

Assessment of professionalism in Iranian pharmacists

Mohammadreza Javadi¹, Fariba Asghari², Pooneh Salari^{2*}

1.Assistant Professor, Department of Clinical Pharmacy, Faculty of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran.

2.Assistant Professor, Medical Ethics and History of Medicine Research Center, Tehran University of Medical Sciences, Tehran, Iran.

***Corresponding author:**

Pooneh Salari

Address: No.21, 16 Azar Ave., Keshavarz Blvd., Tehran, Iran.

Tel: (+98) 21 66 41 96 61

Email: poonehsalari@gmail.com

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Abstract

In the recent years, the role of a pharmacist has been significantly changed. Traditionally, in the late 20th century, a pharmacist's role was considered as merely dispensing medication to patients. This view however, has been significantly altered, and, today, a pharmacist is supposed to provide patients with information regarding the medication they are to take, as well as on different aspects of their disease. Therefore, one can suggest that some other factors have recently come into play in the daily tasks of a pharmacist such as accountability and authority.

The current cross-sectional survey is conducted on a cohort of community pharmacists attending a continuing education program. A questionnaire comprised of 26 Likert-type scale questions was designed to assess pharmacists' attitude towards professionalism and its subscales which are defined later in detail. A total number of 1000 pharmacists were surveyed and 560 of them filled and returned the questionnaires. On a scale from 1-5 on which 1 was corresponded with strongly agree and 5 with strongly disagree, the total score of pharmacists professionalism was 92.9 ± 10.4 out of 130. As regards the subscales, in the subscale of accountability 46.8% of participants, in the subscale of altruism 90.1% of participants, in the theme of duty 85.7% of participants, and in the subscale of working relationship with physicians 84% of pharmacist achieved more than two third of the total score. Only in term of conflict of interest 67.9% of participants scored less than two third (17-25) of the total score. Women obtained significantly higher scores in altruism ($P < 0.05$). Furthermore, there was a correlation between age and the score of accountability and working relationship with physicians; and, the same was observed in regards with work experience with the score of working relationship with physicians. The employment position affected neither our participants' response to the whole questionnaire nor any of subscales.

Although the total score for professionalism was not dramatically decreased, the significantly low results are alarming and they should be considered more seriously. In order to enhance the level of pharmacists' professionalism, especially in some special aspects, it seems necessary to conduct similar surveys on pharmacy students and registered pharmacists with a more comprehensive questionnaire. Overall, it can be concluded that designing a proper teaching course in professionalism for pharmacy students is of paramount importance if we are to promote professionalism in future pharmacists.

Keywords: Pharmacy professionalism, Altruism, Accountability, Pharmacy ethics.

Introduction

The history of pharmacy dates back to the Middle Ages when apothecaries used to both make the diagnosis and dispense the medication themselves. Their role in health care provision was similar to physicians' and they treated patients independently. However, up to a few years ago, the pharmacists' attitude towards their role in health care provision seemed to have changed and their practice had deviated from their education (1). This had happened, arguably, as a result of commercialism and consumerism, and it shifted their practice from making diagnosis and preparing medication to merely dispensing them, and consequently, the early codes of ethics regarding diagnosis, was seen exclusively as a responsibility of physicians (2). Therefore, Industrialization in the twentieth century and thereafter gradually weakened pharmacists' importance in health care. In fact, it can be argued that their over education and underutilization forced them to follow commercial benefit.

However, by the establishment and development of special branches of pharmacy such as clinical pharmacy, pharmaceuticals, etc, the pharmacists' responsibility has recently shifted from merely drug dispensing into face to face communication with patients, giving advice, and patient education. Naturally, holding the knowledge of pharmacy, especially in the fields of pharmacokinetics, pharmacodynamics, and toxicology can provide an excellent opportunity for pharmacists to get involved in health care system more proactively. Therefore, one can suggest that more authority and responsibility should be taken into account for this profession.

According to the unique role of the pharmacist in relationship with both patients and physicians, and also, considering emergence of new discoveries in the field, the profession is facing new ethical challenges. Therefore, pharmacists' standards of practice are to be monitored by regulations and revisions. In 2000, the American Pharmacists Association Academy of Students of Pharmacy (APhA-ASP) and the American Association of Colleges of Pharmacy Council of Deans (AACCP-COD) proposed assessing professionalization process in colleges and schools of pharmacy. This assessment was followed by including professionalization projects in the curricular contexts of pharmacy courses (3).

Unfortunately, in Iran, there is neither a well-organized professionalization project in the curriculum of Pharmacy students nor any pharmacy code of ethics for the pharmacists. In addition, there is a scarcity of literature in the field of pharmacy ethics worldwide and Iran is no exception. Considering the importance of pharmacists' professionalism as well as the need for designing comprehensive curricular and co-curricular professionalization projects, this study was

designed to determine the level of professionalism in Iranian pharmacists.

Methods

We evaluated pharmacists' attitude towards a number of principles of professionalism in their everyday working tasks with the use of a self-administered questionnaire. The study was performed on registered Iranian pharmacists from May 2010 to February 2011. The professionalism questionnaire, developed by the authors, was consisted of 26 items that were scored on a Likert-type scale with responses ranging from 1 corresponding with strongly agree to 5 indicating strongly disagree. Higher scores indicated a higher level of professionalism. Five subscales were defined as follows: altruism, duty, accountability, conflict of interest, and working relationship with physicians. The validity of the questionnaire was approved by two experts in medical ethics, and its reliability was confirmed by Cronbach's alpha internal consistency which was 0.81. The questionnaire was consisted of two parts, part one included personal information about study participants, such as age, gender, year of experience, and the industry of employment (pharmacy, manufacturer, and pharmaceutical importing company); and part two was composed of 26 items. The study was conducted on community pharmacist attending a continuing pharmacy education (CPE) program. The survey questionnaire ensured participants' anonymity and it was confirmed that the participation was voluntarily. The study was approved by Tehran University of Medical Sciences institutional review board. Table 1 shows the questionnaire and the percent of the answers to each question.

The subscales and their corresponding questions are as below:

- Subscale 1 (accountability); questions: 4, 5, 9, 10, 14, 17, 19, 23
- Subscale 2 (altruism); questions: 6, 21, 22
- Subscale 3 (conflict of interest); questions: 1, 2, 3, 13, 26
- Subscale 4 (duty); questions: 7, 8, 12, 15, 16, 18, 24, 25
- Subscale 5 (relationship with physician); question 20

All data were analyzed using SPSS software version 16. As the variables skewed (One-sample Kolmogorov-Smirnov test, $P < 0.05$), non-parametric tests (Mann-Whitney test, Kruskal-Wallis test) were used for analysis. A P value < 0.05 was considered significant.

Results

Five hundred and thirty nine pharmacists completed and returned the questionnaires resulting

in 56% response rate. Seventy four questionnaires were excluded from analysis because of typing errors. A number of 240 participants (53.7%) were female and 207 (46.3%) were male. The mean age of the participants was 43.2 ± 12.5 years. Three hundred and eighty participants (88.4%) were employed in pharmacy, 25 (5.8%) in drug companies, and 25 (5.8%) in pharmaceutical industry. Two hundred and twenty six participants (56.9%) had more than 10 years of work experiences, 89 (22.4%) between 5 and 10 years and 82 (20.7%) less than 5 years of work experiences.

The mean of the overall score of all participants was 92.9 ± 10.4 out of 130. The mean score for each subscale is tabulated in table 2. Women achieved significantly higher scores in altruism (13.02 ± 1.8 in women vs. 12.8 ± 2 in men) ($P < 0.05$) but there was no difference between men and women regarding the scores of the other subscales and the total score of professionalism. The age showed a positive correlation with the score of accountability ($r = 0.1$, $P = 0.02$). The older participants demonstrated a lower score regarding the working relationship with physicians ($r = -0.99$, $P = 0.04$), and, our results showed that there was a weak reverse relationship between work experience and working relationship with physicians ($r = -0.15$, $P = 0.002$). Industry of employment did not affect the overall score of professionalism or any of the subscales. Regarding accountability, 52.5% of participants scored 16-30 and only 46.8% of them could score more than two third (31-45) of the total. Interestingly, in the subscale of altruism 90.1% of participants achieved more than two third (11-15) of the total score. As for duty, 85.7% of participants got more than two third (28-40) of the total score. As regards conflict of interest, 67.9% of participants got less than two third (8-16) of the total score. Totally, only 0.2% of pharmacists obtained lower than one third of the total score in professionalism and 78.8% of them got more than two third of the total score (87-130). The scores are tabulated in table 3 in detail.

Discussion

Today, it can be suggested that professional ethics has been substituted with general moral philosophy for professionals as the instrument they need to provide a balance among their rights, duties, and responsibilities (4). In health care provision, professional ethics is mainly derived from guidelines based on public sphere, professional knowledge, professional values, cultural issues, and possibly, religious ideologies. Although pharmacy codes of ethics are compiled based on the principles of bioethics, it also includes virtues and professional and inter-professional autonomy (5-7). Having a professional role in health care makes it indispensable that some ethical considerations should be taken into accounts which are far

different from individual's everyday decision making (8).

The current study presents the first study of its type in Iran for the assessment of pharmacists' professionalism. The questionnaire was consisted of 26 questions based on 5 tenets of professionalism, namely, accountability, duty, altruism, conflict of interest, and working relationship with physicians.

Our results showed that only 46.8% of participants scored relatively high in accountability while 90.1% of them achieved considerably high scores in altruism. In one study, Chisholm et al surveyed professionalism in pharmacy students and recent graduates by an 18-item questionnaire, and observed that the mean of the total score of accountability was 8.4 out of 10, and, for altruism, it was 12.4 out of 15 (6). Gender seemed to have influenced the results as women could achieve higher scores in altruism ($P < 0.05$). Furthermore, older pharmacists scored higher in accountability (there was a weak relationship between age and accountability). Place of employment did not affect our participants' response neither to the whole questionnaire nor to each subscale. In a study conducted by Cain et al, female students significantly demonstrated more accountability for illegal actions and unprofessional behaviors than their male counterparts (8). The results of a different study by Poirier et al on a cohort of pharmacy students demonstrated a significantly increasing trend in the altruism, accountability, and professionalism scores from the first year of pharmacy school to the fourth year while their attitude towards duty did not change (9).

The great majority of the participants of this study (more than 85%) achieved more than two third of the total score of duty and this could indicate that Iranian pharmacists are aware of their duties, although, there are some practical constraints or obstacles which need to be addressed. Interestingly, our results are in accordance with those of Chisholm et al which showed that the mean of the total score of duty in pharmacy students and graduates, who had been previously trained, was considerably high (8.8 out of 10) (6). Again, it seems of crucial importance that students and practitioners of health care teams should be familiar with special regulations, especially through education and vocational training to get a clearer picture of professionalism. Many different elements indicate the need for the establishment of interdisciplinary teams for improving the quality of care, such as the increasing complexity of care, different aspects of health care, and the necessity of providing care in different settings. Therefore, the pharmacists' curricula should include teaching interdisciplinary teamwork to increase their clinical experiences and enhance their communication skills with other health care providers. Academic

teachings should lead to professionalism, confidence in discipline-specific knowledge, and skills necessary to interact with other members of the health care team (5). Furthermore, it is highly recommended that pharmacy students spend some time observing health care professionals from different fields of health care during their clinical rotations to foster their interdisciplinary relationship skills. Doing this, students can improve their clinical skills in a real clinical setting, and consequently, they can be better prepared for their professional career.

The precise role of pharmacists in relation with pharmaceutical companies is yet to be elucidated. Although there is a great deal of emphasis on pharmacists' accountability, a lack of balance between pharmacists' accountability and authority is sometimes observed.

Bumgarner et al believed that enhancing professionalism needs a change in the culture if we are to achieve long term results. They have strongly recommended that teaching professionalism should be included in the curriculum of pharmacy students, especially before beginning of the first professional year of pharmacy school (7).

The lowest total score we observed was regarding conflict of interest which showed that 67.9% of participants achieved less than two third of the total score in this subscale; and, only 22.3% of participants scored greater than two third of the total score for it. The pharmacists' attitude toward conflict of interest is generally believed to be influenced by business issues. Hassel et al put a great emphasis on the importance of considering supply and demand in a trend regarding conflict of interest (10).

Generally, patients expect that their questions and concerns are answered, and, an appropriate health care service is rendered by a knowledgeable, reliable, and enthusiastic pharmacist. In fact, there is a counterbalance between the pharmacists' insight into conflict of interest and pharmaceutical companies' approach (11). There seems to be a contradiction between the pharmacists' professional obligation in providing care and selling as much drugs as possible. In addition, a substantial proportion of the products of pharmaceutical industries are of limited therapeutic value, and, a pharmacist, nonetheless, needs to maintain a profitable business by selling them. This, also, can pose them to some degree of conflict of interest.

As regards working relationship with physicians, 84% of participant pharmacists scored more

than two third of the total score, however, it is necessary to mention that only one question was allocated to this subscale.

Overall, the mean score of professionalism in the study participants was 92.9 out of 130 which seems to be approximately in agreement with that of Chisholm study which was 77.8 out of 90 (6).

One of the limitations of our survey was the low response rate. The authors believe that although the anonymity of the questionnaires was reassured and the pharmacists were not compelled to participate in the study, some of them did not trust it and did not answer the questions properly. In addition, a lack of reliance on the questionnaire or possibly the limited transparency of the questions led to missing of some data. Therefore improving the questions and obtaining higher consistency coefficient (Cronbachs' alpha) would be our first recommendation in future studies.

Furthermore, we limited the survey to the pharmacists who were mainly employed in community pharmacies with a high probability of face to face interaction with the patients. Thus, changing the participants from pharmacists to pharmacy students, pharmacy residents, and different pharmacy specialties including clinical pharmacists can be the next stride.

In conclusion, provision of a well organized ethics course in the curricula of the students of pharmacy and residency programs seems to be of paramount importance. In this regard, compiling pharmacy code of ethics and professionalism is likely to improve the current situation regarding professionalism. In order for us to achieve this goal, it can be suggested that the obstacles between practice and communication and workspace thoroughly be evaluated from an environmental, clinical, personal, economical and social aspects. We believe that recognizing these concerns and integrating them into professional educational programs can result in a better and more supportive health care service for the public.

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Table 1. The questionnaire and the percent of answers to each question

Questions	Answers (%)				
	SAG	AG	N	DA	SDA
1. I am interested in providing special condition for drug delivery to nursing homes, etc without extra charge to help marketing.	42.6	30.3	18.3	4.1	4.6
2. I would like to register nursing homes staffs in continuous education programs in order to attract more patients.	16.6	18.7	35.3	9.7	19.8
3. There is possibility to reject the consultation fees to increase the number of customers of the pharmacy.	28.8	27.5	11.6	11.4	20.6
4. In the case of referring a patient with chief complain of fatigue, weakness or other constitutional symptoms I will recommend him/her to take vitamins, minerals or the other supplemental and herbal products.	13.4	41.2	5.3	21.7	18.3
5. According to the possibility of drug shortage in our country if a known patient with a history of a chronic disease refers there is the possibility that I propose buying more drugs than the recommended amount by the physician.	6.2	21.6	7.9	17.3	46.9
6. For better marketing I can sell cigarettes or something like that if needed.	0.6	1.5	2.3	4.0	91.5
7. At the time of drug dispensing there is no need to consider drug safety because the physician is responsible about that.	2.3	7.4	3	25.4	61.9
8. At the time of drug dispensing I do not pay enough attention to the efficacy of the drug because the physician is responsible about that.	3.4	12.3	7.0	31.0	46.3
9. In some cases I may recommend using different types of supplements such as Zinc, Garlic tablet, Ginseng, and Royal Jelly to the patients.	21.7	50.2	11.6	9.9	6.5
10. If I diagnose vitamin or mineral deficiency I have to recommend them to the patient.	38.4	47.6	6.4	4.9	2.8
11. I dispense drugs without physicians order.	4.0	48.8	6.8	25.3	15.2
12. I believe that the pharmacy should provide most of the patients' requirements even if it is not related to the health.	1.9	5.9	5.7	22.0	64.4
13. If I find some drugs close to the expiry date in the pharmacy I will inform the physicians who are in close collaboration with me.	26.7	23.9	17.7	14.4	17.2
14. In the case of identifying the benefits of a non-OTC drug for a patient I will recommend.	13.1	29.8	7.7	18.6	30.8
15. The pharmacists' full time attendance in the pharmacy is not necessary.	6.4	10.0	4.0	15.9	63.8
16. In the case of lateness, no need to inform the staff.	4.9	6.2	6.6	19.2	63.1
17. In the case of occurring medical error in my absence I am not responsible for that.	8.1	5.7	5.7	20.0	60.4
18. I am responsible in my duties even if the salary if not enough.	4.0	8.3	7.9	25.5	54.3
19. In the case of occurring medical error in drug dispensing I will inform the patient or the physician as soon as possible.	0.8	0.2	1.3	9.1	88.6
20. At work in the pharmacy, no need for relationship with physicians.	2.8	7.8	5.1	26.9	57.4
21. The social ranking of the patients does not affect my duties.	6.3	15.4	4.9	18.6	54.8
22. In the case of lack of a special drug in my pharmacy I am responsible for finding that.	3.0	6.1	5.1	36.4	49.4
23. I always accept the recommendations and criticisms.	0.9	0.4	3.2	20.9	74.7
24. I prefer to act conservatively in explaining my opinions and giving information.	12.8	17.6	11.3	42.6	15.6
25. I accept physicians' decisions and ideas completely even if it seems to be doubtful because physicians are responsible.	5.4	17.0	9.0	38.9	29.7
26. At the time of buying drugs from manufacturers, mostly I prefer contacting the companies which have more relationships (those sending gifts, invite to a meal, etc) with me.	7.2	20.6	23.8	17.9	30.4

AG=strongly agree; AG= agree; N= neutral; DA= disagree; SDA= strongly disagree.

Table 2. Mean score of each subscale

Subscale	Mean (SD)	Total score
Accountability	30.2 ± 5.2	45
Altruism	12.95 ± 2	15
Conflict of interest	13.3 ± 3.7	25
Duty	32.1 ± 4.5	40
Relationship with physicians	4.27 ± 1	5

SD= standard deviation

Table 3. The score of participants according to each subscale

Subscale	Score of participants		
	<1/3	1/3-2/3	>2/3
Total professionalism score	0.2%	21.0%	78.8%
Accountability	0.6%	52.5%	46.8%
Duty	0.4%	13.9%	85.7%
Altruism	0.4%	9.5%	90.1%
Conflict of interest	9.9%	67.9%	22.3%

References

1. Vitell SJ, Rawwas MYA, Festervand TA. The business ethics of pharmacists: conflicts practices and beliefs. *J Business Ethics* 1991; 10: 295-301.
2. Helper CD, Strand LM. Opportunities and responsibilities in pharmaceutical care. *Am J Hosp Pharm* 1990; 47: 533-43.
3. Poirier TI, Gupchup GV. Assessment of pharmacy student professionalism across a curriculum. *Am J Pharm Educ* 2010; 74(4): 62.
4. Anonymous. Pharmaceutical Society of Australia. Code of Professional Conduct. Canberra: The Pharmaceutical Society of Australia. <http://www.psa.org.au/site.php?id=628>.
5. Brehm BJ, Smith R, Rourke KM. Multiskilling: a course to increase multidisciplinary skills in future dietetics professionals. *J Allied Health* 2001; 30: 239-42.
6. Chisholm MA, Cobb H, Duke L, McDuffie C, Kennedy WK. Development of an instrument to measure professionalism. *Am J Pharm Educ* 2006; 70(4): 85.
7. Bumgarner GW, Spies AR, Scott Asbill JDC, Prince VT. Using the humanities to strengthen the concept of professionalism among first-professional year pharmacy students. *Am J Pharm Educ* 2007; 71(2): 28.
8. Cain J, Scott DR, Akers P. Pharmacy students' facebook activity and opinions regarding accountability and e-professionalism. *Am J Pharm Educ* 2009; 73(6): 104.
9. Poirier TI, Gupchup GV. Assessment of pharmacy student professionalism across a curriculum. *Am J Pharm Educ* 2010; 74(4): 62.
10. Hassell K, Rogers A, Noyce P. Community pharmacy as a primary health and self-care resource: a framework for understanding pharmacy utilization. *Health Soc Care Community* 2000; 8: 40-9.
11. Rapport F, Doel MA, Hutchings HA, et al. Eleven themes of patient-centered professionalism in community pharmacy: innovative approaches to consulting. *Int J Pharm Pract* 2010; 18: 260-8.