



## **EVALUATION OF PUBLIC PERCEPTION TOWARDS MEDICINE QUALITY AND PRICES IN SIX ZONES OF AFGHANISTAN**

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### **ABSTRACT**

This article is aimed at evaluating the Public Perception towards Medicine Quality and Prices in Afghanistan. A cross-sectional descriptive study involving (n = 12, 82) was conducted in six zones of Afghanistan with the response rate of 100%. During the analysis, it was found that high proportions 61.4% of Afghan doctors are prescribing quality medicines. The survey results have shown that nine out of ten (96.3%) respondents suggested that Afghan government should adopt health policies to control the medicine prices and expenditure. A similar high proportion agreed that higher medicine costs negatively affects patient outcomes (89.6%). It is strongly recommended by the respondents (93.1%) that prescription drug prices need to be regulated by the government. During the survey, it was strongly (94%) emphasized that all medicine prices need to be disclosed on the dispensed medicine label. As a conclusion, the government should take firm steps to control the quality and disparate medicine prices in the country. Unified medicine pricing policy is sought and the entry ports to be equipped with quality control staff, labs and warehouses. The medicine importing and dispensing bodies should be monitored against the performance metrics adopted.

**Keywords:** Medicines Quality, Pricing, Affordability, Medicine Regulation, Substandard Medicines, Afghanistan

### **INTRODUCTION**

The importation, trade and production of substandard medicines and its high prices and low affordability are considered as the major concerns in Afghanistan. The counterfeited and

unaffordable medicines have two significant drawbacks, the threat to human beings and the financial loss. As a result of continuous war and instability since 1979, the health situation in Afghanistan got deteriorated, and this has provided the opportunity for the infiltration and sale of substandard medicines in the legitimate supply chain.

The quality control labs and facilities are limited, outdated and overburdened by the samples to be tested and for several reasons the pharmaceutical subsector suffers from major deficiencies in terms of implementation of policy, price regulation and quality management. There is significant governance, structural and capacity weaknesses at both the central and provincial level. The consequence of this has been a pharmaceutical market and supply system contaminated with substandard, falsified, counterfeit and diverted medicines (Harper and Strote, 2011).

No medicine pricing policy is in place, the medicines are sold at retail outlets at the maximum retail prices. The high and unregulated medicine prices forced the patients to buy substandard medicines, buy incomplete course or no adherence. Multiple factors such as high transportation cost, corruption, high rental facilities, low skilled workers, high demand of salaries, and lack of raw materials made the medicine prices higher. The Afghanistan pharmaceutical sector for several reasons is one of the least developed in the world, operates in a chaotic faction and suffers from many weaknesses that cover the entire spectrum of sector activities. A number of sector development interventions are required to address both institutional and market weaknesses (Harper and Strote, 2011).

The aim of this study was to evaluate Public Perception towards Medicine Quality and Prices in Afghanistan.

## **MATERIAL AND METHODS**

This was a cross-sectional descriptive survey and for the purpose of the survey, a questionnaire was developed for data collection. The initial survey items were developed using information from literature review, consultation with experts. Based on this, a total of 21 survey items were designed in three parts. The first part consisted of seven demographic questions: age, gender, ethnic group, educational level, occupation, living status and the monthly household income. The second part contained five items about medicine quality and the third part contained nine items about medicine prices. The questions in part two and three, was framed in five-point, Likert-scale format (1= "strongly agree", 2= "agree", 3= "neutral", 4= "disagree", 5= "strongly disagree").

The questionnaire was tested for face and content validity by two experts, who gave their advices on the relevance, clarity and conciseness of the items. After taking into consideration their comments, the revised version of the questionnaire was translated into Pashto and Dari language and back translated to English. Then the questionnaire was pilot tested by asking 25 respondents. Only minor changes to wording and translation has been made and corrected.

Due to lack of sampling frame and up to date electronic population database, a convenient sampling technique was used. For calculating the sample size RAOSOFT was used and based on the 95% confidence interval and margin of error of 5%, using sample size calculator, 377 participants were needed. As a national survey with an estimation of 70% participation rate, the estimated sample size was around 641. By applying a common design effect of 2 for large sample surveys, the actual sample size of population that was surveyed in all these provinces was around 1,282 [Kish, L 1995].

The survey was conducted in six zones of Afghanistan, Kabul, Hirat, Kunduz, Nangarhar, Paktia and Balkh for a period of three months.

### **Data Analysis**

Both non-parametric statistical tests and appropriate descriptive statistics for demographic characteristics were performed using SPSS version 16. Responses to statements producing ordinal data were compared to each individual variable using Chi-Square test.

## **RESULTS**

### **Demographic characteristics of respondents**

The total number of 1,282 respondents was interviewed in six zones of Afghanistan during the period of three months. Slightly less than half of the respondents 41.5% ( $n = 532$ ) were from Kabul and 11.7% ( $n = 150$ ) were from other five regions.

About third 33.6% ( $n = 431$ ) of the respondents were female and 66.4%; ( $n = 851$ ) were male. Interestingly, almost half of the respondents 47% ( $n = 603$ ) were university graduates and 34.1% ( $n = 437$ ) were secondary school graduates, with 10.1% ( $n = 129$ ) no formal education. The majority 83.2% ( $n = 1066$ ) were living besides their families.

**Table 1: Demographic characteristics of respondents**

Characteristics	No	(%)
<b>Province</b>		
Kabul	532	41.5
Balkh	150	11.7
Hirat	150	11.7
Nangarhar	150	11.7
Kunduz	150	11.7
Paktya	150	11.7
<b>Age</b>		
18-24	381	29.7
25-34	249	19.4
35-44	296	23.1
45-54	226	17.6
55-64	83	6.5
Above 64	47	3.7
<b>Gender</b>		
Male	851	66.4
Female	431	33.6
<b>Education Level</b>		
Primary School	113	8.8
Secondary School	437	34.1
University	603	47
No Formal Education	129	10.1
<b>Occupation</b>		
Government	276	21.5
Private/Self Employment	471	36.7
Retired	37	2.9
Student	340	26.5
Unemployed	158	12.3
<b>Living Status</b>		
Alone	66	5.1
With Family	1066	83.2
With non-family	150	11.7

### **Perception of local people about medicine quality**

When asking the perception of local people about the quality of imported medicine 50.2% of respondents agreed that imported medicines have good quality, while 41.4% were in favor of locally manufactured medicines' quality (Table 2). We found that high proportions (61.4%) of doctors are prescribing quality medicines. During the survey, 54.9% and 58% of the respondents equally agreed that medicines given by public hospitals and private hospitals have good quality respectively. However, sizeable proportion 38.4% agreed and 36.6% disagreed, that the afghan drug regulatory authority controls quality of medicine registered in the country.

**Table 2: Perception of local people about medicine quality**

Question	Survey questions/Statement	Frequency (%)									
		1	2	3	4	5	Did not answered				
1	Imported medicines have better quality than that of manufactured locally	154 (12)	490 (38.2)	107 (8.3)	387 (30.2)	144 (11.2)	0 (0.0)				
2	Afghan doctors are prescribing quality medicines	170 (13.3)	617 (48.1)	83 (6.5)	313 (24.4)	99 (7.7)	0 (0.0)				
3	Medicines given out by public hospitals in Afghanistan are of high quality	157 (12.2)	548 (42.7)	161 (12.6)	321 (25)	95 (7.4)	0 (0.0)				
4	Medicines given from Private Hospitals are more better in terms of quality compared to those of public hospital	260 (20.3)	487 (38)	191 (14.9)	262 (20.4)	82 (6.4)	0 (0.0)				
5	Afghan Drug Regulatory Authority controls quality of medicine registered in the country	59 (4.6)	433 (33.8)	321 (25)	336 (26.2)	133 (10.4)	0 (0.0)				

### Perception of local people about medicine prices

The survey also sought to measure the public perceptions regarding the medicine prices in the country. Interestingly nine of ten (96.3%) respondents agreed, that Afghan government should adopt health policies to control the medicine prices and expenditures. A similarly high proportion of 89.6% agreed that higher medicine costs negatively influences patient outcomes. However, half of the respondents 44.5% think that in Afghanistan doctors have a poor understanding on medicine prices. Among the sample size, 89.2% shown their agreement that the medicine prices in both the government and private should be made public. A high proportion (68.7%) respondent agreed that the price regulation system should be implemented from manufacturer to patient. When respondents were asked on medicine label, 94% agreed that medicine prices need to be disclosed on the dispensed medicine label. Affordability of medicine seems also to be a problem, a round a fifth (19.9%) of respondents agreed that medicine prices in Afghanistan are affordable to everyone. Prescription drug prices need to be regulated by the government in Afghanistan, as indicated by a higher proportion of the respondents (93.1%) who agreed. When respondents asked on their response to prices, 68.2% of all respondents agreed that medicine prices are high in private hospitals.

**Table 3: Perception of local people about medicine prices**

Question	Survey questions/Statement	Frequency (%)									
		1	2	3	4	5	Did not answered				
1	Afghan Government should adopt health policies to control the medicine prices and expenditure	614 (47.9)	620 (48.4)	22 (1.7)	17 (1.3)	9 (0.7)	0 (0.0)				
2	Higher medicine costs negatively impacts patient outcomes	489 (38.1)	660 (51.5)	25 (2)	83 (6.5)	25 (2)	0 (0.0)				
3	In Afghanistan doctors have a poor understanding on medicine prices	184 (14.4)	386 (30.1)	267 (20.8)	290 (22.6)	155 (12.1)	0 (0.0)				
4	The medicine prices both in the government and private should be made public	467 (36.4)	677 (52.8)	57 (4.4)	57 (4.4)	24 (1.9)	0 (0.0)				
5	The price regulation system should be implemented from manufacturer to patient	346 (27)	534 (41.7)	176 (13.7)	148 (11.5)	78 (6.1)	0 (0.0)				
6	All the medicine prices need to disclosed on the dispensed medicines label	794 (61.9)	411 (32.1)	29 (2.3)	40 (3.1)	8 (0.6)	0 (0.0)				
7	Medicine prices in Afghanistan are affordable to everyone	58 (4.5)	197 (15.4)	96 (7.5)	612 (47.7)	319 (24.9)	0 (0.0)				
8	Prescription drug prices need to be regulated by the government in Afghanistan	385 (30)	809 (63.1)	48 (3.7)	30 (2.3)	10 (0.8)	0 (0.0)				
9	Medicines prices are high in private hospitals	346 (27)	534 (41.7)	176 (13.7)	148 (11.5)	78 (6.1)	0 (0.0)				

### DISCUSSION

Quality, Safety and Efficacy of the medicine is of paramount importance, but very little has been done so far in the country by government. The quality of pharmaceuticals has been a concern of the World Health Organization (WHO) since its inception. The setting of global standards is requested in Article 2 of the WHO Constitution, which cites as one of the Organization's functions that it should "develop, establish and promote international standards, with respect to food, biological, pharmaceutical and similar products." (WHO, 2007, Staff and Salud, 2004).

The supply of good quality medicines was identified as one of the prerequisites for the delivery of health care at International Conference on Primary Health Care in Alma-Ata in 1978 (WHO, 2007, Staff and Salud, 2004). The results of the current survey illustrates that substantial proportions of the population are not satisfied with the quality of medicine, and strongly argue that the government should take firm steps to quality control of the imported medicine and improve the

quality of locally manufactured medicines. In the current survey, the respondents were not looking satisfied with the quality of medicines and some of them argued that locally manufactured medicines have good quality (Table 2). The proliferation of counterfeit medicines is one of the most pressing issues facing the Pharmaceutical industry (Muthiani and Wanjau). The sale of fake drugs accounts for an estimated \$512 billion in global sales each year, constituting five to seven percent of total international trade (Bird, 2007). Due to open borders, weak drug regulatory authority actions, corruption, inefficiency of quality control labs and ineffective Good Regulatory Practices (GRP) and Good Manufacturing Practices (GMP) in local pharmaceutical industry, provided the opportunity for the infiltration and production of substandard medicine.

It is found in the current study that more than half percent of the Afghan doctors are prescribing quality medicines, though the market is infiltrated with counterfeited medicines. It is very clear, that the use of poor quality medicines can result in therapeutic failure, exacerbation of disease, resistance to medicines and sometimes death. It also undermines confidence in health systems, health professionals, pharmaceutical manufacturers and distributors. Money spent on ineffective, unsafe and poor quality medicines is wasted – whether by patients/consumers or insurance schemes/governments (Bate and Boateng, 2007).

The drug regulatory system suffers from several deficiencies, and in addition, the drug regularity authority has inadequate capacity in pharmaceutical assessment and regulation and thus, the medicine supply chain is contaminated with substandard quality medicines. Drug regulation is totality of all measures-Legal, administrative and technical-which the governments take to assure the quality, efficacy and safety of drugs (Sandhe et al.). Different models for medicines regulation exist across the world, and in many countries medicines regulatory procedures are still largely ineffective, due to chronic shortages of human and technical resources. Regulatory agencies in developing countries are resource constrained in terms of staffing, standards, systems, and training (WHO, 2007.). Governments have the responsibility to protect their citizens in the areas where the citizens themselves are not able to do so. Thus, Governments need to establish strong national regulatory authorities (NRAs), to ensure that the manufacture, trade and use of medicines are regulated effectively (WHO, 2007.). The quality control laboratories should comply with principles of Good Laboratory Practice (GLP) (Cooper-Hannan et al., 1999). The performance of the laboratories should be regularly monitored by the drug regulatory authority and inspectors.

The Afghan Ministry of Public Health has stewardship to provide quality health services to all Afghans without discrimination. To achieve the goals of access to quality health services and cost-effective medicine, they should have to establish professional associations, patient or consumer groups. An integration of various ministries and organizations will be a sustainable approach, especially ministries of finance and the civil service, private enterprises involved in service delivery, organizations such as medical schools and the pharmaceutical industry that play a role in resource generation, research foundations, politicians in national and local government, insurance funds, NGOs, regulatory bodies, donors and many others (Travis et al., 2002).

In addition to the concerns about quality, the current study has also explored many facts about medicine prices. In all developing countries the cost of medicines accounts for a relatively large portion of total healthcare costs (WHO, 2000). As Afghanistan is one post-conflicted country, the medicine costs are one of the major burdens, for example, to handle serious medical emergencies and chronic cases, people sell properties to procure visa, buy air tickets, book hotels, pay high hospital fees treat their patients abroad. Therefore nine of ten (96.3%) respondents suggested, that Afghan government should adopt medicine-pricing policy to control the medicine prices.

The recent study strongly suggests that the price regulation system and policies should be implemented from manufacturer to patient. These policies could encompass, for example, restrictions on supply chain mark-ups, tax exemptions, and regulating prices for end-users. Promoting the use of quality-assured, low-cost generics, for example, through preferential registration procedures, is also an important strategy (Cameron et al., 2009).

During the survey, medicine price discrimination from one survey area to another was observed. In economics, when prices for the same product are observed to differ without any clear differences in the costs of production or distribution, the phenomenon is referred to as price discrimination (Frank, 2001, Meurer, 2001, Reekie, 1978). Therefore, the fact is strongly supported in the survey that all medicine needs to disclose on the dispensed medicine label. The medicine retail prices

should be observable and unique. Everyone should buy the same price for the same medicine. Many medicines are extremely expensive, and the cost of buying them is a major (and increasing) proportion of the total cost of health care (Allan et al., 2007).

In this survey, half of the respondents think that Afghanistan doctors have a poor understanding on medicine prices. The Ministry of Public Health must organize workshops and seminars to educate and inform the medical doctors and pharmacists about the medicine prices. Doctors who prescribe drugs cannot be expected to know the exact cost of each drug on the market, but it would be helpful if they had some impression of the cost of a treatment and how the various alternatives compare in price (Allan et al., 2007).

Due to high medicine prices, the affordability to buy medicines remains low and it is still counted as a major problem. The idea is strongly supported by the results of the current study, that about a fifth (19.9%) of respondents agreed that medicine prices are affordable to everyone and it is clear that the high cost of medicines have catastrophic effects on poor people (Niëns et al., 2010). Similarly, the current study has shown that higher medicine costs negatively affects patient outcomes.

On the other hand, the escalating cost of prescription of medicines to both government and patients has placed pharmacists in a position to advise both prescribers and patients on the availability of cheaper generic medicine. (Hassali et al., 2007). The government should take firm step to introduce brand substitution policy to improve the access to medicine and enhance the affordability.

## CONCLUSION

The first national survey on medicine quality and pricing, suggests that the government should take firm steps to control the quality and disparate medicine prices in the country. The need to have a unified medicine pricing policy is sought, to ensure accessibility, availability and affordability of medicine. The entry ports of the country should be fully equipped in terms of quality control staff, labs, and warehouses. The medicine importing license and private hospitals license should be granted to qualified and professional people and the activities should be monitored against the performance metrics adopted.

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