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[Research article]

### Consumer's Perception Regarding Pharmaceutical Product Packaging: A Survey of Pakistan

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#### ABSTRACT

The packaging of the pharmaceutical product plays an important role to maintain the product stability and an increase in sales which ultimately increase in profit margin of any organization. The packaging continuously provides benefits and creates awareness for the brand preferences. Any country's export would not be the international standard until and unless the product with its packaging does not meet the international standard of packaging for its design and product safety and stability. In any market, the product may be of tremendous quality but it will never attain the consumer's acceptance unless the packaging of the product is of excellent quality to maintain the product quality for distribution and manufacturer's integrity. The foreign products are packed in good packaging materials with much colorful presentation and artistic value which are missing in the packaging of Pakistani pharmaceutical products. It is an fact that most of the Pakistani made products have not succeeded to gain the local market share due to the substandard packaging quality. For international highly sophisticated market, the Pakistani products and their package quality will have to compete at their level to fulfill their market share. The common reasons given for the low patronage of Pakistan's pharmaceutical product is that, they are less attractive and substandard and local consumers have a general perception that the packaging of product manufactured in Pakistan does very little to promote the products. There is a strong relationship between the customers and packaging to easily identify Pakistan's pharmaceutical products is the first step to capture the local market and increase the competitiveness of Pakistani products in the international market.

**Keywords:** Consumer Perception, Pharmaceuticals, Packaging, Pakistan.

#### INTRODUCTION

Packaging is one of the largest sectors in the world worth \$280 billion (R.Pilchik,2000). Public opinion sometimes considers packaging to be superfluous

(WHO, 2002), but the concept of packaging comes from our very nature that packing is an important component in the fate of drug in a dosage form. Improper packaging and improper storage of drug

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products may or will cause larger than expected losses in purity, strength and quality of drug products (Mansoor Ahmad and Nudrat Adil, 2012). In the (Encyclopedia Britannica 2003), packaging is stated as the technology and art of preparing a commodity for consumer's need, convenient transport, storage and sales. Packaging of pharmaceutical dosage forms has a close relationship between a pharmaceutical preparation and its package which is a major concern to the drug stability, safety, patient's compliance and consumer attraction. The pharmaceutical packaging market is constantly advancing and has experienced annual growth of at least five percent per annum in the past few years. The market is now reckoned to be worth over \$20 billion a year (Mehta Kunal C. et.al, 2012). Pharmaceutical sales in Pakistan are expected to rise to US\$1.89 billion this year from \$1.79 billion in 2010, and to grow an average 9.5% a year to 2015, by which time the market will be worth \$2.41 billion, say new forecasts, which is considered to be one of moderately large markets when compared to Asian markets and shows a steady growth of approximately 9.5% (Pharma Times Online, 2013). The rapidity with which the globalization of businesses have increased since the early 1980's, forced many pharmaceutical firms to explore, review and analyze various factors contributing to their competitive advantage, including the utilization of packaging as strategic weapon and marketing tool to achieve the maximum market share and to build up the brand image in the pharmaceutical market as well as the brain positioning in the consumer's mind.

The selection of the packaging therefore begins with the determination of its protective needs and requirements, the product's physical and chemical properties. These properties are heavily dependent upon the efficacy of packaging materials: Packaging should provide protection, identification, information, convenience and compliance for a product during storage, carriage, display and until such time the product is consumed (Patel Chirag J, 2012).

Packaging is the expression of the brand identity of the product, its intrinsic qualities and stability. Studies have shown that the stability of the product and consumers satisfaction are the functions of the effectiveness of the packaging material (Ahmed I. and Sheikh, RH in 1993 and 1994). As the establishment and maintenance of the brand image

is becoming more important in today's highly competitive pharmaceutical market (Seetharaman A. et. al, 2001). Current consumer and pharmaceutical industry trends suggest increasingly important role for product packaging as a marketing communication vehicle (R.L Underwood and N.M Klein, 2002). Packaging of pharmaceutical products have much far reaching impacts and can no longer be treated as a simple container. It not only acts a key factor in promotion of brand name and values but also is a long term marketing investment that allows the development of a certain perception with the consumers. It is considered to be the marketing tool with most direct link to consumer (Gerard Hastings et.al, 2008). Research and studies have shown that more than the half of the brand impact of any pharmaceutical product lies in the design of its packaging. The brand loyalty is significantly affected by the product characteristics and their consumption by the consumer is largely dependent upon the awareness and perception of the products. Due to the globalization the role of patients have changed from being solely the recipients of medical care to that of consumers in the distribution chain, the pharmaceuticals products need reliable and speedy packaging solutions that deliver a combination of product protection, quality, tamper evidence, patient comfort, product information and consumer attraction. The increased focus on marketing of pharmaceutical products will become even more important in the future and will drive factors such as the need for flexibility in terms of various pack types and sizes. Other needs are simply driven by costs as pharmaceutical manufacturers face increased cost pressures throughout the entire production and packaging process. As a result, packaging machines have to become more efficient and user friendly, offering flexibility, easy operation, robustness, intelligence and protection from interference. It is a challenge to cover all aspects at once (Mehta Kunal C. et.al. , 2012)

The main purpose of this study was to evaluate and observe the perception of the consumers regarding the packaging of the pharmaceutical products produced by the local manufacturers as well as in comparison to the multinational manufacturers in Pakistan. Through this study we also appraised the problems faced by local manufacturers in regard to improving or replacing the substandard packaging

materials with the standard pharmaceutical packaging approved by FDA.

**MATERIALS AND METHODS**

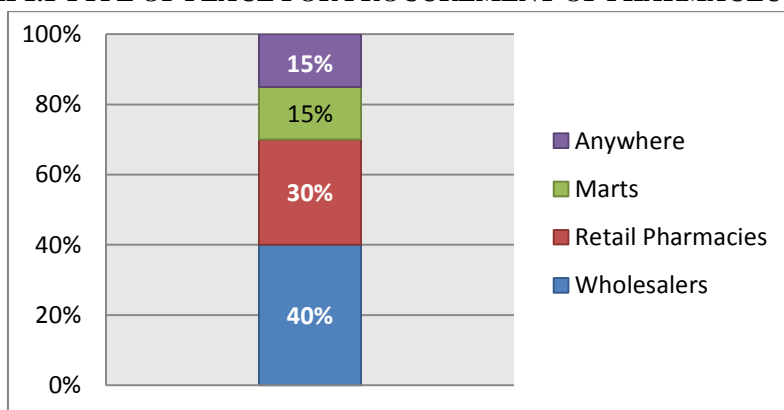
A mixed mode cross-sectional survey design was selected to find out the perception of the consumers of pharmaceutical products. The survey targeted the consumers of pharmaceuticals in Pakistan i.e. patients. All other segments of population were excluded. Probability sampling technique was used. The survey was carried out in Pakistan for 9 months i.e. from February 2013 to October 2013. Two questionnaires were designed to target patients as well as wholesalers and retailers. It was validated by experts prior to initiation of data collection. A verbal consent was also obtained

from the target group before handing the questionnaire. The questionnaires included both close-ended and open-ended questions. A total of 1012 questionnaires were returned. The data thus gathered was analyzed using SPSS v 20 (Statistical Package for Social Sciences version 20).

**RESULTS**

A total of 1568 questionnaires were given to the target group and 1012 were returned giving a response rate of 65%. The study reported that most of the patients (40%) purchase the prescribed as well as OTC products from the wholesalers instead of retailers (30 %) since they offer huge range of products at a cheaper cost. (*P-value <0.05*)

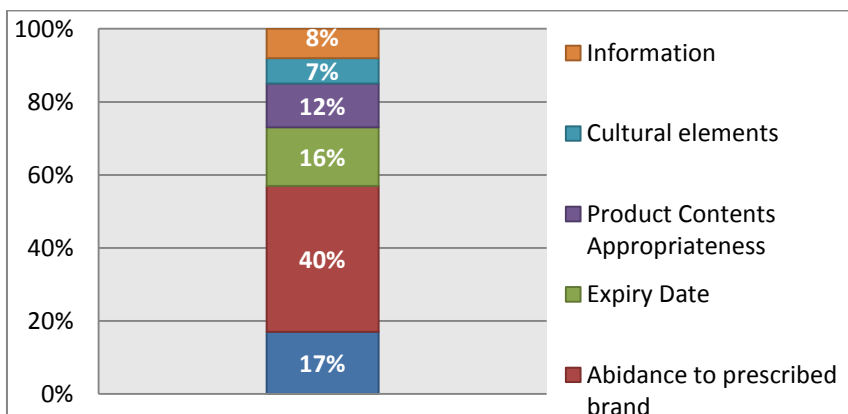
**GRAPH 1.1 TYPE OF PLACE FOR PROCUREMENT OF PHARMACEUTICALS**



Besides, a substantial proportion of the patients (40%) purchase products when they are prescribed. However, in case of OTC products, fewer patients (17%) take the aesthetic appearance into account before buying. very few patients (16 %) wanted to

know about expiry dates, contents of the product and packaging (8 %). providing the needed information (8%), remaining (7%) select any brand depend upon emergency. (*P value <0.05*)

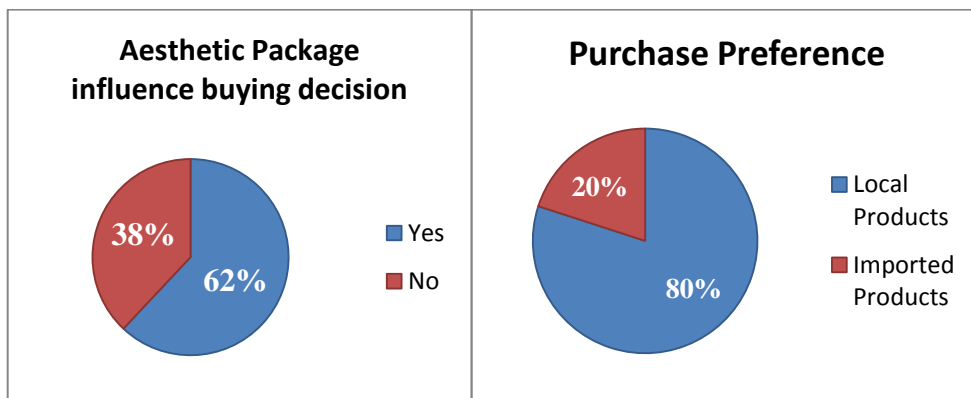
**GRAPH 1.2 FACTORS AFFECTING BRAND SELECTION BY PATIENTS**



Also, an aesthetic appearance and informative packaging attract patients (62%) and (80%)

patients purchase local products in their daily routine. (*P-value <0.05*)

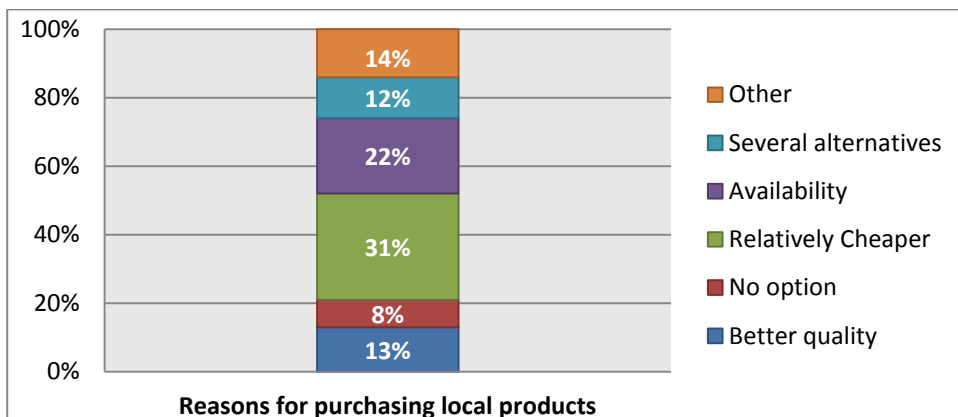
**GRAPH 1.3-1.4. AESTHETIC APPEARANCE INFLUENCE AND PURCHASE PREFERENCE**



In addition to purchase preference, the patients were further asked for the reason and majority (31%) responded by highlighting the cheaper cost

of the local products and easy availability (22%). (*P-value <0.05*)

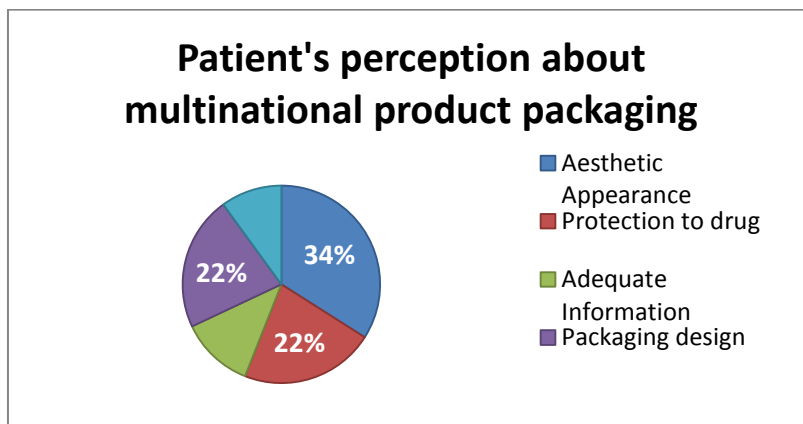
**GRAPH1.5 REASONS FOR PURCHASING LOCAL PHARMACEUTICALS PRODUCTS**



When the patients were inquired about the attributes of multinational pharmaceutical products, majority (34%) noticed the aesthetic appearance, designing of the packaging (22%) and its protective

quality towards the drug (22%). Few (12%) highlighted the adequate information given in the multinational products as compared to the local pharmaceutical products. (*P-value <0.05*)

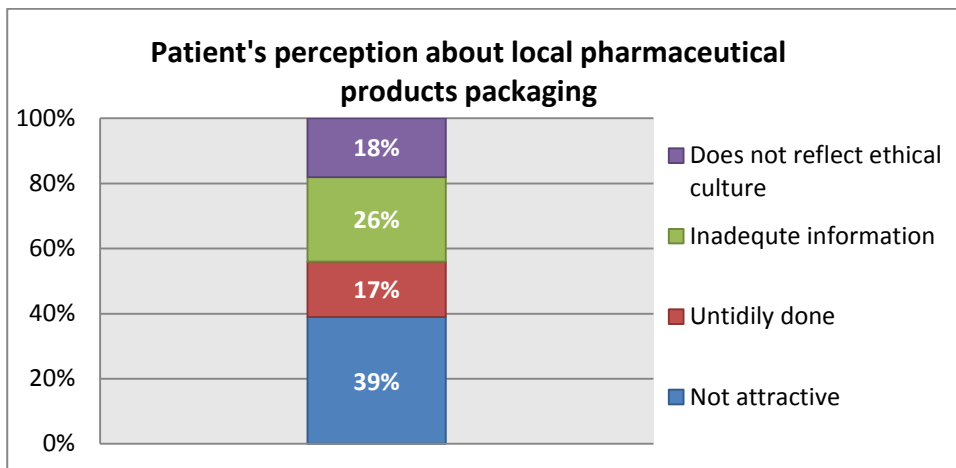
**GRAPH 1.6 PATIENT'S PERCEPTION ABOUT MULTINATIONAL PRODUCT PACKAGING**



Furthermore, same question was put forward in context of local products. Majority (39%) was unsatisfied by the aesthetic appearance and few (17%) highlighted the untidily packaging trends of local pharmaceutical products. A fourth of patients (26%) also highlighted the inadequacy of

information and mistakes in leaflets provided with packaging. Few (17%) highlighted the fact that some products do not reflect the ethical culture in terms of graphics and promotional materials. (*P-value* <0.05)

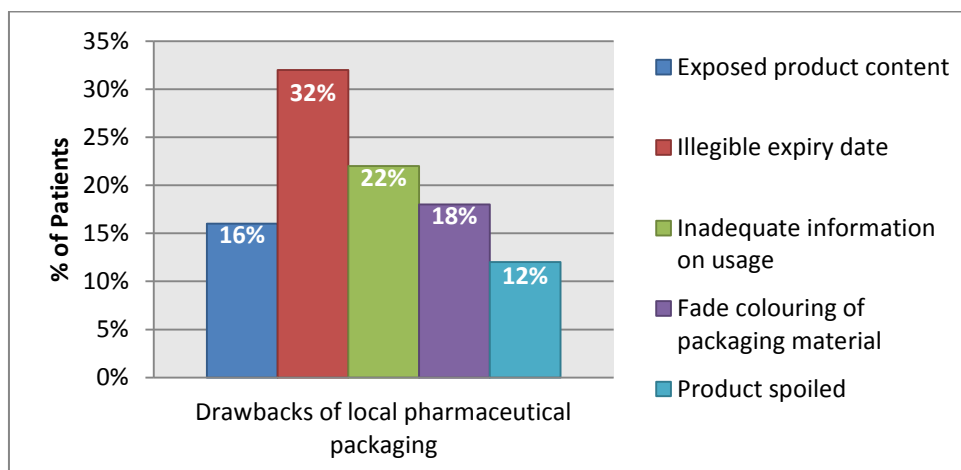
**GRAPH 1.7 PATIENTS' PERCEPTION ABOUT LOCAL PHARMACEUTICAL PRODUCTS PACKAGING**



It was also observed that the patients also pointed out some draw backs in the local pharmaceutical packaging. A third of patients (32%) complained that there is illegible expiry dates mention on some local products. Some patients (22%) highlighted the missing of information regarding the use of the product. Few (18%) reported the fading of the color

and contents of the product exposed due to inadequate sealing (16%). It was also observed on rare occasions (12%) that the patients complained of spoilage of the drug before the proposed shelf life due to the above mentioned issues. (*P-value* <0.05)

**GRAPH 1.8 DRAWBACKS OF LOCAL PHARMACEUTICAL PACKAGING REPORTED BY PATIENTS**



In addition to this, the patients suggested clear mentioning of the contact addresses and locations

of manufacturer, all necessary information on instruction and usage and quality packaging in terms of aesthetic appearance and protection.

TABLE 1.1 SUMMARY OF RESULT FROM PATIENT'S SURVEY QUESTIONNAIRES

Attributes and perceptions of patients	N	Observed	%	P-Value
<b>Purchasing Centre</b>				
Mart	1012	151	15%	<0.05
Wholesalers		405	40%	
Retail pharmacies		306	30%	
Anywhere Convenient		150	15%	
<b>Total</b>	<b>1012</b>	<b>1012</b>	<b>100%</b>	
<b>Factors Influencing brand selection</b>				
Aesthetic appearance	1012	171	17%	<0.05
Abidance to prescribed brand		405	40%	
Manufacturing and Expiry Dates		163	16%	
Appropriateness of the product contents		122	12%	
Other factors (Emergency)		72	07%	
Adequate information		79	08%	
<b>Total</b>	<b>1012</b>	<b>1012</b>	<b>100%</b>	
<b>Packaging as an influence for product purchasing decision</b>				
Yes	1012	629	62%	<0.05
No		383	38%	
<b>Total</b>	<b>1012</b>	<b>1012</b>	<b>100%</b>	
<b>Purchase preference of local pharmaceutical products</b>				
Yes	1012	809	80%	<0.05
No		203	20%	
<b>Total</b>	<b>1012</b>	<b>1012</b>	<b>100%</b>	
<b>Reasons for purchasing Pakistan's local products</b>				
Local Products of better quality than foreign ones	1012	132	13%	<0.05
Compelled to Buy/ Have No Choice		80	8%	
Relatively Cheaper		315	31%	
Easily Available		222	22%	
Several Alternatives/Substitutes		121	12%	
Other reasons		142	14%	
<b>Total</b>	<b>1012</b>	<b>1012</b>	<b>100%</b>	
<b>Perception about packaging of multinational products</b>				
Quality of packaging	1012	341	34%	<0.05
Protective package		223	22%	
Adequate information provided		123	12%	
Aesthetic design		224	22%	
Colors and shape		101	10%	
<b>Total</b>	<b>1012</b>	<b>1012</b>	<b>100%</b>	
<b>Perception about packaging of local pharmaceutical products packaging</b>				
Not Attractive	1012	394	39%	<0.05
Shabbily Done		173	17%	
Inadequate information Provided		263	26%	
Does not reflect Pakistani Culture		182	18%	
<b>Total</b>	<b>1012</b>	<b>1012</b>	<b>100%</b>	
<b>Problems with the local pharmaceuticals products packaging</b>				
Product Contents Exposed	1012	165	16%	<0.05
No Expiry Date mentioned clearly		321	32%	
No proper Information on Usage		224	22%	
Fade packaging		181	18%	
Product had Expired		121	12%	
<b>Total</b>	<b>1012</b>	<b>1012</b>	<b>100</b>	

## DISCUSSION

It is evident from the responses collected that the packaging of the pharmaceutical products either national or multinational, is an important and could be determining factor in the selection of pharmaceutical products as observed from the responses represented in graph 1.2. From the responses a substantial proportion of the consumers feel that the different aspects of overall drug product packaging, either directly (16 % expiry date; 7 % aesthetic appearance and 5 % drug and its posological information) or indirectly (7 % cultural elements and its presentation), play influencing role in the brand selection while purchasing of medications by consumers. This view is also supplemented by the results in graph 1.3 where out of 1012 respondents, 62 % percent agreed to the fact that aesthetic appearance of the product do influence or affect the perception of the consumer while procuring medications.

In the response to whether the consumer prefer national or multinational brands of generic medicines, an over whelming majority of respondents favored the national brands owing to their low cost than the multinational generics (31 %), their wider availability (22 %). Surprisingly, some of the respondents (13 %) went on to say that they perceive the quality of earlier medications better than the latter ones. However, it is worth mentioning that at the same time these respondents were of low opinion regarding the packaging quality of the national brands, generally. Around 32 % held the expiry date printed on the package as illegible and 22 % accounted the inadequate or absence of consumer medical information (CMI) provided as the main reasons for their dismay in regard to unfavorable opinion of packaging. These results are somehow consistent with the results reported earlier about medications dispensed in the US. Furthermore when the patients were asked about the quality of packaging of the national pharmaceutical products, a few of the respondents signaled to their imperfect nature which in their perspective resulted in exposed product content (16 %) and even in some cases couldn't protect the product and as a result the drug contents were found to have spoiled (12 %).

Additionally, when the consumers were inquired about their perception regarding the packaging of multinational brands, they held their views high for them and believed that the multinational product's packaging are usually aesthetically superior (34 %)

to their generic competitors from the national pharmaceutical companies. Moreover, packaging design (22 %), choice of colors (10 %) and durability of multinational product's packages were among the contrasting factors which enabled the consumers to rate those products higher in comparison to the later. It was also noted that almost quarter of the patients (22%) considered that the multinational packaging do provide sufficient protection to the products enclosed and half of them (12 %) believed that the CMI provided in the packaging was sufficient for them.

Contrastingly, the consumer's views regarding the appeal of national pharmaceuticals packaging were overwhelmingly low (34 %) and some of them (17 %) even suggested that these products are not packaged properly. It also came under notice that certain (18 %) consumers perceived that national pharmaceuticals packaging do not reflect the culture of the country and region and rather they are heavily influenced by western cultures when it comes to printing the images on the products.

## CONCLUSION

This study explored the perception of the consumers and patients regarding the product packaging of multinational versus national brands and it suggested that overall, national pharmaceuticals lag behind in the quality and aesthetic appearance of packaging and sometime even do not provide adequate CMI to the patients and consumers dismay. It is pertinent for them to enhance their quality of packaging and to improve aesthetic appearance of their packaging while keeping in sight the industrial standards, regulatory requirements and patient's acceptability in the light of this study to come at par of the multinational brands.

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## CONFLICT OF INTERESTS

The authors declare no conflict of interests exists.

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None.

## AUTHOR'S CONTRIBUTION

All authors contributed equally in all aspects of the study.

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