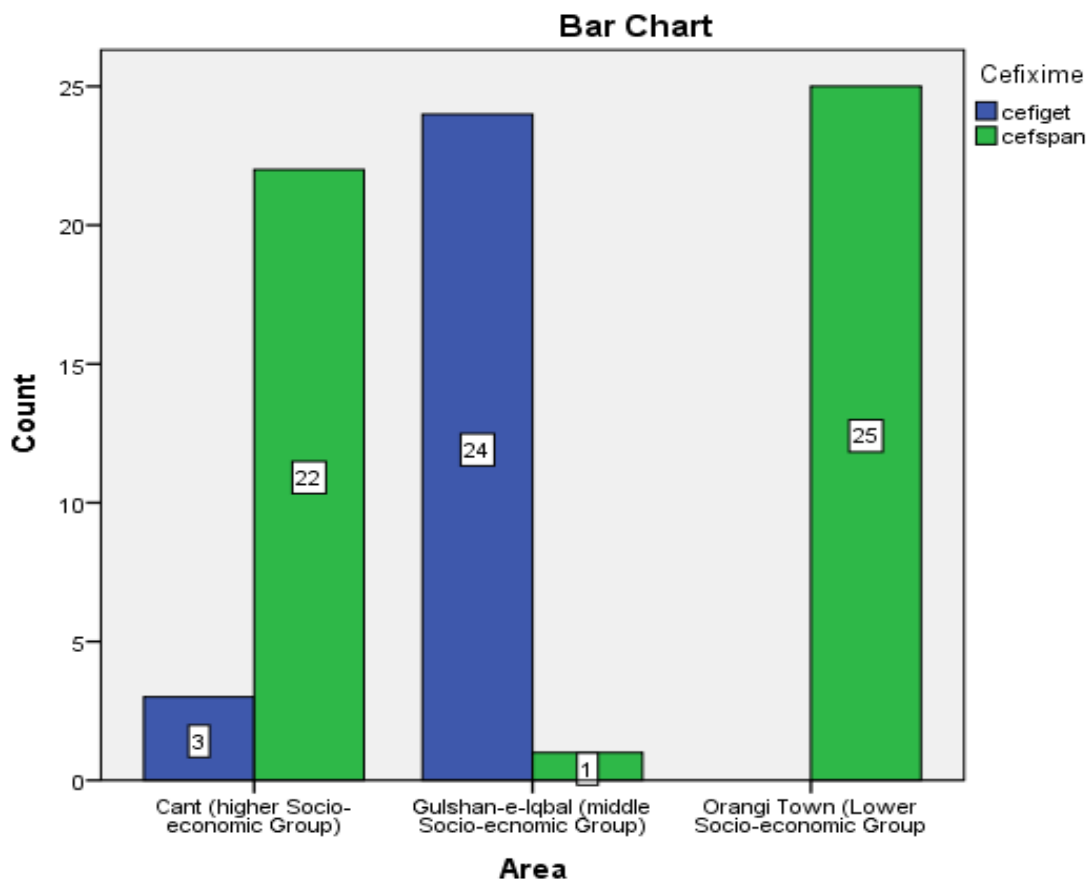
Area * Salbutamol Cross tabulation		Salbutamol		Total	
		Ventoline	Salbo		
Area	Cant (higher Socio-economic Group)	Count	25	0	25
		% within Area	100.0%	.0%	100.0%
	Gulshan-e-Iqbal (middle Socio-economic Group)	Count	25	0	25
		% within Area	100.0%	.0%	100.0%
	Orangi Town (Lower Socio-economic Group)	Count	1	24	25
		% within Area	4.0%	96.0%	100.0%
Total		Count	51	24	75
		% within Area	68.0%	32.0%	100.0%



In the above Table and graph, it is shown that Ventoline is the most salable brand in the selected three areas and it's around 68%. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as physicians prescribe to them. And the reason of prescribing is also its availability and it is not that much expensive. While upper class purchase this due to its quality.

Table 4.7

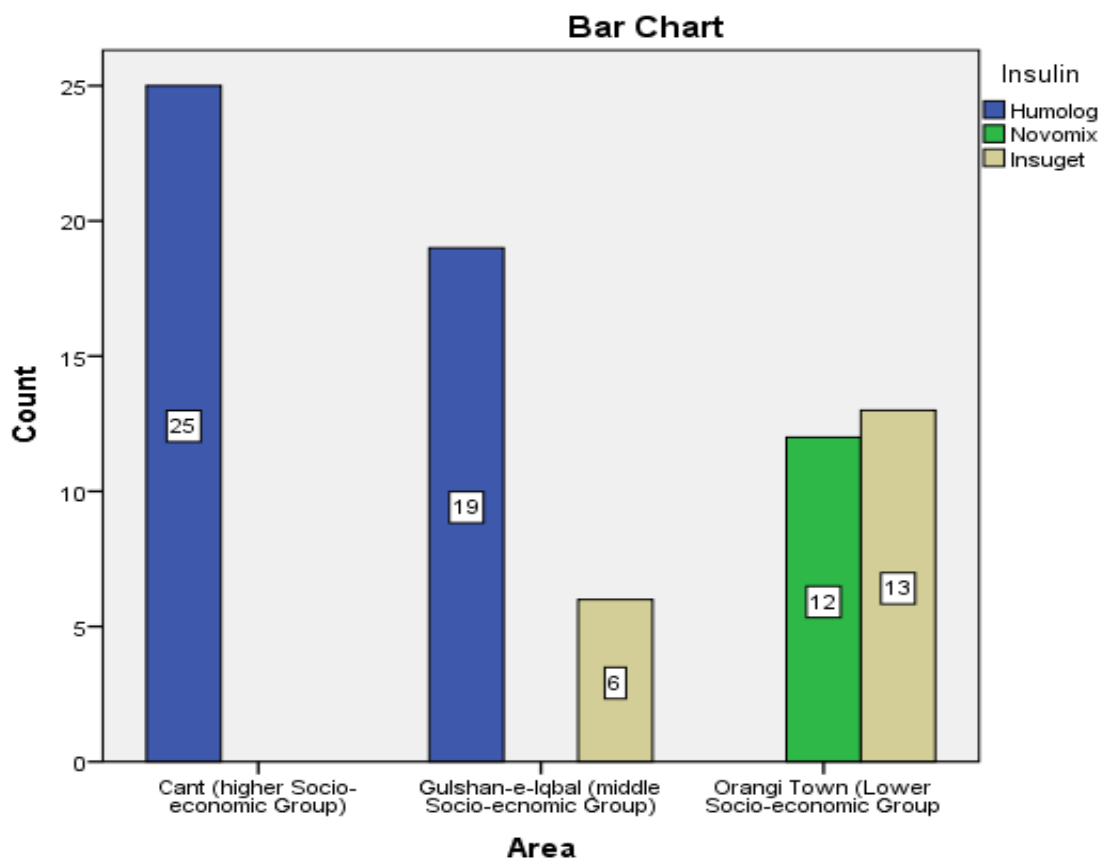
Area * Cefixime Cross tabulation		Cefixime		Total	
		cefiget	Cefspan		
Area	Cant (higher Socio-economic Group)	Count	3	22	25
		% within Area	12.0%	88.0%	100.0%
	Gulshan-e-Iqbal (middle Socio-economic Group)	Count	24	1	25
		% within Area	96.0%	4.0%	100.0%
	Orangi Town (Lower Socio-economic Group)	Count	0	25	25
		% within Area	.0%	100.0%	100.0%
Total		Count	27	48	75
		% within Area	36.0%	64.0%	100.0%



In the above Table and graph, it is shown that Cefspan 64% is the most salable brand in the selected three areas. Other most salable brand for the same generic is Cefiget 36%. People of different socio-economic classes use these brands due to various reasons.

Table 4.8

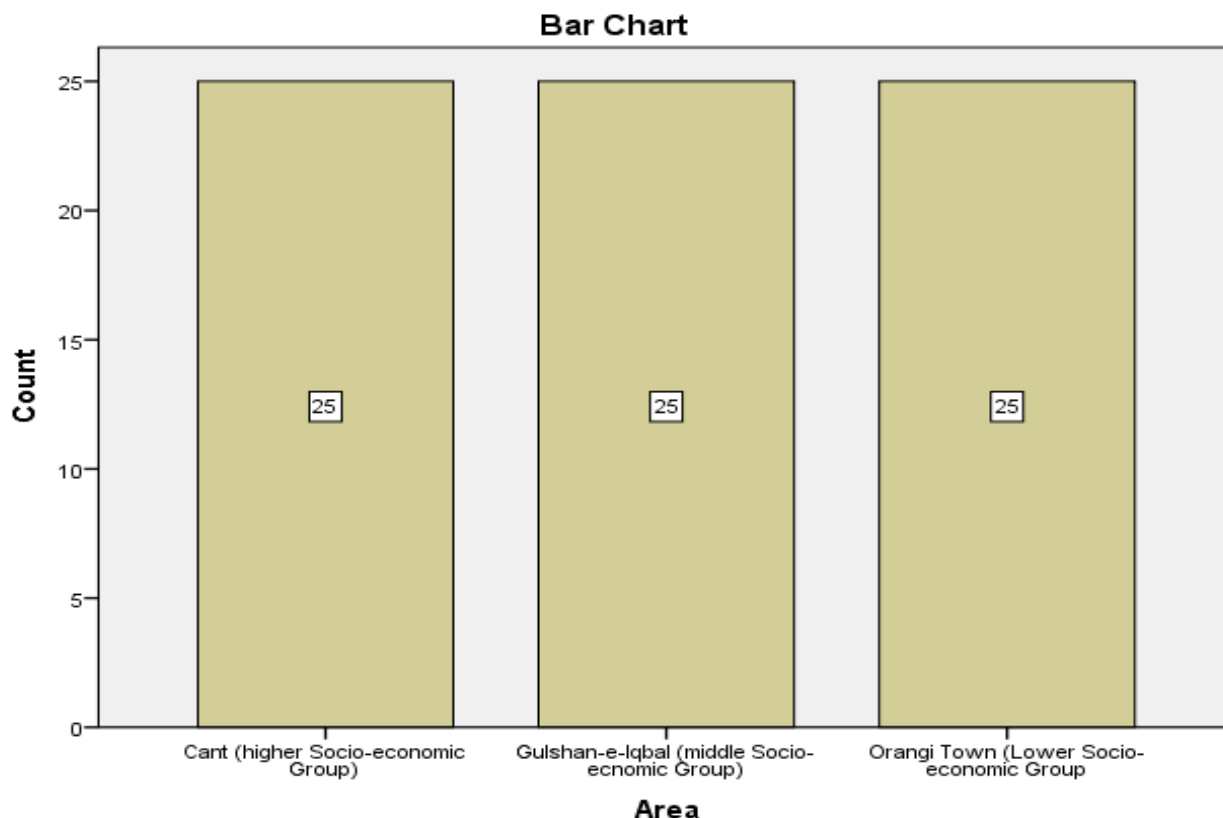
Area * Insulin Cross tabulation		Insulin			Total	
		Humolog	Novomix	Insuget		
Area	Cant (higher Socio-economic Group)	Count	25	0	0	25
		% within Area	100.0%	.0%	.0%	100.0%
	Gulshan-e-Iqbal (middle Socio-economic Group)	Count	19	0	6	25
		% within Area	76.0%	.0%	24.0%	100.0%
	Orangi Town (Lower Socio-economic Group)	Count	0	12	13	25
		% within Area	.0%	48.0%	52.0%	100.0%
Total		Count	44	12	19	75
		% within Area	58.7%	16.0%	25.3%	100.0%



In the above Table and graph, it is shown that Humalog 58.7% is the most salable brand in the selected three areas. Other most salable brands for the same generic are Novomix 16% and Insuget 25.3. People of different socio-economic classes use these brands due to various reasons.

Table 4.9

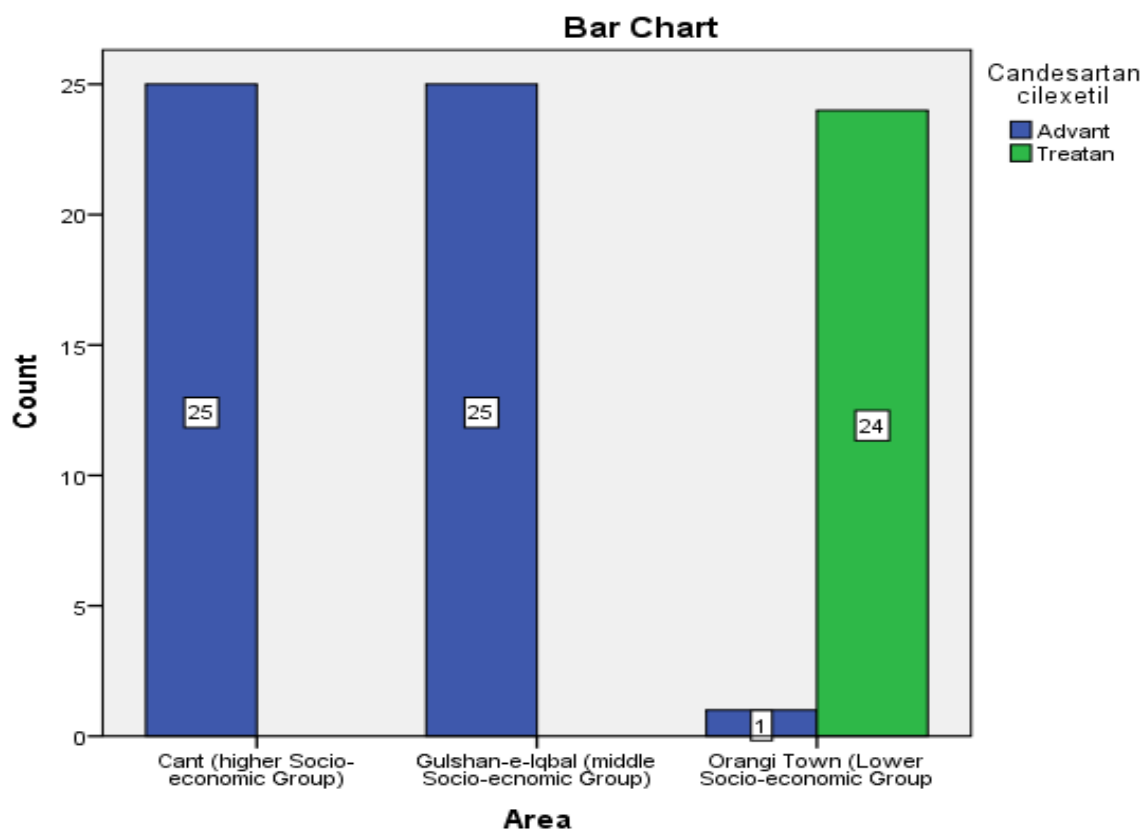
Area * Furazolidone Cross tabulation			Furazolidone Dependal-M	Total
Area	Cant (higher Socio-economic Group)	Count	25	25
		% within Area	100.0%	100.0%
	Gulshan-e-Iqbal (middle Socio-economic Group)	Count	25	25
		% within Area	100.0%	100.0%
	Orangi Town (Lower Socio-economic Group)	Count	25	25
		% within Area	100.0%	100.0%
Total		Count	75	75
		% within Area	100.0%	100.0%



In the above Table and graph, it is shown that Depandal-M Is the most salable brand in the selected three areas and it's around 100%. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as physicians prescribe to them. And the reason of prescribing is also its availability and it is not that much expensive. While upper class purchase this due to its quality.

Table 4.10

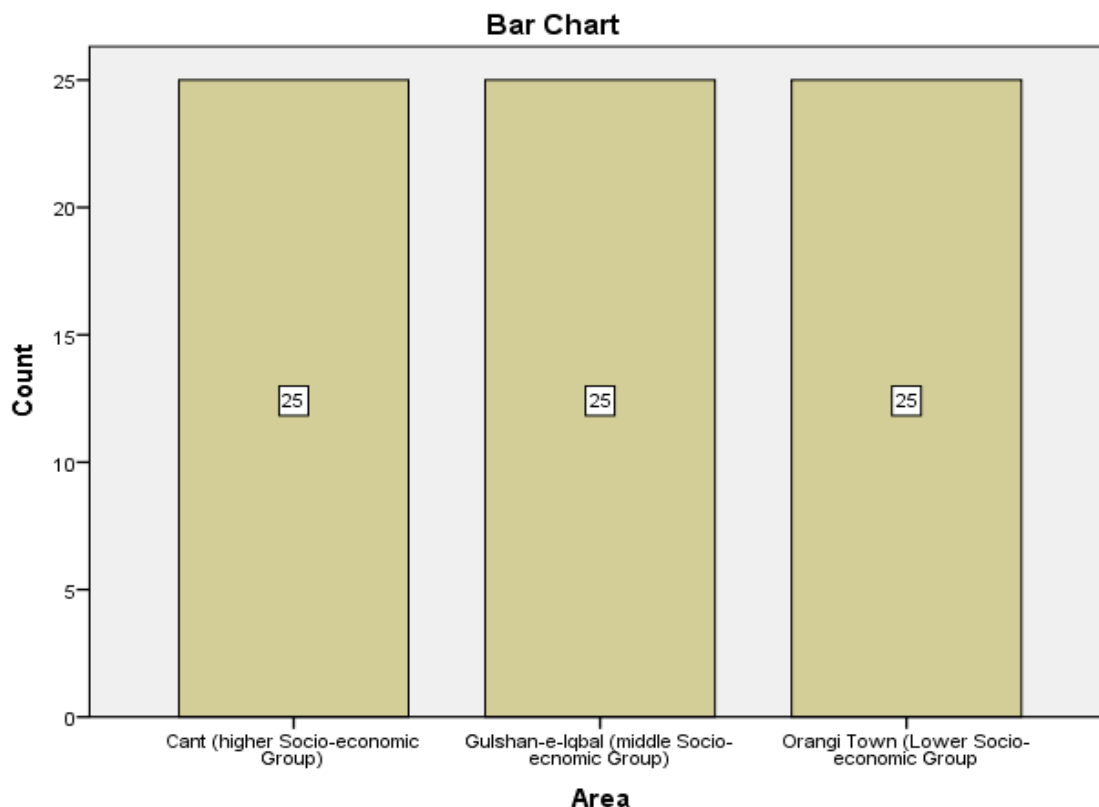
Area * Candesartan cilexetil Cross tabulation					
			Candesartan cilexetil		Total
			Advant	Treatan	
Area	Cant (higher Socio-economic Group)	Count	25	0	25
		% within Area	100.0%	.0%	100.0%
	Gulshan-e-Iqbal (middle Socio-economic Group)	Count	25	0	25
		% within Area	100.0%	.0%	100.0%
	Orangi Town (Lower Socio-economic Group)	Count	1	24	25
		% within Area	4.0%	96.0%	100.0%
Total		Count	51	24	75
		% within Area	68.0%	32.0%	100.0%



In the above Table and graph, it is shown that Advanat 68% and Treatan 32% are the most salable brands in the selected three areas. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as physicians prescribe to them. And the reason of prescribing is its availability and it is not that much expensive. While upper class purchase this due to its quality.

Table 4.11

Area * Clopidogrel Cross tabulation			Clopidogrel	Total
			Lowplat	
Area	Cant (higher Socio-economic Group)	Count	25	25
		% within Area	100.0%	100.0%
	Gulshan-e-Iqbal (middle Socio-economic Group)	Count	25	25
		% within Area	100.0%	100.0%
	Orangi Town (Lower Socio-economic Group)	Count	25	25
		% within Area	100.0%	100.0%
Total		Count	75	75
		% within Area	100.0%	100.0%



In the above Table and graph, it is shown that Lowplatt Is the most salable brand in the selected three areas and it's around 100%. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as physicians prescribe to them. And the reason of prescribing is also its availability and it is not that much expensive. While upper class purchase this due to its quality.

PHYSICIAN’S RELATED ANALYSIS

Table 4.12

		Area			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Cant (higher socio-economic group)	25	33.3	33.3	33.3
	Glushan-e-Iqbal (middle socio-economic group)	25	33.3	33.3	66.7
	Orangi Town (lower social economic group)	25	33.3	33.3	100.0
	Total	75	100.0	100.0	

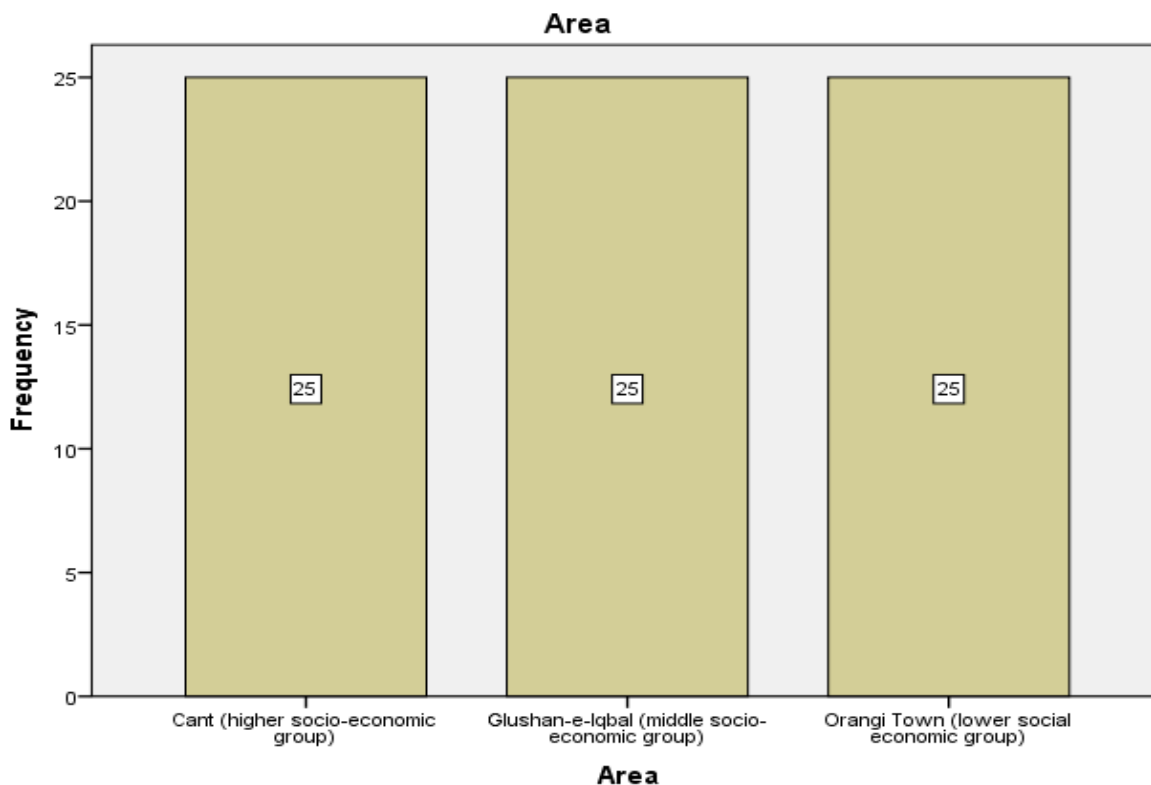
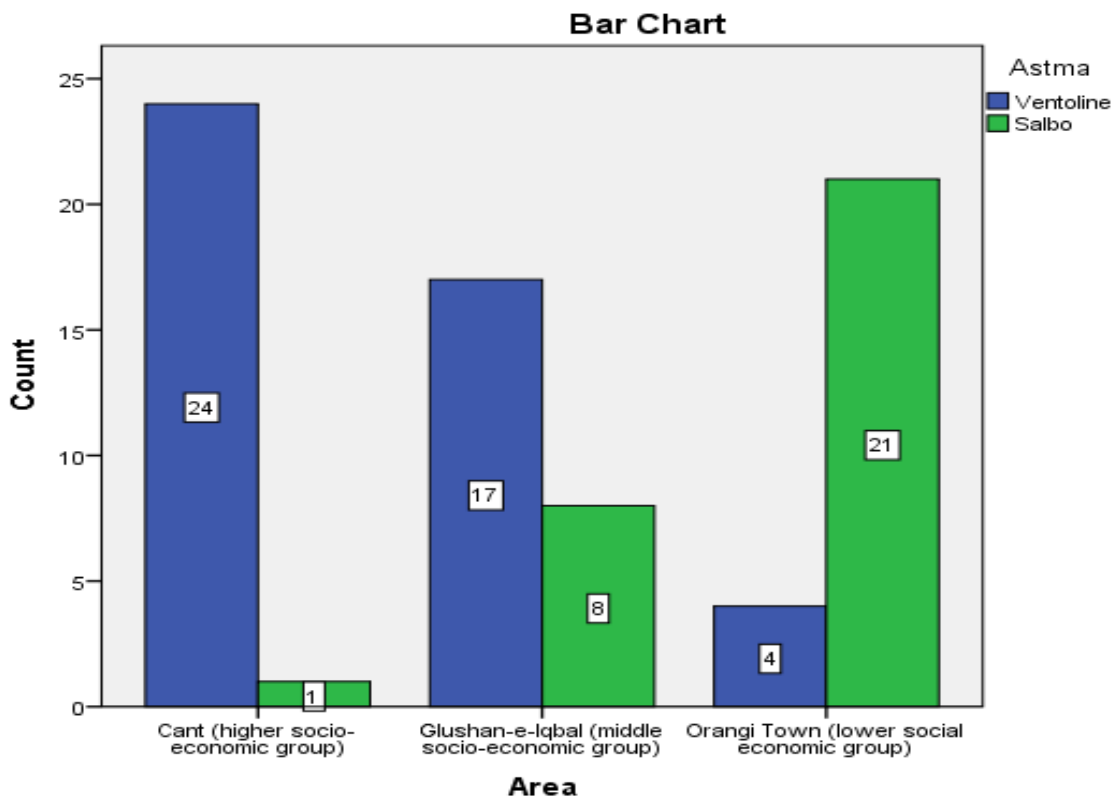


Table 4.13

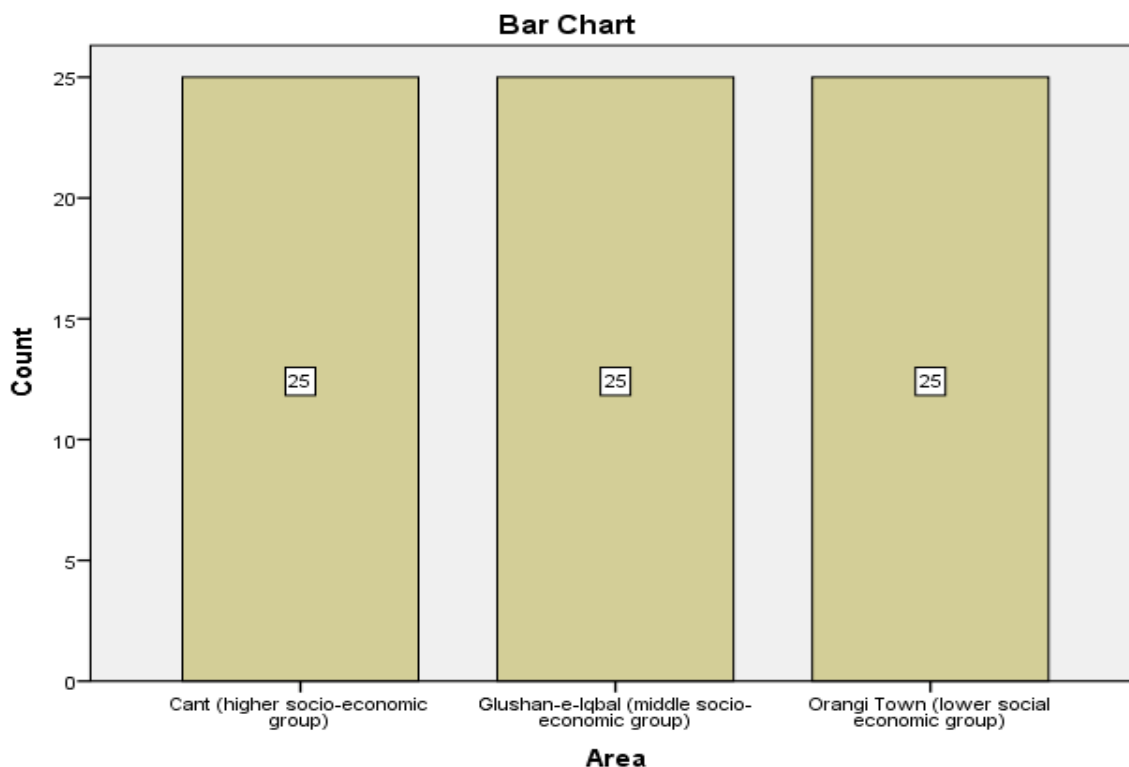
Area * Astma Cross tabulation			Astma		Total
			Ventoline	Salbo	
Area	Cant (higher socio-economic group)	Count	24	1	25
		% within Area	96.0%	4.0%	100.0%
	Glushan-e-Iqbal (middle socio-economic group)	Count	17	8	25
		% within Area	68.0%	32.0%	100.0%
	Orangi Town (lower social economic group)	Count	4	21	25
		% within Area	16.0%	84.0%	100.0%
Total		Count	45	30	75
		% within Area	60.0%	40.0%	100.0%



In the above Table and graph, it is shown that Ventoline 60% is the most prescribed brand in the selected three areas. Other most prescribed brand for the same generic is Salbo 40%. People of different socio-economic classes use these brands due to various reasons.

Table 4.14

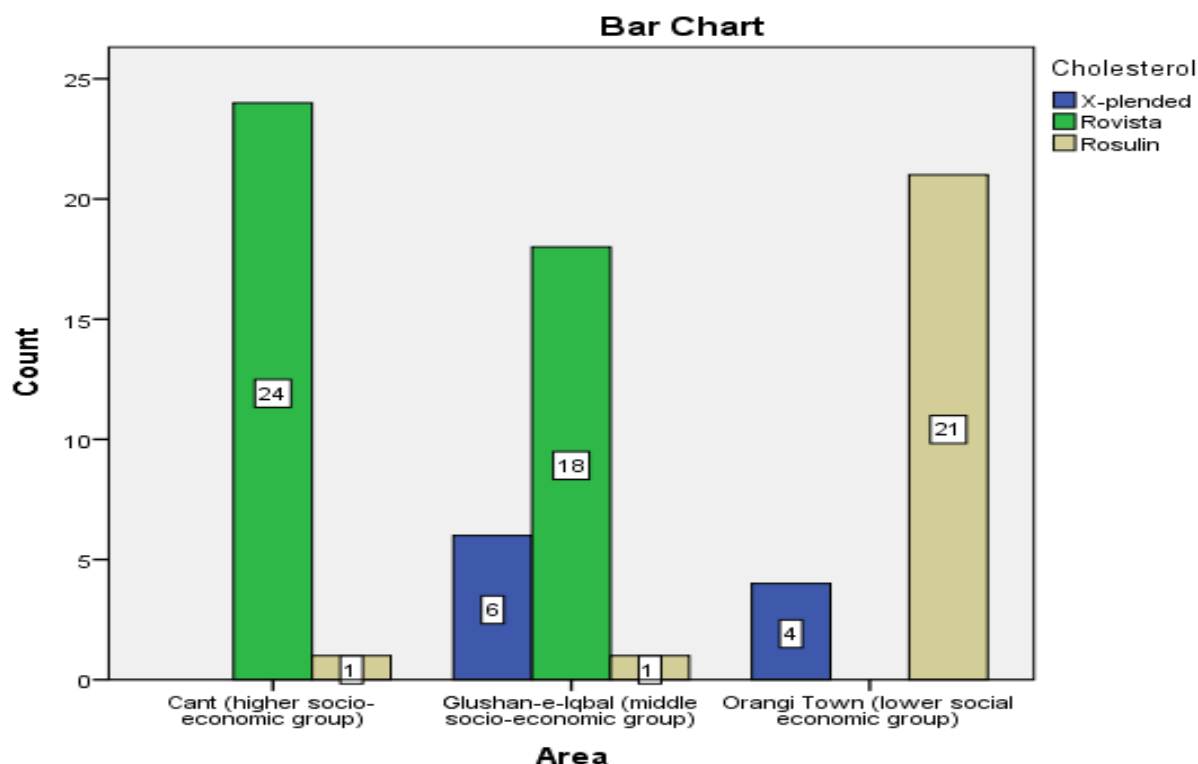
Area * Diarrha Cross tabulation		Diarrha		Total
		Dependal-M		
Area	Cant (higher socio-economic group)	Count	25	25
		% within Area	100.0%	100.0%
	Glushan-e-Iqbal (middle socio-economic group)	Count	25	25
		% within Area	100.0%	100.0%
	Orangi Town (lower social economic group)	Count	25	25
		% within Area	100.0%	100.0%
Total		Count	75	75
		% within Area	100.0%	100.0%



In the above Table and graph, it is shown that Depandal-M is the most prescribed brand in the selected three areas and it's around 100%. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as a physician prescribes to them. And the reason of prescribing is also its availability and it is not that much expensive. While upper class purchase this due to its quality.

Table 4.15

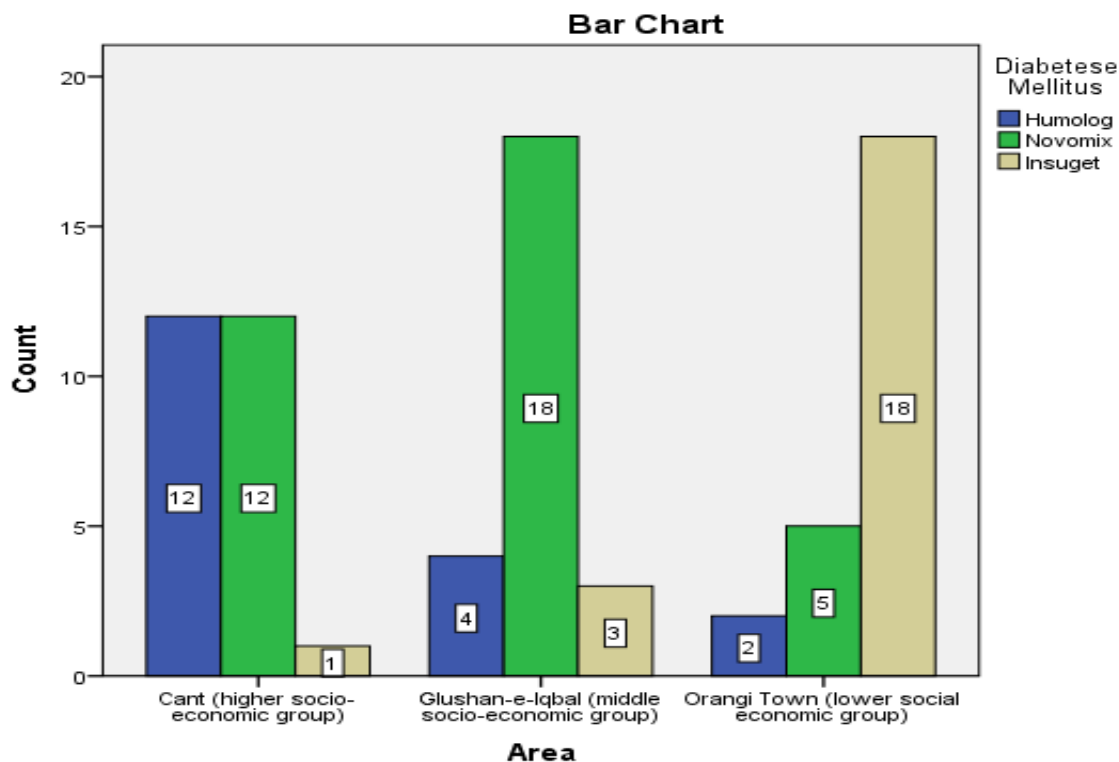
Area * Cholesterol Cross tabulation		Cholesterol			Total	
		X-plended	Rovista	Rosulin		
Area	Cant (higher socio-economic group)	Count	0	24	1	25
		% within Area	.0%	96.0%	4.0%	100.0%
	Glushan-e-Iqbal (middle socio-economic group)	Count	6	18	1	25
		% within Area	24.0%	72.0%	4.0%	100.0%
	Orangi Town (lower social economic group)	Count	4	0	21	25
		% within Area	16.0%	.0%	84.0%	100.0%
Total		Count	10	42	23	75
		% within Area	13.3%	56.0%	30.7%	100.0%



In the above Table and graph, it is shown that Rovista is the most prescribed brand in the selected three areas and it's around 56%. Other most prescribed brands for the same generic is Rosolin 30.7 and X-plended 13.3%. People of different socio-economic classes use these brands due to various reasons.

Table 4.16

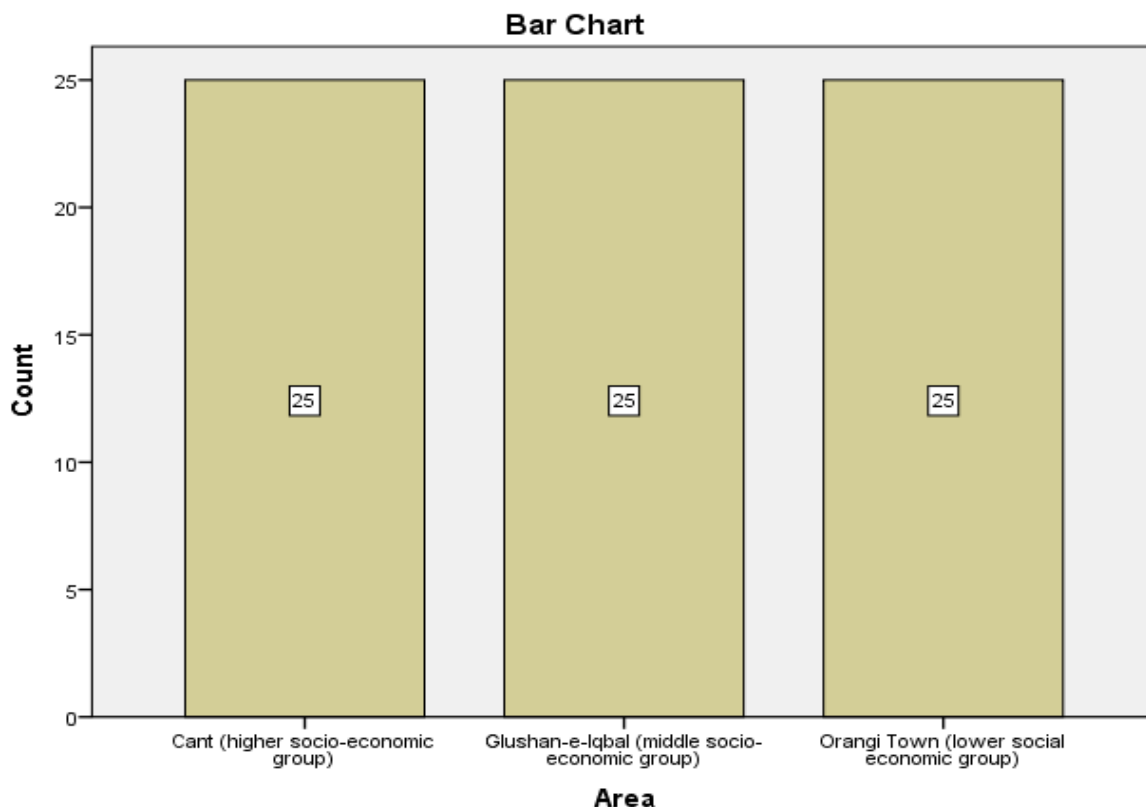
Area * Diabetese Mellitus Cross tabulation		Diabetese Mellitus			Total	
		Humolog	Novomix	Insuget		
Area	Cant (higher socio-economic group)	Count	12	12	1	25
		% within Area	48.0%	48.0%	4.0%	100.0%
	Glushan-e-Iqbal (middle socio-economic group)	Count	4	18	3	25
		% within Area	16.0%	72.0%	12.0%	100.0%
	Orangi Town (lower social economic group)	Count	2	5	18	25
		% within Area	8.0%	20.0%	72.0%	100.0%
Total		Count	18	35	22	75
		% within Area	24.0%	46.7%	29.3%	100.0%



In the above Table and graph, it is shown that Novomix 46.7% is the most prescribed brand in the selected three areas. Other most prescribed brands for the same generic is Humolog 24% and insuget 29.3%. People of different socio-economic classes use these brands due to various reasons.

Table 4.17

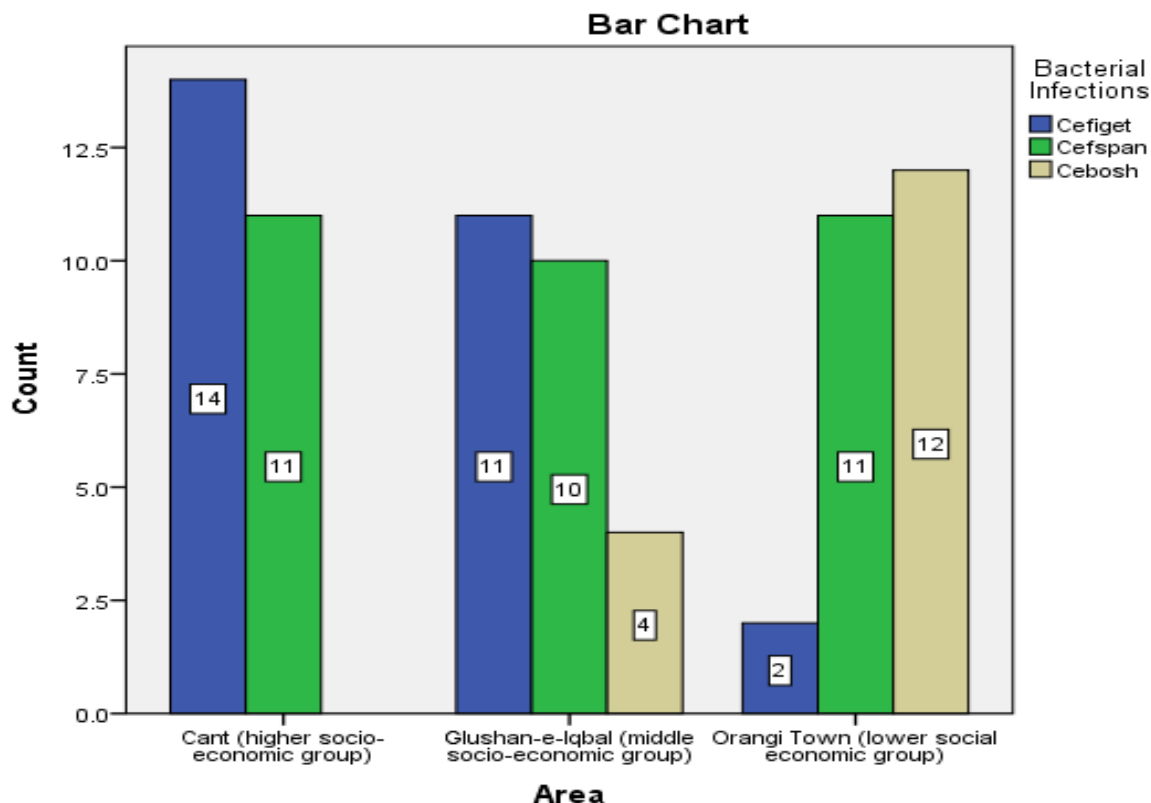
Area * Heart Disease Cross tabulation			Heart Disease	Total
			Norvasc	
Area	Cant (higher socio-economic group)	Count	25	25
		% within Area	100.0%	100.0%
	Glushan-e-Iqbal (middle socio-economic group)	Count	25	25
		% within Area	100.0%	100.0%
	Orangi Town (lower social economic group)	Count	25	25
		% within Area	100.0%	100.0%
Total		Count	75	75
		% within Area	100.0%	100.0%



In the above Table and graph, it is shown that Norvasc is the most prescribed brand in the selected three areas and it's around 100%. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as physicians prescribe to them. And the reason of prescribing is also its availability and it is not that much expensive. While upper class purchase this due to its quality.

Table 4.18

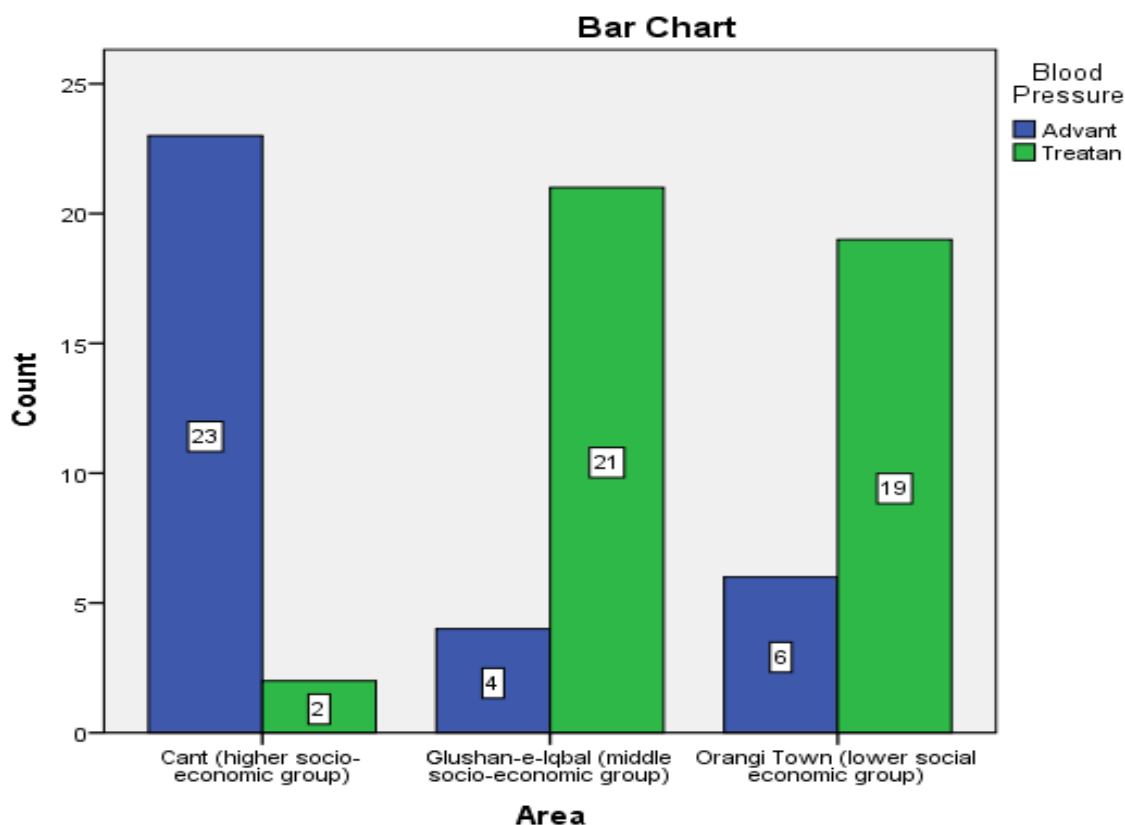
Area * Bacterial Infections Cross tabulation		Bacterial Infections			Total	
		Cefiget	Cefspan	Cebosh		
Area	Cant (higher socio-economic group)	Count	14	11	0	25
		% within Area	56.0%	44.0%	.0%	100.0%
	Glushan-e-Iqbal (middle socio-economic group)	Count	11	10	4	25
		% within Area	44.0%	40.0%	16.0%	100.0%
	Orangi Town (lower social economic group)	Count	2	11	12	25
		% within Area	8.0%	44.0%	48.0%	100.0%
Total		Count	27	32	16	75
		% within Area	36.0%	42.7%	21.3%	100.0%



In the above Table and graph, it is shown that Cefspan 42.7% and Cefiget 36% are the most prescribed brands in the selected three areas. Other most prescribed brand for the same generic is Cebosh 21.3%. People of different socio-economic classes use these brands due to various reasons.

Table 4.19

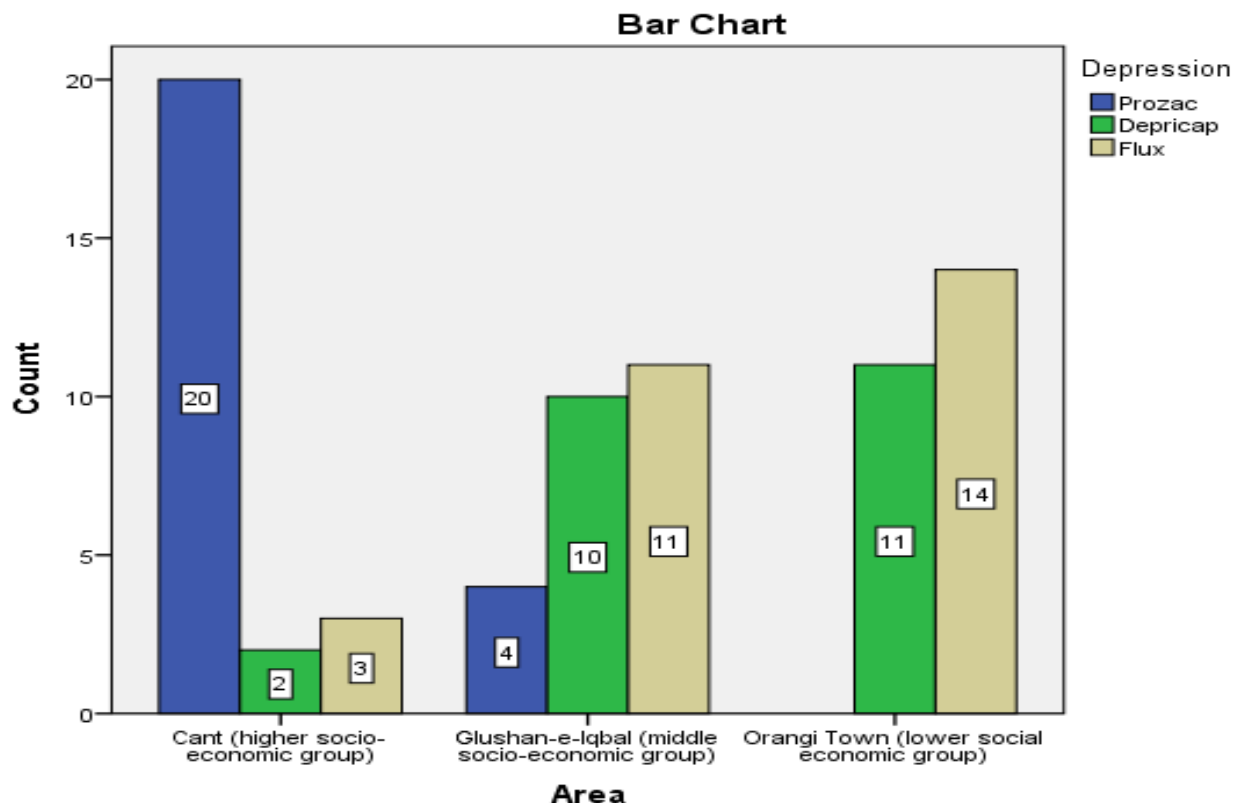
Area * Blood Pressure Cross tabulation		Blood Pressure		Total	
		Advant	Treatan		
Area	Cant (higher socio-economic group)	Count	23	2	25
		% within Area	92.0%	8.0%	100.0%
	Glushan-e-Iqbal (middle socio-economic group)	Count	4	21	25
		% within Area	16.0%	84.0%	100.0%
	Orangi Town (lower social economic group)	Count	6	19	25
		% within Area	24.0%	76.0%	100.0%
Total		Count	33	42	75
		% within Area	44.0%	56.0%	100.0%



In the above Table and graph, it is shown that Treatan 56% and Advant 44% are the most prescribed brands in the selected three areas. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as physicians prescribe to them. And the reason of prescribing is its availability and it is not that much expensive. While upper class purchase this due to its quality.

Table 4.20

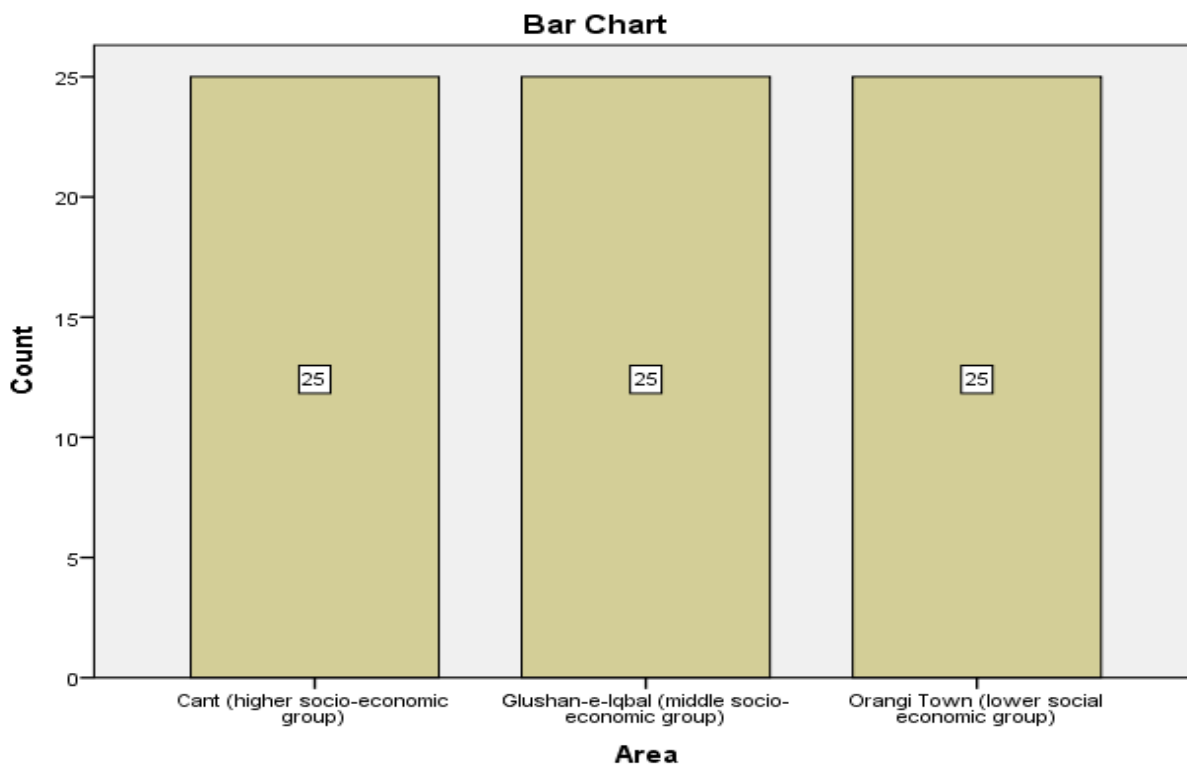
Area * Depression Cross tabulation			Depression			Total
			Prozac	Depricap	Flux	
Area	Cant (higher socio-economic group)	Count	20	2	3	25
		% within Area	80.0%	8.0%	12.0%	100.0%
	Glushan-e-Iqbal (middle socio-economic group)	Count	4	10	11	25
		% within Area	16.0%	40.0%	44.0%	100.0%
	Orangi Town (lower social economic group)	Count	0	11	14	25
		% within Area	.0%	44.0%	56.0%	100.0%
Total		Count	24	23	28	75
		% within Area	32.0%	30.7%	37.3%	100.0%



In the above Table and graph, it is shown that Flux 37.3% and Prozac 32% are the most prescribed brands in the selected three areas. Other most prescribed brand for the same generic is Depricap 30.7%. People of different socio-economic classes use these brands due to various reasons.

Table 4.21

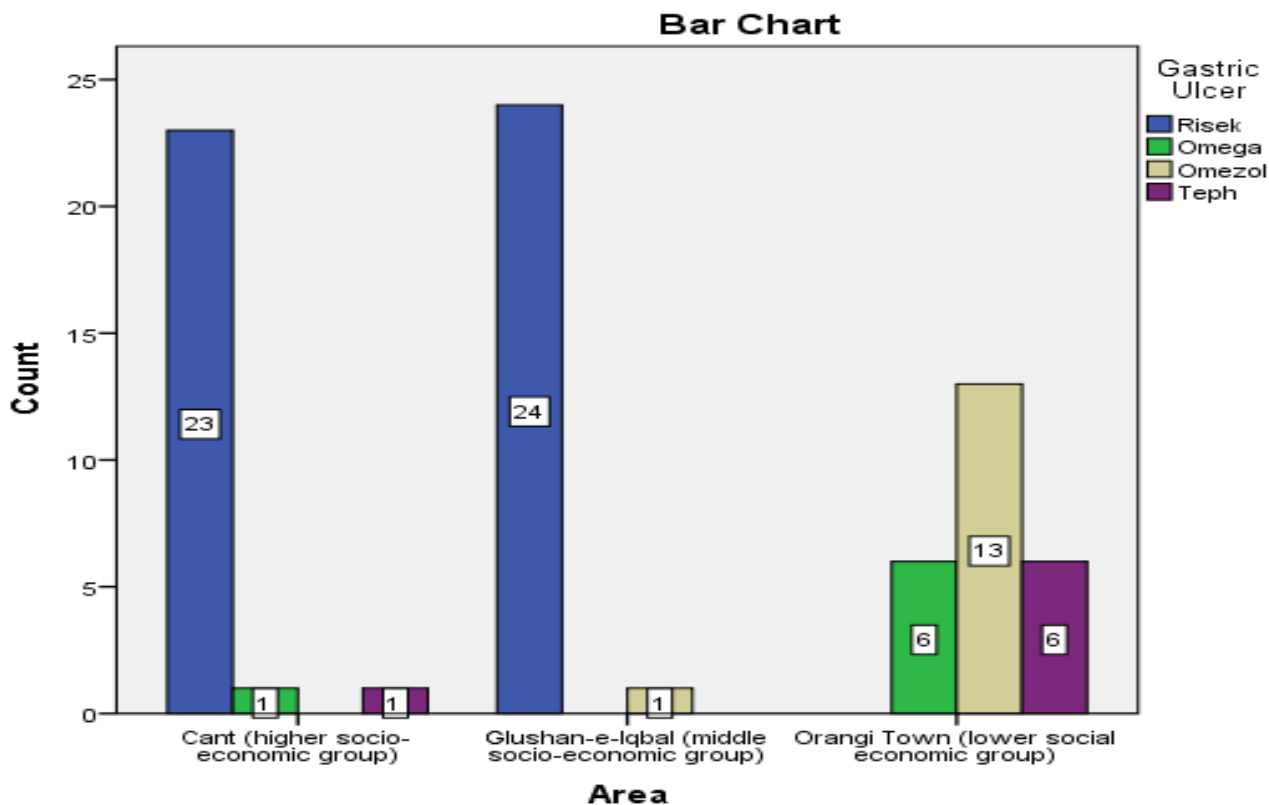
Area * Coronary Artery Disease Cross tabulation		Coronary Artery Disease		Total
		Lowplat		
Area	Cant (higher socio-economic group)	Count	25	25
		% within Area	100.0%	100.0%
	Glushan-e-Iqbal (middle socio-economic group)	Count	25	25
		% within Area	100.0%	100.0%
	Orangi Town (lower social economic group)	Count	25	25
		% within Area	100.0%	100.0%
Total		Count	75	75
		% within Area	100.0%	100.0%



In the above Table and graph, it is shown that Lowplatt is the most prescribed brand in the selected three areas and it's around 100%. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as a physician prescribes to them. And the reason of prescribing is also its availability and it is not that much expensive. While upper class purchase this due to its quality.

Table 4.22

Area * Gastric Ulcer Cross tabulation			Gastric Ulcer				Total
			Risek	Omega	Omezol	Teph	
Area	Cant (higher socio-economic group)	Count	23	1	0	1	25
		% within Area	92.0%	4.0%	.0%	4.0%	100.0%
	Glushan-e-Iqbal (middle socio-economic group)	Count	24	0	1	0	25
		% within Area	96.0%	.0%	4.0%	.0%	100.0%
	Orangi Town (lower social economic group)	Count	0	6	13	6	25
		% within Area	.0%	24.0%	52.0%	24.0%	100.0%
Total		Count	47	7	14	7	75
		% within Area	62.7%	9.3%	18.7%	9.3%	100.0%



In the above Table and graph, it is shown that Risek 62.7% is the most prescribed brand in the selected three areas other most prescribed brand for the same generic omezol 18.7%. People of different socio-economic classes use this brand due to various reasons. Low and middle class people buy this as physicians prescribe to them. The reason of prescribing is its availability and quality. While upper class purchase this due to its quality.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

All exploration, analyzed data and reviews regarding this matter concluded that prescription charges decrease the usage of medication drugs. However, it was also exhibited that mostly patients are not particularly liable to face the high price of pharmaceutical brands. In terms of economic and financial statement, the order for pharmaceutical brands is price inflexible. Although this conclusion is not unforeseen when we consider the principal role of physicians in case of prescribing drugs, which should have some address in accordance with the opinions of patients considering the requirement of taking such recommended or prescribed medicines, still when the financial disbursement concerned may be high. It may also be consociated to un-measurable factors, as well as patient approach to limit costs, for example estimating higher prescribed amount of the corresponding prescription.

Since socio-economic status affects every decision of the community including the ratio of selling pharmaceutical brands. Impact of socio-economic status on pharmaceutical brands can be seen from both doctor and patient's side. Lowering cost of drugs can directly affect the quality of drugs as well. Poor quality drug is another health crisis for the public, as substandard quality drugs or vaccination can prove to be deadly. Either inappropriate production can result in poor quality drugs or inappropriate distribution can turn genuine drugs into poor quality, sometimes these poor quality drugs are used by those people who belong to lower class or those people who are not able to afford such expensive pharmaceutical brands for the treatment purpose of their condition.

The study is basically related to the impact of socio-economic status on pharmaceutical brand. It is a deep study. For this purpose we have to consider all the related facts which affect the socio-economic status, for example the change in the sales of pharmaceutical brands.

The data is collected from the physicians and pharmacist whom we selected for our research study by asking closed ended questions and filled the questionnaire with the answers of the entire relevant questions related to socio-economic status.

From this research we concluded that the impact of socio-economic status lies in every part of life. Mostly it impacts on health of mankind. Without education one cannot gain the knowledge of health related issues and their impact on their health, especially in those circumstances when the majority of people belongs to low class and are not capable to get expensive medicines that are the part of high cost pharmaceutical brands and are recommended by physicians for treating their conditions, in such situations at least they should be known regarding the effects of low cost and low quality medicines, which they are going to use due to the difference of their socio-economic status.

It is the right of every person to get the best health facilities either the person belongs to any socio-economic status. Providing the best quality medication is the duty of pharmaceutical companies but to avail it will be very difficult for the person belong to low socio-economic status.

Physicians prescribe low quality medication so the patient can afford it but on the other hand low quality medication has side effects which increases the burden of mortality. Our research proves that the impact low socio-economic status on selection of pharmaceutical brands is much more demoralizing. From this it must be accepted that pharmaceutical companies should offer some affordable price medicines so that everyone can obtain. Moreover in the same way proper quality education should be provided to our people in order to move in a society with better standard of life and with better health in life.

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APPENDIX I QUESTIONNAIRE FOR PHARMACIES

Name: _____
Gender: _____
Designation: _____
Area: _____

Q.1. which brand is the most salable brand for generic Omeprazole?

- a) Risek
- b) Omega
- c) Omezol
- d) Telph
- e) Any other

If any other, then name please

Q.2. which brand is the most salable brand for generic Amlodipine besylate?

- a) Amdocal
- b) Amloget
- c) Norvasc
- d) Amodip
- e) Any other

If any other, then name please

Q.3. which brand is the most salable brand for generic Rosuvastatin?

- a) Xplended
- b) Rovista
- c) Rosulin
- d) Vaptor
- e) Any other

If any other, then name please

Q.4. Which brand is the most salable brand for generic Fluoxetine?

- a) Prozac
- b) Depricap
- c) Depex
- d) Flux
- e) Any other

If any other, then name please

Q.5. which brand is the most salable brand for generic Salbutamol?

- a) Ventoline
- b) BlissBroncal
- c) Salbo
- d) Inspirol
- e) Any other

If any other, then name please

Q.6. Which brand is the most salable brand for generic Cefixime?

- a) cefiget
- b) cefspan
- c) Caricef
- d) Cebosh
- e) Any other

If any other, then name please

Q.7. Which brand is the most salable brand for generic Insulin?

- a) Humolog
- b) Novomix
- c) Insuget
- d) Innogen N
- e) Any other

If any other, then name please

Q.8. which brand is the most salable brand for generic Furazolidone?

- a) Dependable-M
- b) Floxon
- c) Zolint
- d) Furamid

If any other, then name please

Q.9. which brand is the most salable brand for generic Candesartan cilexetil?

- a) Advant
- b) Atasart
- c) Cansaar
- d) Treatan
- e) Any other

If any other, then name please

Q.10. Which brand is the most salable brand for generic Clopidogrel?

- a) Lowplat
- b) Norplat
- c) Noclot
- d) Plavix
- e) Any other

If any other, then name please

APPENDIX II QUESTIONNAIRE FOR PHYSICIANS

Name: _____
Gender: _____
Designation: _____
Area: _____

Q.1 Which among these brands would you prefer to prescribe to a patient with asthma:

- a) Salbutamol (Ventoline)
- b) Salbutamol (BlissBroncal)
- c) Salbutamol (Salbo)
- d) Salbutamol (Inspirol)
- e) Any other

Why?

Q.2 Which among these brands would you prefer to prescribe to a patient suffering with diarrhea

- a) Furazolidone (Dependable-M)
- b) Furazolidone (Floxon)
- c) Furazolidone (Zolint)
- d) Furazolidone (Furamid)
- e) Any other

Share your reasons.

Q.3 Which among these brands would you prefer to prescribe to a patient with cholesterol problems?

Please give reasons.

- a) Rosuvastatin(Xplended)
- b) Rosuvastatin(Rovista)
- c) Rosuvastatin (Rosulin)
- d) Rosuvastatin (Vaptor)
- e) Any other

Q.4 Which drug brand would you prefer from the following while treating a patient with diabetes mellitus:

- a) Isulin (Humolog)
- b) Insulin (Novomix)
- c) Insulin (Insuget)
- d) Insulin (Innogen N)
- e) Any other

Share your reasons.

Q.5 Which drug brand would you prefer from the following while treating a patient suffering from heart disease

- a) Amlodipine besylate(Amdocal ,)
- b) Amlodipine besylate(Amloget)
- c) Amlodipine besylate (Norvasc)
- d) Amlodipine besylate (Amodip)
- e) Any other

Share the reasons.

Q.6 Which among these brands would you prefer to prescribe to a patient with bacterial infections

- a) Cefixime (Cefiget)
- b) Cefixime((Cefspan)
- c) Cefixime (Caricef)
- d) Cefixime (Cebosh)
- e) Any other

Share the reasons.

Q.7 Which among these brands would you prefer to prescribe to a patient suffering from high blood pressure?

- a) Candesartan cilexetil (Advant)
- b) Candesartan cilexetil (Atasart)
- c) Candesartan cilexetil (Cansaar)
- d) Candesartan cilexetil (Treatan)
- e) Any other

Share the reason

Q.8 Which drug brand would you prefer from the following while treating a patient suffering from depression

- a) Fuoxetine(Prozac)
- b) Fluoxetine (Depricap)
- c) Fluoxetine (Depex)
- d) Fluoxetine (Flux)
- e) Any other

Share the reason

Q.9 Which among these brands would you prefer to prescribe to a patient suffering from blood clots in coronary artery disease,

- a) Clopidogrel(Lowplat)
- b) Clopidogrel (Norplat)
- c) Clopidogrel (Noclot)
- d) Clopidogrel (Plavix)
- e) Any other

Share the reason

Q.10 Which among these brands would you prefer to prescribe to a patient suffering Gastric Ulcer

- a) Omeprazole (Risek)
- b) Omeprazole(Omega)
- c) Omeprazole (Omezol)
- d) Omeprazole(Teph)
- e) Any other

Share the reason