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An Assessment of Physicians' Knowledge and Perceptions Towards Medicine Quality and Prices in Kabul, Afghanistan

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ABSTRACT

The survey was conducted with the aim to assess the knowledge and perceptions of physicians towards medicine quality and prices in Kabul City. A total of 400 physicians were approached and 347 (response rate of 86.7%) consented to participate. The majority of the respondents 85.6% recommended that the government should adopt health policies to control the medicine prices and expenditures, and similarly 85.2% agreed that the government must regulate prescription medicine prices. More than half of the respondents 76.3% reported that higher medicine costs negatively affect patient outcomes. Majority of the respondents 84.5% suggested that medicine prices to be made public and similarly 85.6% physicians recommended that all medicine price needs to be disclosed on the dispensed medicine label. Concerning the treatment affordability, 26.3% felt that medicine prices are affordable to their patients. About 60.5% of the physicians shown their concern that medicine price influence their prescribing decision. Therefore, this study suggests that there is substantial room for improvement in the knowledge of physicians about medicine quality and prescription cost. Taking in consideration, these issues effectively may improve the availability, affordability, access of medicines and patients' adherence to treatment regimens and will improve their health outcomes.

Keywords: Physicians, Medicine Pricing, Quality Control, Affordability, Kabul, Afghanistan.

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INTRODUCION

It was perceived that Afghan physicians are playing pivotal role in the treatment of patients in Kabul, the capital city of more than 5 million inhabitants. The knowledge of Afghan physicians about the medicine prescriptions' quality and prices deems critical for their patients' safety and health. The doctors have no sufficient knowledge of cost-related medication and medicine prices and from other end, the government does not run an active national medicines price monitoring system for retail prices. The quality of medicine is the major concern, although global standards for medicine quality are becoming increasingly rigorous, the quality of medicine actually on the market is inadequate in many countries including Afghanistan [1]. It is suggested that new models and approaches of health reform are needed for effectively bridge the growing gaps between public and private resources, primary and secondary and/or tertiary care, and clinical and public health services [2]. The fake, counterfeit and medicines with high prices are the extra burden on shoulders of poor patients. The main facets of the substandard, poor quality and high prices medicines are the usage and its affordability within patients. According to Afghanistan Pharmaceutical Country Profile, in Afghanistan, "there are no legal provisions in the Medicines Act that provide for pharmacovigilance activities as part of the MRA mandate. Laws regarding the monitoring of Adverse Drug Reactions (ADR) do not exist in Afghanistan and at the moment there is no pharmacovigilance system and steps have not been taken towards this initiative." There is no drug adverse reaction system and data base is in place to give on time reporting and reliable data on the morbidity and mortality rate arising from the consumption of counterfeit and poor quality medicine in Afghanistan. On the other hand, the costs of prescribed medicines are higher and higher medicines costs have been shown to negatively influence patient outcomes and make them poorer and vulnerable. The purpose of this survey was to assess the knowledge and perception of physicians towards medicine quality and prices in Kabul City. We were interested in assessing the extent to which physicians are willing to consider the cost of medications and their prescription decision. We also sought to measure physician's attitudes towards the medicine quality. We were additionally interested in assessing differences in the prices and quality services between public and private hospitals.

MATERIAL AND METHODS

This was a cross-sectional descriptive survey and for the purpose of the survey, a questionnaire was developed and the data collected. The ethical approval received from the local Institutional Review Board (IRB) of Ministry of Public Health. The initial survey items developed using

information from literature review and consultation with experts. Therefore, 19 survey items designed in three parts. The first part consisted of four demographic questions: age, gender, specialty and occupation. The second part contained four items about medicine quality and the third part contained eleven 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 relevancy, clarity and conciseness of the items. After taking into consideration their comments, the revised version of the questionnaire was then pilot tested by asking 25 respondents. Only minor changes to wording has been made and corrected. In addition, Cronbach's alpha test was used to determine the internal consistency and average correlation between questions to measure its reliability. Due to lack of sampling frame and up to date electronic population database, a convenient sampling technique was used. The total number of 400 was selected and the sample size and was enough to represent Kabul (estimated 2000) Province. A cross-sectional descriptive survey was conducted for a period of two months. Trained data collectors in Kabul City collected the data. Enough questionnaires were printed and filled by data collectors by asking the physicians in public, private and teaching hospitals, clinics, dispensaries and universities. The data set was developed in Microsoft Office Excel 2010 for Windows for data cleaning. The cleaned data were then exported to the statistical package SPSS for Windows, version 16, for further analysis.

Data Analysis

To summarize and describe the data appropriate descriptive statistics were performed using SPSS version 16. Responses to statements producing ordinal data were compared to each individual variable using Chi-Square test.

RESULTS AND DISCUSSIONS

Demographic characteristics of respondents

The total number of 400 respondents were interviewed in Kabul (Capital City) during the period of two months with the response rate of 86.8 (n=347). More than half of the respondents (74.8%; *n*= 299) were male doctors and (12%; *n* = 48) were female doctors. Interestingly, less than half of the respondents (33.8%; *n* = 135) were from experienced and mature aged doctors. Near to the half respondents (345%; *n* = 180) were government employees and (37%; *n* = 148) were self-employed. We surveyed internal medicine doctors (25.5%; *n* = 102), (9.2% *n* = 37) General Surgeons, (9%; *n* = 36) Obstetricians and Gynaecologists, (8.5%; *n* = 34) orthopaedic surgeons,

(7.2%; *n* = 29) psychiatrists and neurologists. (6.8%; *n* =27) Paediatricians, (5.2%; *n* = 21) cardiologists and (12.8% *n* = 51) were related to other fields (Table 1).

Table 1: Demographic Information of Respondents

Demographic Information	*Frequency*	*%*
Age		
25-34	54	13.5
35-44	113	28.2
45-54	135	33.8
55-64	36	9
Above 64	9	2.2
Gender		
Male	299	74.8
Female	48	12
Specialty		
Internal Medicine	102	25.5
Pathology	10	2.5
Paediatrics	27	6.8
Obstetrics and Gynaecology	36	9
Cardiology	21	5.2
Psychiatry-Neurology	29	7.2
General Surgery	37	9.2
Orthopaedics Surgery	34	8.5
Others	51	12.8
Occupation		
Government	180	45
Private / Self Employment	148	37
Retired	19	4.8

Perception of Physician towards Medicine Quality

During the survey, it was found that more than half of the proportion 50.8% of the physicians agreed that medicines given by public hospitals are of high quality and large proportion of respondents 60.7% said medicine given by private hospitals have good quality. However less than half of the proportion 44.3% agreed, 40.6% disagreed, that the Afghan drug regulatory authority controls quality of medicine registered in the country (Table 2). In fact, the quality of pharmaceuticals has been a concern of World Health Organization (WHO) since its inception [3], and the medicine quality is important, Médecins sans Frontières advocates for improved quality surveillance [4]. Yet evidence from a number of sources, reported over several decades, indicates that a substantial number of patients suffer treatment-caused injuries while in the hospital [5]. Therefore, medicines must be marketed as safe and therapeutically active formulations whose performance is consistent and predictable [6]. The ability to provide an effective, pure, safe product is the primary factor determining the product's success [7]. During the survey, about

Table 2: Perception of Physician towards Medicine Quality

No	Survey questions/ statements	Frequency (%)										
		1		2		3		4		5		Did not answer
1	Imported medicines have better quality than that of manufactured locally	54	(13.5%)	91	(22.8%)	73	(18.2%)	108	(27%)	21	(5.2%)	13.2%
2	Medicines given out by public hospitals in Afghanistan are of high quality	27	(6.8%)	176	(44%)	8	(2%)	125	(31.2%)	11	(2.8%)	13.2%
3	Medicines given from Private Hospitals are more better in terms of quality compared to those of public hospital	65	(16.2%)	178	(44.5%)	10	(2.5%)	83	(20.8%)	11	(2.8%)	13.2%
4	Afghan Medicine Regulatory Authority controls quality of medicine registered in the country	19	(4.8%)	158	(39.5%)	8	(2%)	135	(33.8%)	27	(6.8%)	13.2%

Table 3: Knowledge and Perception of Physicians' towards Medicine Prices

No	Survey questions/ statements	Frequency (%)										
		1		2		3		4		5		Did not answer%
		Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	
1	Afghan Government should adopt health policies to control the medicine prices and expenditure	279	(69.8)	63	(15.8)	1	(0.2)	1	(0.2)	3	(0.8)	0.132
2	Higher medicine costs negatively impacts patient outcomes	118	(29.5)	187	(46.8)	1	(0.2)	34	(8.5)	7	(1.8)	0.132
3	In Afghanistan doctors have a poor understanding on medicine prices	87	(21.8)	93	(23.2)	5	(1.2)	134	(33.5)	28	(7)	0.132
4	The medicine prices both in the government	104	(26)	234	(58.5)	1	(0.2)	5	(1.2)	3	(0.8)	0.132

	and private should be made public										
5	The price regulation system should be implemented from manufacturer to patient	119	(29.8)	179	(44.8)	12	(3)	35	(8.8)	2	(0.5)	0.132
6	All the medicine prices need to disclosed on the dispensed medicines label	199	(49.8)	143	(35.8)	2	(0.5)	2	(0.5)	1	(0.2)	0.132
7	Medicine prices in Afghanistan are affordable to everyone	23	(5.8)	82	(20.5)	1	(0.2)	171	(42.8)	70	(17.5)	0.132
8	Prescription Medicine prices need to be regulated by the government in Afghanistan	145	(36.2)	196	(49)	1	(0.2)	4	(1)	1	(0.2)	0.132
9	Medicines prices are high in private hospitals	110	(27.5)	171	(42.8)	11	(2.8)	49	(12.2)	6	(1.5)	0.132
10	Does the medicine price influence your prescribing decision?	122	(30.5)	120	(30)	2	(0.5)	86	(21.5)	17	(4.2)	0.132
11	Does your patients' income influence your prescribing decision?	99	(24.8)	164	(41)	1	(0.2)	71	(17.8)	12	(3)	0.132

quality of imported medicine in comparison to locally manufactured 36.6% of respondents agreed that imported medicines have good quality and 32.2% said that locally manufactured medicines have good quality. In Afghanistan, the circulation of substandard medicines is existed as it is in other developing countries, which is a serious clinical and public health concern. In addition, medicines manufactured for export are not regulated to the same standard as those for domestic use, while regulatory agencies in the less-developed world are poorly equipped to assess and address the problem [8]. Similarly, in the current study it was uncovered that majority of physicians were agreed that imported medicines is of good quality. Further to this, it was exposed that the medicines given by public hospitals are of high quality and while in contrast large proportion of the respondents was not agreed with this statement.

When the respondents were asked that Afghan Drug Regulatory Authority controls the quality of medicine, most of them not seem satisfied. Therefore they knew, that the impact of poor-quality medicines is most clearly evident if they contain lethal incorrect active ingredients [8]. Therefore, strengthening the capacity of Drug Regulatory Authorities (DRAs), laterally improving the quality of pharmaceutical production, and facilitating the availability of relatively inexpensive, good-quality medicines which are likely to be key factors in improving Medicine quality [8].

Knowledge and Perception of Physicians' towards Medicine Prices

The survey also aimed to assess the physicians' knowledge and perception towards medicine prices in Kabul. Among the total respondents 85.6% felt that Afghan government should adopt health policies to control the medicine prices and expenditures, and 76.3% often felt that higher medicine costs negatively affects patient outcomes. As Afghanistan is practicing free economy market with no control of market and prices, therefore the free economy market has many drawbacks if not controlled such as no provision of merit goods like education, health, thus the rich becomes richer, and the poor becomes poorer. Even the pricing of prescription medicines in the United States has become a political "hot button" issue [9]. In regards to the medicines and treatment affordability, only 26.3% agreed that medicine prices in Afghanistan are affordable to their patients. Therefore, high proportion 85.2% of physicians suggested that the Afghan government must regulate prescription medicine prices. Our results are consistent with a study concerning medicine pricing and its affordability, conducted in five countries (Australia, Canada, New Zealand, the United Kingdom, and the United States), where high level of citizen dissatisfaction observed in regards to their health care systems. Citizens with incomes below the national median were more likely than were those with higher incomes to be dissatisfied. In contrast, relatively few citizens reported problems getting needed health care. Low-income U.S.

citizens reported more problems getting care than did their counterparts in the other four countries [10]. In addition to medicine affordability issue, the physicians has limited understanding of how medication costs affect individuals with differing clinical and socioeconomic characteristics [11]. During the analysis it was reported that, more than half of the physicians 60.5% showed their concerns that medicine price influence their prescribing decision, and 65.8% agreed that patient's income influence their prescribing decision (Table 3). This would not be far from the reality that out-of-pocket medication costs pose a significant burden to many patients and contribute to decreased treatment adherence. The physicians should actively identify patients who are facing medication cost pressures and assist them by modifying their medication regimens, helping them understand the importance of each prescribed medication, providing information on sources of low-cost medicines, and linking patients with coverage programs [12].

The survey further exposed that 45% of the interviewed physicians have poor understandings and knowledge of medicine prices. Therefore, this is an alarming factor and critical aspect of prescription adjustment to the economy and income of the patients. The lack of physician awareness of medication costs and patients' noncompliance with prescribed regimens resulting from inability to pay those costs [13]. Principally, the cost of prescription medicines should be discussed and shared with the patients or it is should be advertised to the patients and appropriate prescribing means that prescribers should try to maximize effectiveness, minimize risks and costs, and respect patients' choices [14]. The knowledge of medicine cost also affects physicians' choices, but their greater focus on treatment effects causes their rankings to depart from those expected with cost-effectiveness criteria [15] and most of all, the medicine cost is not a major issue for most physicians [16], especially in Afghanistan. According to the survey conducted by General Directorate of Pharmaceutical Affairs (GDPA), in Afghanistan, regulations do not exist mandating that information about retail price of medicine should be publicly accessible. Therefore, this study confirms that the majority 84.5% of interviewed physicians recommends, that the medicine prices both in the government and private should be made public. Therefore, taking in consideration all these recommendations, the Afghan government should adopt policies to make the medicine prices public and ensure transparency in order to reduce the cost of medicine in the market. World Health Organization (WHO) is struggling to increase transparency, to lead to less price differentiation and less access to innovative pharmaceuticals. Meanwhile, WHO advocates both differential pricing and price transparency[17]. The price transparency is one of the tactics for reducing spending in health care by publishing the prices

that providers charge or those that a patient would pay for medical care, with the aim of lowering prices overall [18]. Patients and consumers are generally ignorant of price differences. Therefore, publishing price information could both narrow the range and lower the level of prices, in part by permitting consumers to engage in more cost-conscious shopping and select lower-cost providers. In addition, it will stimulate price competition on the supply side, forcing high-priced providers to lower their prices (or accept smaller annual increases) in order to remain competitive [18]. Concerning the price transparency, in this survey high proportion 85.6% of the physicians were concerned about medicine price labelling and felt that all medicine prices needs to be disclosed on the dispensed medicine label. Since the greater price transparency in health care pave the way for medicine affordability, accessibility and avoids from price discrimination. Prices are transparent when the buyer knows his or her price or knows prices paid by others, in advance. Transparent prices inform consumers of expected costs and reveal when sellers are charging high prices to poor people. Under some conditions, however, price transparency can increase prices paid by the poor [19]. Better prices information might allow patients, either directly or through their physicians, to obtain better value for health care services [20]. On the other side, the affordability of medicine sought to be one of the impeding factors in the patient treatment, in the current survey; we found that around a fourth of all respondents reported that medicine prices in Kabul are affordable to everyone. In this scenario, patients may fail to fill prescriptions or may ration their medications because they are too costly [21]. Everyday millions of people throughout the world go without treatment because they cannot afford the medicines they need. Especially the poorer countries with less well developed health systems; typically pay the full cost of almost all of their medicines themselves [22]. The affordability of generic medicines may be improved by increasing the efficiency and volume of production, prescribing the lowest effective dose, clarifying treatment guidelines so that manufacturers can focus on fewer medicines, stimulating competition, negotiating with manufacturers, and publicizing the lowest prices [23]. In the current study, it was found that that medicine prices are high in private hospitals. Most of the private hospitals are established and located in Kabul and the healthcare services provided by them are of high cost in comparison to public hospitals. There are many reasons, such as high rent of houses (most of the private hospitals are operating in rental houses), lack of local Afghan physicians (the doctors hired from abroad charges more o have high salary demand), and high prices of hospital supplies. It was very interesting when we found that more than half of the physicians agreed that medicine price influences their prescribing decision, as medicines are not affordable to the patients because of its high prices in the market, therefore, it is very true that

high medicine prices can affect and influence the prescription decision of the physicians. The best solution for this is to cultivate and enhance doctor – patient relationship by creative atmosphere of trust. Then it would be easy, that physician replace their therapy to generic medicines and contribute in cost cutting. As it is evident, that the quality of patient/ clinician interactions can have an independent effect on patients' investment in their self-management goals, as well as their ability to perform specific tasks [24]. Trusting physician relationship may moderate the impact of cost pressures on patients' medication adherence. More generally, addressing non cost barriers to adherence may reduce rates of cost-related medication underuse [25]. Patients who trust their clinicians may place a higher value on their prescription medicines and be more likely to maintain adherence, at least when costs are within a financially feasible range [25]. Similarly, large proportion of the respondents agreed that patient's income influence their prescribing decision too. Mostly physicians' are ignorance of prescription costs, combined with their tendency to underestimate the price of expensive medicines and overestimate the price of inexpensive ones, demonstrate a lack of appreciation of the large difference in cost between inexpensive and expensive medicines [13]. Although clinicians often play a central role in determining patients' adherence to treatment plans, physicians' role in influencing patients' response to medication costs is not well understood [26] and physicians need more information about prices of medications they prescribe [27]. Meaningful information about quality must be delivered alongside prices so that patients can make decisions by comparing care choices on both dimensions and consumers must be engaged in considering price information in their decisions to use medical care [18].

CONCLUSION

In conclusion it would not be wrong to say that physicians must be cost-conscious and alert in their prescriptions and do not undermine the cost of medication, and should adopt pro-poor prescription strategy. Meanwhile, it is centric to the treatment, that physician's should have knowledge and information about the quality pharmaceutical products and adhere to the prescription of quality generic medicines. We found that large proportion of the physicians felt that patient's income influence their prescribing decision and medicine prices influence their prescribing decision. Therefore, this study suggests that there is substantial room for improvement in the knowledge of physicians about medicine quality and prescription cost. Taking in consideration, these issues effectively may improve the availability, affordability, access of medicines and patients' adherence to treatment regimens and will improve their health outcomes.

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