African Journal of Marketing Management Vol. 1(9) pp. 220-226, December, 2009
Available online http://www.academicjournals.org/ajmm

Full Length Research Paper

Per pill price differences across therapeutic categories: A study of the essential drug brands marketed by multinational and local pharmaceutical companies in Bangladesh

Nishat Chowdhury* and Eva Rahman Kabir

Department of Pharmaceutical Technology, Faculty of Pharmacy, University of Dhaka, Bangladesh.

Accepted 30 October, 2009

The objective of this study was to comprehend the pricing differentiation of essential drugs between the local pharmaceutical companies (LPC) and multinational pharmaceutical companies (MNC) of Bangladesh. Thirty five (35) essential drug prices were collected from a local drug directory, namely Bangladesh National Formulary 2006. The mean and standard deviation of the prices of drugs belonging to all therapeutics categories (Anti-infective drugs, Central nervous system, Respiratory system, cardiovascular system, gastrointestinal system, Endocrine system drugs, Vitamin, drugs for Skin and Analgesic/painkillers) were analyzed. Managers of two multinational companies (MNCs) named GlaxoSmithKline Bangladesh Limited Bangladesh and Sanafi Aventis Bangladesh; and three local pharmaceutical companies (LPCs) named Square Pharmaceuticals Limited, Beximco Pharmaceuticals Limited and Incepta Pharmaceuticals Limited were interviewed after data analysis. A wide range of price variations ($p < 0.01$) between MNC and LPC essential drug products exist. Antibiotics have higher prices than drug products belonging to other therapeutic groups. Since infectious diseases are the major cause of morbidity and mortality in Bangladesh, the government should consider bearing part of the burden of antibiotic manufacturing costs and deliver antibiotics to the market at reduced price promoting rational prescribing. Further studies are needed to delve the causes of anti-infectives high prices and to propose affordability for treating infectious diseases. This study evaluates the present situation of the pharmaceutical marketing and pricing strategies in Bangladesh in light of the status of the essential drug market. This study will be helpful to assess essential drug affordability, to keep pricing strategies appraised, to advise the drug administration of options and to arrange for appropriate levels of public healthcare.

Key words: Local pharmaceutical company (LPC), multinational pharmaceutical company (MNC), essential drugs, Bangladesh.

INTRODUCTION

The approximate total pharmaceutical market size in Bangladesh is about 436 million USD per year of which about 95% of the total requirement of medicines is created by the local companies and the rest 5% is imported. The imported drugs mainly comprise of the cancer drugs, vaccines for viral diseases, hormones etc (Eskayef Bangladesh Limited website (http://www. skfbd. com/index.php?page=25&pid=22)0.

There are 246 licensed pharmaceutical factories in Bangladesh, six of them are owned by multinational companies producing about 10.4% of the local production. Locally produced drugs meet 93.4% of the local drug demand in Bangladesh. In the past, and particularly during 1980s, the essential drugs list of Bangladesh included some 200 products. The list has been enlarged in the 1990s (Banglapedia, 2003).

Bangladesh formulated a National Drug Policy (NDP) in 1982 (Ahmed, 2007). The Drugs (Control) Ordinance, 1982, was promulgated subsequently to implement the NDP (Directorate of Drugs Administration (DDA), Bangla-

*Corresponding author. E-mail: nischow@gmail.com.

desh, 2007). The drug policy was enacted to ensure procurement, local production, quality control, distribution and utilization of drugs under unified legislative and administrative control and to provide widest coverage to people with the most relevant essential drugs at minimum cost. Sixteen criteria were set up in NDP of 1982 to guide the evaluation of all registered/licensed pharmaceutical products already manufactured in, or imported into Bangladesh, as well as the evaluation of all new drugs. The first 11 criteria were based exclusively on scientific reasoning while number 14 was based on political and economic considerations as well: the hope was that multinational companies, no longer allowed to manufacture or market antacids and oral vitamins, would concentrate on producing more useful drugs such as antibiotics and other life-saving drugs, and that the ban would also help in prevention of monopoly cartels. The remaining four criteria (Ahmed M (2007). Effects of regulation on pharmaceutical market in Bangladesh. [cited 2007 Apr 30] Available from http://www.pharmadu.net/articlesdetail.php?art=2&pg=1) were for the benefit of the local national industries.

The NDP brought the retail price of drugs down. The maximum retail price of drugs was in some cases cut in half after the policy was enacted. Before the NDP, eight multinational companies (out of 166 licensed companies) had about 75 to 80 per cent share of the drug market and the prices of multinational drugs were extremely high. Many of them abandoned their operations in Bangladesh after the NDP. Some multinational factories were sold to the local manufacturers. The Pfizer's pharmaceutical plant situated in Mirpur of the capital city of Dhaka was bought by a local manufacturer. Pfizer's plant took the new name Renata Limited and it started manufacturing and selling drugs under local control. The responsibilities of the multinational company ICI and Organon have taken over by the local entrepreneur ACI Ltd and Nuvista Ltd respectively. The Squib and Hoechst have closed their operation in Bangladesh after the National Drug Policy in 1982.

Recent newspaper reports said exaggerated price for drugs persists in Bangladesh market. Pharmaceutical companies differ on the prices of some drugs by 100 to 200 per cent claiming quality differences. For example ciprofloxacin, a broad spectrum powerful and well prescribed popular antibiotic, which has a manufacturing cost of Tk 1.6, is sold in the market between Tk 6 - 14 (I USD = 68.7 Tk.) (Saad Hammadi, 2008).

According to the Ministry of Health, Bangladesh, a minimum quality standard is set by the Directorate of Drug Administration, Bangladesh and the drug prices can differ because of the companies' infrastructures, goodwill and its way of practicing the current Good Manufacturing Practicing if they maintain a higher quality standard. The ministry has also said that any unethical practice in the pharmaceutical sector is not within the notice of the health ministry (Saad Hammadi, 2008).

Although 1982's drug policy recommended the prices of all drugs be controlled by the drug administration, the policy was revised in 1994 selecting 117 essential drugs which the government would control. The present study is based on these controlled drugs. Reports claimed that barely 50 drugs are in practice controlled in the market by the government (Saad Hammadi, 2008).

On the basis of safety, efficacy and minor side effects, the World Health Organization suggests the sale of some drugs over the counter without the requirement of a prescription. Pharmacies in Bangladesh, however, sell almost all medicine over the counter regardless of legislations.

The aim of this study is to evaluate the present situation of the pharmaceutical marketing and pricing strategies in Bangladesh in light of the status of the essential and controlled drug market.

The pharmaceutical companies in Bangladesh are mostly formulation industries. Most of the active ingredients and other raw materials are imported from different parts of the globe and then manufactured in the plants situated in the country. A very few number of active ingredients are being produced by the local companies. The sources of price differences in this country are the costs of raw materials and production technology. A study on price differentiation within Bangladesh is necessary to assess essential drug affordability, to keep pricing strategies appraised, to advise the drug administration of options and to arrange for appropriate level of public healthcare. The objective of this study was to comprehend the pricing differentiation of essential drugs between the local pharmaceutical companies (LPC) and multinational pharmaceutical companies (MNC) of Bangladesh and correlate them with marketing and sales highlights mentioned by top ranking pharmaceutical companies of Bangladesh.

METHOD

Study population and data collection

Thirty five (35) essential drug prices were collected from a local drug directory, namely Bangladesh National Formulary (BDNF) 2006. For ease of comparison, only oral solid dosage forms were taken for study. The mean and standard deviation of the prices of essential drugs belonging to all therapeutics categories (Anti-infective drugs, Central nervous system, Respiratory system, Cardiovascular system, Gastrointestinal system, Endocrine system drugs, Vitamins, Dermatological drugs for Skin and Analgesics/ painkillers) listed in the BDNF were analyzed. Only those drug products were selected which were manufactured in Bangladesh, marketed by both MNCs and LPCs and had the same dosage forms, release profiles, therapeutic effects, etc. The local pharmaceutical companies offering higher number of drugs and dosage forms, launching new drugs frequently and regularly. They are supplying drugs to the countries' largest public and private hospitals, exporting drugs to foreign countries which were selected after comprehensive literature and data review. Three top ranking companies who scored higher in these criteria were interviewed. The world's leading multinational companies operating in Bangladesh were listed. The two multinational companies having highest growth and share of market in 2004 as indicated by the US based maga-

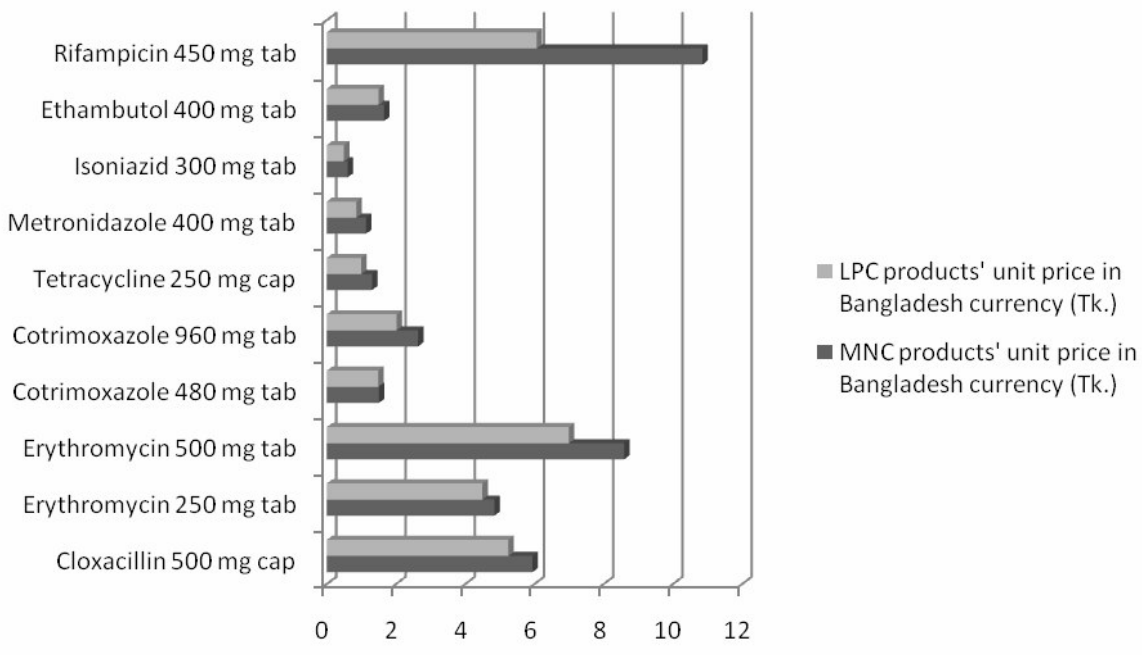

Figure 1. Anti-infective drugs: Comparative unit price- LPC vs MNC (Significant difference $p < 0.05$).

zine Pharmaceutical Executive were selected for interview. Managers of two multinational companies (MNCs) named Glaxo Smith Kline (Bangladesh) Limited and Sanafi Aventis (Bangladesh) Limited and three local pharmaceutical companies (LPCs) named Square Pharmaceuticals Limited, Beximco Pharmaceuticals Limited and Incepta Pharmaceuticals Limited were interviewed after data analysis. The managers were asked questions on market prices, cause of high or low price and the marketing strategies of those manufactured medicines. The interviews were conducted in July - September, 2008. The unique strategies and viewpoints they adopt for pricing, marketing and selling their products were asked. Each interview took about 2 - 3 h.

Among the various companies, the highest price offered by a multinational company and the lowest price offered by a local company, having position within top 10 evaluated through current ranking procedure were taken for analysis. The top 10 ranking was prepared according to the in-house market data of the five companies interviewed. The prices were measured in taka value (1 USD equals 68.7 taka). The price of each unit tablet or capsule was considered for analysis.

Ethics

The examination committee of Faculty of Pharmacy, University of Dhaka reviewed the study and approved accordingly.

RESULTS

Two (2) LPC products (Aspirin 300 mg, Chlorpromazine 25 mg) out of 35 essential drug products had unit price higher than MNC products and another 5 MNC and LPC essential drug products (Atenolol 50 mg, Glibenclamide, Amitriptyline, Griseofulvin and Salbutamol) had exactly the same rates.

Overall, the average price difference between MNCs and LPCs was Tk. 0.42 (SD 0.92, min -0.6, max 4.79). The values of different parameters such as mean, SD, minimum and maximum value indicates a wide range of price variations between MNC and LPC products. Overall the mean price of MNC drugs was Tk. 1.99 and LPC drugs were Tk. 1.57. There is a significant variation between the price of MNCs and LPCs ($p < 0.01$).

The Figures 1, 2, and 3 presenting a sharp trend of price variations among different essential drugs in Bangladesh and reflecting that drug price for LPC had a much lower price rate than MNC. Moreover, the price increases for all drugs were not linear. The price difference between LPC and MNC products was comparatively higher for costly items. Comparative three figures depicted that the overall price for the anti-infective drugs were comparatively higher than any other drugs for both MNC and LPC.

During qualitative data collection, the MNC managers explained the reasons of high prices for most of their products. The reasons of higher price stated were exclusive sources of raw materials, exclusive production capabilities and exclusive marketing policies. It has been said that the cost of raw materials varied significantly between those are imported from Asia and those are from Europe. The MNCs claimed they have restrictions imposed over them by parent companies and therefore they are bound to bring raw materials from such sources that are more expensive than the sources of LPCs.

Similarly, the parent MNCs companies strictly maintain several expensive features in their production plants allover the world, which are not often maintained by the

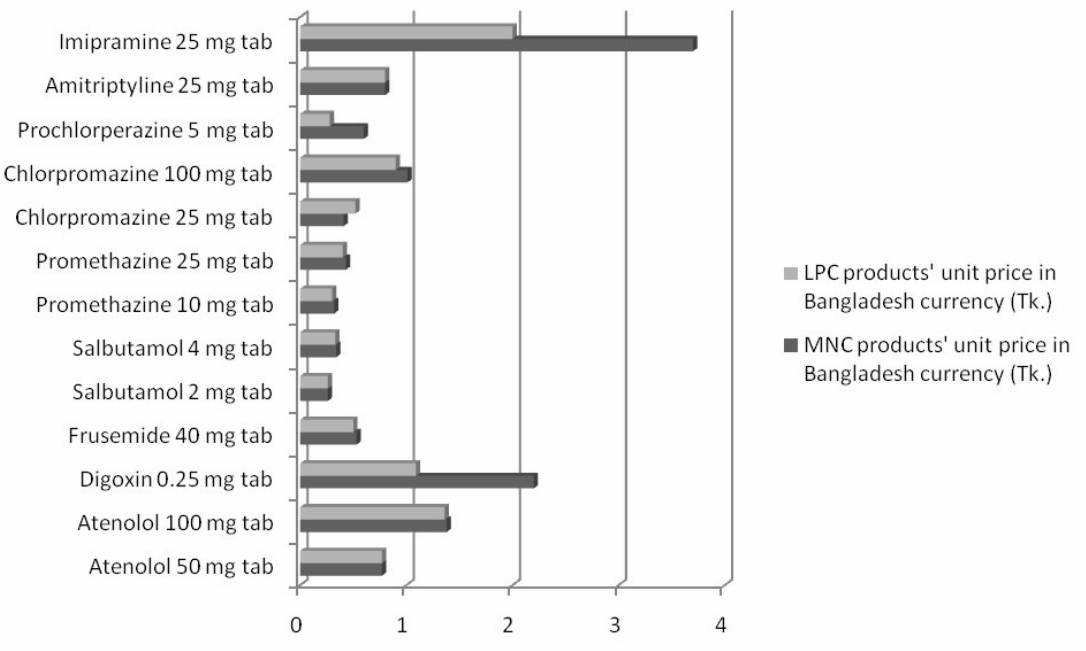

Figure 2. Central nervous system, respiratory system, cardiovascular system drugs: comparative unit price- LPC vs MNC (Significant difference $p < 0.05$).

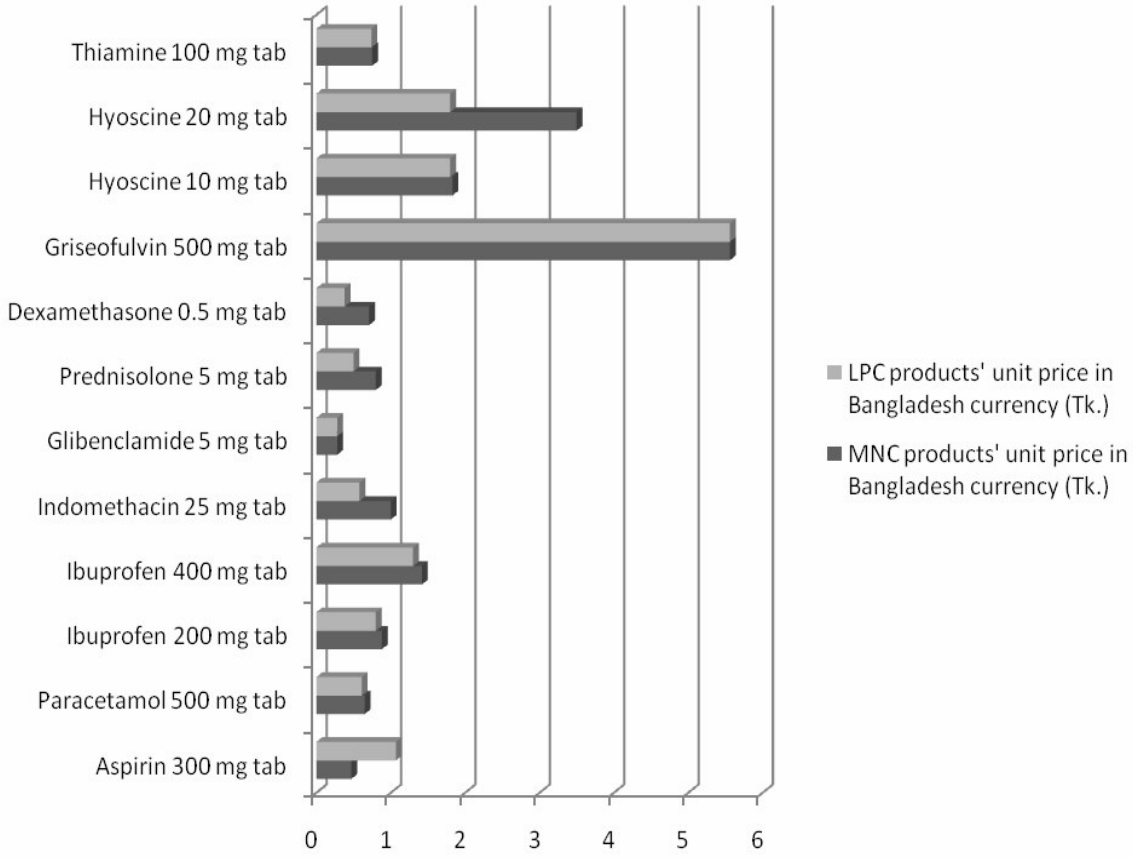

Figure 3. Vitamin, drugs for Skin, Gastrointestinal system, Endocrine system and Analgesic/painkillers: Comparative unit price- LPC vs MNC (Significant difference $p < 0.05$)

local companies. Some MNC promotional literatures and designs are brought from the parent companies that require exceptional printing media and technology. The promotion officers of MNCs are often sent overseas for training. The MNCs claimed their promotional campaigns are more expensive and exceptional than the LPC companies.

The LPCs have admitted their lower prices for their marketing strength. Since 1982 the growth of local drug production has been accelerated (Eskayef Bangladesh Limited website (http://www.skfbd.com/index.php?page=25&pid=22). The LPCs also have developed standard manufacturing facilities. They are exporting drugs to a number of countries worldwide. Most of the top LPC companies hold ISO certification. Moreover many of them were derived from MNCs. The MNC manufacturing and marketing practices are therefore retained in them.

DISCUSSIONS

Although the MNCs proclaim the exclusivity of their manufacturing process and brands and with that reason heightened most of their product prices, but still they have managed lower prices for some of their brands and been dominating in several therapeutic categories with competitive pricing.

Although the LPCs are generally known as offering low prices, they have increased their prices in some instances even more than MNCs. Two (2) LPC products out of 35 essential drug products had unit price higher than MNC products. Those were H_1 antihistamines and analgesics. These two drugs, that is Aspirin and Chlorpromazine are very common OTC drugs. The higher price of LPCs here may be explained by the reasons that most OTC products are used in low doses and generally for short periods. The OTC products generally have lower prices (Stan Bernard, 2007). A higher price can ensure some degree of profitability here.

Another 5 MNC and LPC essential drug products had exactly similar rates (Figure 2), namely Atenolol 50 mg, Glibenclamide, Amitriptyline, Griseofulvin and Salbutamol. These five are all chronic care drug products; they are antidiabetic, psychotropic, antifungal, cardiovascular, and antiasthmatic drugs. Chronic care products for the aging population have been mentioned as the fastest-growing market of the world (Layne Oliff and Sibyl Shalo, 2002; Paul, 2003). The major pharma companies of Bangladesh, e.g., Beximco and Incepta Pharmaceuticals Limited have structured a separate 'chronic care sales team' out of their 1000 –1200 membered sales force. A narrow, but strong and deep focus for chronic care market makes the competitors more closely facing one another. The price differentiation is therefore minimum here.

Advertisement of drugs in television and newspapers is not allowed in Bangladesh. There is no OTC and prescription only classification among drugs marketed in Bangladesh like that exists in USA. Still the pharmaceutical companies have differentiated the promotional campaigns of common OTC drugs like analgesics and, cold and cough preparations. These OTC products packaging is done keeping in mind that these are often purchased at patients own discretion like consumer food products. The pharmaceutical companies have prepared packaging of paracetamol and vitamin C preparations in colorful style to attract the patients. These OTC products are taken for short periods, purchased in small quantity but a large number of populations know them and buy without prescription. OTC drugs are even stored at home for emergency use. When promoting OTC drugs, the companies are more interested about empire building and dominating at certain regions in the country. The OTC drug promotional campaign is large scale, involving retailers to a larger extent than in other product campaigns.

The per pill profit of OTCs are important as they are bought in small quantity. The per pill profit is also very important in cases of antibiotics which are used for 7 - 14 days in respiratory tract, skin and soft tissues infections etc. Patients often neglect to buy antipsychotic drugs, vitamins, analgesics etc. thinking those are unnecessary and they can lead a healthy life without those, but they rarely neglect antibiotic purchase. Patients are willing to buy the full course of antibiotics at a time, since the prescribers explain to them that the disease would recur if they do not finish the full course of medicines prescribed. Moreover, most of the antibiotics are presented in capsule dosage forms, whereas most of the common analgesics, antipsychotic and cardiovascular drugs are manufactured in white tablet dosage forms, smaller in size than capsules. The large colorful capsules of antibiotics packaged in equally large blisters impart seriousness in the appearance of antimicrobial products. The patients as well as rural medical practitioners are impressed by the appearance of antibiotics and are eager to buy them. The 80% of the rural people receive their primary healthcare service from rural medical practitio-ners (RMP) in Bangladesh (9). They are of friendly attitude, not involved in any research work and mostly practicing in rural areas where infectious diseases occur more often. Most registered allopathic doctors in Bangladesh, even those posted in remote areas of the country severely interrogate the field officers when they come up with a product of higher price. Most of these doctors demand very expensive full text articles from world-renowned journals for justifying the prescribing information in drug leaflets and information brochures. The doctors require full text articles for their personal research also and appreciate contribution for their visit to overseas medical conferences. Since the RMPs are a major contributor to sales of antibiotics, who are easy going, the medical information officers are fond of working with antibiotics. The medical information officers are assigned to report their supervisors selling of certain value in terms of currency. Most companies don't take notice of the units or therapeutic categories sold. The medical information officers are pro-

moted to higher positions on the basis of money they contributed. Since the antibiotics are of higher prices, the field officers believe selling of antibiotics will make him finish his monthly allocated sales within less time by avoiding the painful ventures, like - roaming 18 hours a day within hospital compound, following each patient up to retail shop and convincing them to buy all the products listed in prescription etc. When selling antibiotics to doctors of major cities, they are certain, each prescription they generated by detailing to doctor will be fully utilized, give immediate sales of his products. These same field officers are later promoted to the posts of top managers and decision makers of pharmaceutical companies after years of struggling in the market. Therefore, the pharmaceutical companies, in general are appreciative and dependent upon sales of antibiotics for reporting an impressive sum of sales to their owner.

The higher and unjustified antibiotic prices of pharmaceutical companies are a major concern in the subcontinent. Due to high technology dosage forms like capsules, pellets etc. and costly active ingredients, the antibiotic manufacturing cost may increase, but studies in South Asian regions (Vi Shankar et al., 2006; Rataboli and Dang, 2007) have pointed out that some companies do increase the antibiotics price exorbitantly as per pill profit is important in case of antibiotics. Per pill profit is not that important in case of chronic care products since those are used for a long time. People of chronic care diseases like cardiovascular, diabetic, neurologic diseases mostly visit allopathic doctors in practicing in major cities. Not all regions of the country have diabetic hospitals and those chronic diseases require up to date and advanced knowledge for management that the RMPs can't offer. Therefore the promotion of chronic care products consists of mainly organizing frequent Continuing Medical Education programs for doctors and knowledge sharing.

In this study it has been found that price variation among companies is higher in case of OTC products and antibiotics. This study finding implicate that price variation is minimum in case of chronic care products. It can be inferred that the companies are fixing prices considering per pill profit even under the strict price regulations by government.

Antibiotics have higher prices than drug products belonging to other therapeutic groups. Since infectious diseases are the major cause of morbidity and mortality in Bangladesh, the government should consider bearing part of the burden of antibiotic manufacturing costs and deliver antibiotics to the market at reduced price. The contribution of government can also reduce the variation of antibiotic prices among companies that increase the prices of antibiotics exorbitantly in excuse of higher raw material and manufacturing cost of antibiotics. New generation antibiotics like cephalosporins and quinolones are not included within the essential and controlled drugs list. Existing antibiotics within the essential drug list have been reported to be affordable by 80% of the population of Bangladesh (Government of Bangladesh and United Nations (UN) Country Team. Millennium development goal (MDG) progress report 2005). Further studies are needed to delve the causes of new generation anti-infectives high prices and to propose affordability for treating infectious diseases.

The MNCs are still claiming higher prices of drugs in Bangladesh, even though NDP has executed regulations to reduce price differentiations among companies in Bangladesh. Several literatures released during the eighties and nineties (Ahmed, 2007; Kazi Zawad, 1985) criticized high price of MNC drugs. It was said that multinational companies purchase raw materials from their parent companies by foreign currency and cause a destroying effect on local economy (Ahmed, 2007). Multinational companies produced documents showing high raw materials' price and low income in favour of their high price. By this way, Bangladesh government deprived from huge amount of taxes. For instances, in 1979, Pfizer purchased tetracycline from Hong Kong Pfizer Laboratories at a price of US$ 80.36 per Kg. Where as Pharmadesh (a local Pharmaceutical company) purchased the same tetracycline from Yugoslavia at a price of only US$ 42 per Kg. These arguments were presented before the enactment of NDP in 1980; still today multinational companies speak of their high cost of raw materials. But in recent times, no criticism of multinational prices has been observed in newspapers and other media of Bangladesh. It indicates the present status of MNC high prices are staying within tolerable limit. This study aimed to comprehend the underlying issues of drug marketing and sales that affect public healthcare. The issues like higher prices of several LPC drugs are worthy noting. While all other multinational essential drug brands offer higher prices than LPC products, the lower prices of the world renowned multinational brands like Disprin and Largactil in Bangladesh can suggest an interesting facet of strategic brand management.

REFERENCES

Eskayef Bangladesh Limited website March (2003). Available at http://www.skfbd.com/index. php?page=25&pid=22

Banglapedia (2003). Pulished by Asiatic Society of Bangladesh. ISBN 984-32-0585-5, Bangladesh 3: 392

Ahmed M (2007). Effects of regulation on pharmaceutical market in Banglades. Available at http://www.pharmadu.net/articlesdetail.php?art=2&pg=1

Directorate of Drugs Administration (DDA) (2007). Bangladesh. Available at http://www.ddabd.org/

Saad H (2008). Doctors without conscience. New Age Extra. Available at: http://www.newagebd.com/2008/may/16/may16/xtra_cover.html

Stan B (2007). Consumerization: Pandora's Pillbox, Pharmaceutical Executive, Jun 1, Advanstar Communications Inc. http://pharmexec.findpharma.com/pharmexec/Strategy/Consumerization-Pandoras-Pillbox/ArticleStandard/Article/detail/429163

Layne O, Sibyl S (2002). The Booming Seniors Market, Pharmaceutical Executive, Oct 1, 2002, Advanstar Communications Inc.

Paul P (2003). The aging of America, Pharmaceutical Representative, December 1, Advanstar Communications Inc.

Bangladesh Rural Medical Practitioners Welfare Society (BRMPWS). Available at: http://www.brmpws.org

Vi Shankar PR, Subish P, Ram BB, Pranaya M, Archana CS (2006). Ambiguous pricing of topical dermatological products: A survey of brands from two South Asian countries. J. Pak. Assoc. Derma Jul – Sept. 16(3): 134-140.

Rataboli PV, Dang A (2007) Antimicrobial price variation: Conundrum of medical profession! J. Postgrad. Med. 53(1): 72-74

Government of Bangladesh and United Nations (UN) Country Team. Millennium development goal (MDG) progress report 2005. [cited 2007 Apr 29] Available from http://www.un-bd.org/undp/mdgs/Bangladesh%20MDG%20Progress%20Report%202005.pdf

Kazi Z (1985). The fight to ban bogus drugs. The Multinational Monitor. JULY 15, 6(9)