

Pharmacist Occupational Features, Regulations Framework and Profession Enhancement Challenges of Pharmaceutics

Nodar Sulashvili¹, Margarita Beglaryan²

The University of Georgia, Yerevan State Medical University²

¹MD, PhD, Assistant Professor; ²MD, PhD, ScD, Professor

An integral part of the state social security system is an implementation the citizens' rights and protection Public health. The grade of the health care system partly relies on provision of the quality of pharmaceutical care services, which is largely dependent on the public pharmaceutical organizations' personnel qualifications like pharmacists. In this regard, the professional qualification of pharmacists should be under the state control, and is one of the objects of the state regulation in the pharmaceutical field in particular, and the medical field in general; With the purpose to maintain the highest possible level of pharmacist specialists' competences throughout with changing demands according professional qualification, which affecting on population's health improvement. The modern system of pharmaceutical care is to improve the quality of life of patients' promotion by highly skilled professionals in pharmacies, whose competence has been growing along the process of professional development. Pharmacist must not only be capable to use their knowledge and skills gained at the educational institutions, but also should be ready and motivated for the professional self-development, because without qualified pharmaceutical care there is no qualified health care system. Valuable studies aimed is to understanding perspectives of the pharmacist specialists' professional aspect, which have not been carried out yet.

Pharmacy is one of the most regulated professions in the western countries, and the pharmacist's profession is one of the most ethically challenging positions. In the western countries state boards regulate, administer and influence on each stage of pharmacy practice, including the requirements and licensing testing for pharmacists. In Canada, Each Province board is staffed up of pharmacists, who come from each practice area - hospitals chains, independent pharmacies, industrial pharmacy, and also at least one consumer (non-pharmacist) representative, and in majority of states pharmacy board members are appointed by the Governor.

At present in Georgia pharmacy regulatory legislative base is not perfect, because the pharmacists' certification, re-certification, accreditation and licensing

state programs are not conducted. Today, the pharmacist profession in Georgia is deleted from the health regulable and controllable medical fields. Therefore degree in pharmacy or regarding higher education lose their professional characters and values, and profession of pharmacist specialty turned a position given by the pharmacy owner without requirement of qualification awarded from the university. Since the higher pharmaceutical education is not a necessity for pharmacist position in pharmacy in Georgia. In many cases, very often non-professionals without special medical or pharmaceutical education could get the right to work at a pharmacist position according to pharmacy owner's desire. Meanwhile the pharmacy profession granting needs 4-5 year of study at the medical and other universities. In Georgia the pharmacist in the pharmacy is interpreted as the only drug-dealer-seller, and basically pharmacists as regulated medical specialists are ignored in the Georgian health care system. That is why the higher pharmaceutical education system should be moved to a new model direction, which will be more accentuated on pharmacotherapy, pharmaceutical care, and clinical pharmacy, becoming the most important issue. That is why the higher pharmaceutical education programs system should be moved to a new model direction, which will be more accentuated on basic medicine, pharmacology, pharmacotherapy, pharmaceutical care, and clinical pharmacy, becoming the most important issue. Also, in order the qualified pharmacists from Georgia should have the right to work as pharmacists in other EU (European Union) countries and Georgia pharmacist diploma and pharmacists' certificates should have recognition and validity in EU. For that pharmacists' certification, registration, licensing, and accreditation new standards and modern international pharmaceutical study programs should be developed and implemented in Georgian Higher Educational institutions.

Patient's safety is a priority for all health professionals, such as pharmacists, who care about the general health and general well-being of people like pharmacists. For centuries, pharmacists have been guardians against the "poisons" and those substances that can harm the public Health. Now more than ever, pharmacists are responsible to ensure, that when the patient receives the medicine, it will not cause harm. It is the pharmacist's task to be sure that: The patient knows the name of the drug, what it is for, how and when it is to be taken; How to minimize possible interactions with other drugs, and foods, and optimal storage conditions; Pharmacists have the greater role of in improving patient safety and to reduce the risk of drug errors; The Pharmacists ensure the right

patient receives the right drugs, the right dose, via the right route of administration at the right time.

The goal of the research was to provide a complex study, analysis and evaluation of the pharmacist occupational features, regulations framework and profession enhancement challenges of pharmaceuticals and to develop a methodological approach for improving the process of professional enhancement challenges of pharmacists, which affecting on population's health improvement.

The get the assigned goal the study's objectives include: To reveal the factors and motivations influencing on the professional choice, the process of professional formation, occupational development and career growth process of the pharmacists; To conduct sociological studies of pharmacists, the chief pharmacists, the patients (customers of pharmacies), the pharmacy faculty students, young pharmacists, the public health specialists and employed pharmacy faculty students to further determine the function, importance and role of a pharmacist, pharmaceutical activities, some professional peculiarities, pharmaceutical education, and opinion about regulation of the professional pharmaceutical activities (continuous professional education, certification, attestation); To perform a complex investigation of the process of pharmacists' professional development and adaptation at different stages and the working activities characteristics; To study the satisfaction of pharmacists by professional choice, the work load, duration of work time, income and career; To elaborate the practical recommendations and outline the perspectives for improving the professional enhancement of a pharmacist and the quality of pharmaceutical care in the whole. Materials of research: The 7 types of approved questionnaires were used:

1. For the chief pharmacists (410 chief pharmacists were participated in the study).
2. For the patients/customers of pharmacies: 1506 patients participated in the study.
3. For the employed pharmacy faculty students (222 employed pharmacy faculty students were participated in the study).
4. For the Public health specialists (307 Public health specialists were participated in the study).
5. For the pharmacist specialists (810 pharmacist specialists were participated in the study).
6. For pharmacy faculty students (319 pharmacy faculty students were participated in the study).
7. For the young pharmacist specialists up to 35 years (314 young pharmacist-specialists were participated in the study).

The total number of respondents was: $410+1506+222+307+810+319+314=3888$

Methods of research: Marketing research was conducted based on the analysis of data from official sources of the respondents' filled questionnaires (the aim was to obtain information about general trends and processes). The marketing research process was involved series of sequential steps: development the plan of marketing research; Getting and analyzing the data from respondents' filled up questionnaires; presenting the results of the research; analysis, assessment and discussion; summary, conclusion and practical recommendations. To meet the objectives set in the research the following methods were used: Methods of the systematic, sociological (surveying, questioning), comparative segmentation, mathematical-statistical and graphical analyses. The collected data were analysis by of the SPSS 11.0 for Windows 7 Program, and then discussions were encountered. The number of respondents was calculated by using sample size of the open source epidemiologic statistics for public health (OpenEpi). <http://openepi.com/SampleSize/SSPropor.htm>. RESEARCH OVERVIEW, RESULTS, ANALYSIS AND DISCUSSION: Study of pharmacists. It is more efficient that the potential pharmacists choose their future profession only according to their wishes, personal desire, awareness based on their own trends, aspirations and inclinations. (See Table 1).

Table 1

The most influential factors on the profession choice (one answer accepted)	Frequency	Percent
1. Parents' advices (or will)	186	23.0
2. Teachers' advices	32	4.0
3. Advice of an expert-specialist of professional orientation (of career guidance)	28	3.5
4. The desire to obtain a profession in compliance of own trends, aspirations and inclinations	108	13.3
5. There was nowhere to go	15	1.9
6. Dissatisfaction with the first education	18	2.2
7. Personal desire	306	37.8
8. Specialty love from childhood	117	14.4
Total	810	100.0

Coupling the data of the respondents answers analysis of the questions “Indicate your sex” (Q1) and “Are you satisfied with your professional career?”, it became apparent that variables were gender-dependent (P=0.001), there were statistically significant differences between two gender groups, that meant the male pharmacists were less satisfied with their professional career, rather than the female pharmacists. (See Table 2).

Table 2
Satisfaction professional career of respondent pharmacists according gender

Are you satisfied with your professional career?	Q1. Indicate your sex		Total (%)
	1 Female	2 Male	
1. Yes	30.88%	18.00%	30.40%
2. Partially	33.95%	27.20%	33.70%
3. No	35.17%	55.00%	35.90%
Total	100.0%	100.0%	100.0%
Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-square	23.884 ^a	2	0.01

Satisfaction with work of the pharmacists: About a quarter of respondent pharmacists were not satisfied with work; more than one third of them were partially satisfied with work. It is significant, that pharmaceutical companies make study of pharmacist’s work satisfaction. The pharmaceutical companies should consider the results of studies regarding to combination of factors affecting the pharmacists’ work satisfaction. (See Fig 1).



Fig.1
Factors, influencing on pharmacists’ career and job satisfaction: Statistically significant association was revealed between pharmacists’ position and their satisfaction with professional career and job. Holding high positions was associated with increased career and job satisfaction (Chi-square= 9.4, p=0.002 and Chi-square= 5.5, p<0.02, respectively), but not to professional choice satisfaction. Long term working experience in the current position of pharmacists was associated with lower career and job satisfaction

(Chi-square= 16.4 and 13.2, p=0.001). Based on the statistical analysis in case of the respondents’ professional capabilities and skills full extent realization the current job was associated with higher career and job satisfaction (Chi-square =15.9, p=0.001 and Chi-square= 5.7, p<0.02, respectively).

A positive opinion of pharmacists about importance of continuing professional development was also associated with increased job and career satisfaction (Chi-square = 5.0 p<0.001 and Chi-square= 24.8, p<0.03, respectively). Use of knowledge, obtained from professional literature in the practice was significantly related to higher job satisfaction (Chi-square=13.6,

p<0.001), but not to career satisfaction. One of the main predictors of pharmacists’ career and job satisfaction was also their income (Chi-square=23.9, p<0.001 and Chi-square=50.4, p<0.001). Pharmacists who were satisfied with their income were more often satisfied also with their job and career. Study of chief pharmacists: The majority of chief pharmacists considered that the mostly essential difficulties in professional adaptation of young employees were lack of professional knowledge and also special skills. Less than half part of them considered that there were difficulties with adaptation within the colleagues’ team, difficulties in relationship with administration, non-compliance of a job with their own ideas. University pharmacy program and syllabuses should be more orientated to special skills enhancement, which gives possibility and capability to pharmacists to use gained professional knowledge in practice. (See Table 3).

Table 3

The most essential difficulties in professional adaptation of young employees (several answers acceptable)	Count	Percent
1. Lack of professional knowledge	250	61.0
2. Lack of special skills (computer skills and etc.)	271	66.1

3. Difficulty with adaptation in to collective	139	33.9
4. Difficulties in relationship with administration (leadership)	196	47.8
5. Non-compliance of a job with own ideas	164	40.0
6. Having excessive ambitions	90	22.0

The respondents' opinion about the most effective forms of professional assistance while adaptation of specialist: The chief pharmacists' majority considered that most effective forms of professional assistance while adopting of the specialist to work were independent practical activity and personal conversation; less than half part of respondents considered that they were discussions on work of young employees within the colleagues' team and special training programs; about one third of them considered that it is a work with a mentor, internship and qualification improvement upgrading courses. (See Table 4).

Table 4

The most effective forms of professional assistance while adaptation of the specialist (several answers possible)	Count	Percent
1. Independent practical activity	262	63.9
2. Working with a mentor	142	34.6
3. Internship	137	33.4
4. Discussion of work of young employees within the colleagues' team	196	47.8
5. Personal conversation	293	71.5
6. Qualification improvement upgrading courses	120	29.3
7. Special training programs		

Study of the patients/customers of pharmacies: The majority of respondents considered that the required quality for pharmacist was professional competency; Less than half part of the respondents considered a readiness for relationships (communication-contact), patience, endurance and stamina, amiability or kindness and high professional skills. Studies have confirmed that professional competency was mandatory for pharmacist. Assurance of pharmacists' professional competency could be achieved by getting higher pharmaceutical education and certification of pharmacists. (See Table 5).

Table 5

The qualities required for ppharmacists (in the pharmacy) (3 possible answers)	Count	Percent
1. Readiness for relationships (communication-contact)	714	47.4
2. Professional competency	891	59.2
3. Patience, endurance and stamina	630	41.8
4. Amiability or kindness	710	47.1
5. Ability to buildup relations (communication-contact) with people	376	25.0
6. High professional skills	503	33.4
7. Friendliness (goodwill)	415	

Study of public health specialists: The vast majority of the respondents considered that the professional activity of pharmacist is of great importance for the society. (See Table 6).

Table 6

Assurance of the public health specialists in importance of the pharmacist professional activity for the society	Frequency	Percent
1. Yes	291	94.8
2. No	9	2.9
3. To a small extent	7	2.3
Total	307	100.0

Study of public health specialists: Less than half part of the respondents considered that the levels of basic training of pharmacists were not corresponding to the contemporary requirements. Based on the study results the pharmacists' specialty should become a regulated health care profession and the Government should make certification, licensing and accreditation of pharmacist professionals. (See Fig 2).

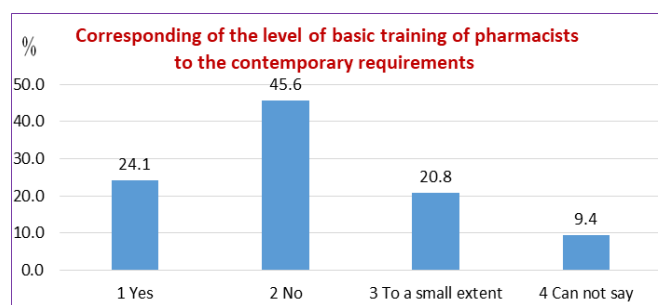


Fig. 2

Study of public health specialists: The respondents' vast majority considered necessity for the pharmacists' further regular studies includes: new medications, issues of pharmacotherapy, pharmacology and drugs toxicity. From the study results it is obvious that in the higher pharmaceutical institutions' pharmaceutical educational programs and curriculums need upgrading. Continuous pharmaceutical educational programs should be developed and be more focused on new medications, pharmacotherapy, drugs toxicity and dosage, routes of drug administration, selection of OTC drugs and cost-effectiveness. (See Table 7).

Table 7

The issues for necessity of further regular studies or trainings for pharmacists	Count	Percent
1. New drugs	187	60.9
2. Psychology of communication with customers	103	33.6
3. Issues of pharmacotherapy of certain diseases	197	64.2
4. Safety and effectiveness of drugs	154	50.2
5. Pharmacology and pharmacotherapy	224	73.0
6. Normative legal regulation of pharmaceutical activity	94	30.6
7. Drugs toxicity	164	53.4
8. Drugs dosage	112	36.5
9. Routes of drug administration	110	35.8
10. Drug forms	61	19.9
11. Drug design	43	14.0
12. Rules of drug administration	123	40.1
13. Drugs generic, chemical and brand names	57	18.6
14. Selection of OTC drugs	108	35.2
15. Cost-effectiveness of drugs	96	31.3

Study of pharmacy faculty students: The pharmacy faculty students' majority was not working currently and just about one third part of them was working currently by specialty. (See Fig 3).

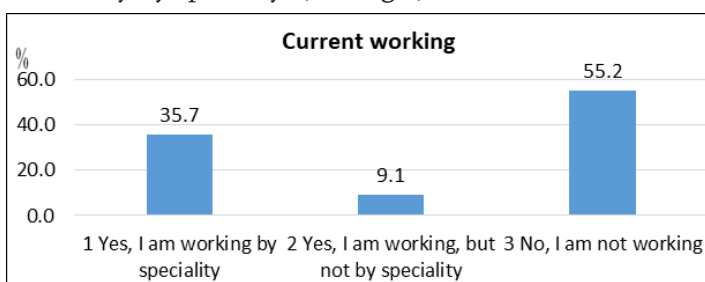


Fig.3

The students' majority preferred highly-paid work and a work with possibility of self-improvement or self-development; about one third of the respondents preferred work enabling full realization of the received knowledge; less than one third of pharmacy faculty students preferred work needful for society. (See Fig 4).

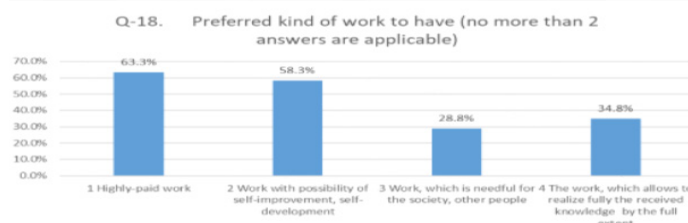


Fig.4

Study of young pharmacist: The respondents' vast majority considered that for successful work their actual knowledge in the fields of pharmacology, pharmacotherapy, clinical pharmacy and pharmaceutical care should deepen by increasing credits (hours) in the mentioned subjects in universities. (See Fig 5).

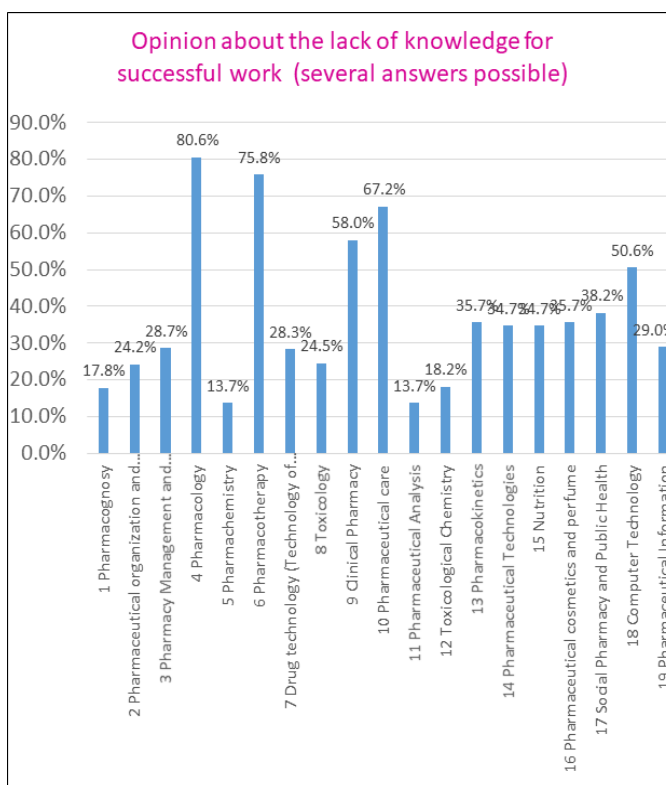


Fig.5

Study of employed pharmacy faculty students: Less than half of the respondents considered that being employed did not impede in study, meanwhile about one fifth of them considered that it partially impeded the study. It is of the great significance to find a balance between studying and working processes by means of good organizing all the deliverables. At the same time in some situations work impeded in the university study. (See Fig 6).

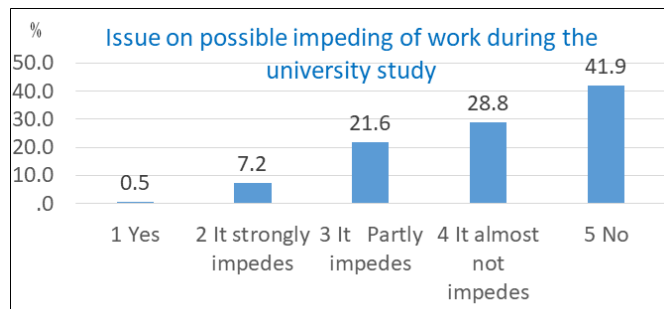


Fig.6

Statistically significance of differences in opinion of different respondents about necessity of pharmacists' certification: Opinion that certification of pharmacists should be mandatory was more common among the health care specialists rather than among chief pharmacists (Chi-square = 45.2, $p < 0.001$) and among pharmacists (Chi-square=68.9, $p < 0.001$), but there was no statistically significant difference on this between chief pharmacists and pharmacists. It was more common also among patients/customers, rather than in pharmacists (Chi-square=44.2, $p < 0.001$). The necessity of pharmacists' certification was stated more often by employed students, rather than by pharmacists (Chi-square = 57.3, $p < 0.001$). Association between patients' educational level and their opinion about the necessity of pharmacists' certification was statistically significant ($p < 0.04$): patients/consumers with higher education more often considered certification of pharmacists to be mandatory than customers with secondary education.

CONCLUSION: The opinion that certification of pharmacists should be mandatory was more common among the public health specialists, than the chief-pharmacists and pharmacists. The necessity of pharmacists' certification was stated more often by employed students, than by pharmacists. It was more common also among customers than in pharmacists. Statistically significant was an association between the customers' educational level and their opinion about the necessity of pharmacists' certification: customers with higher education considered certification of pharmacists as mandatory more often, than the customers with secondary education did. Statistically significant association was revealed between the pharmacists' position and their satisfaction with a professional career and job. Holding high positions was associated with the career and job satisfaction, but not with the professional choice satisfaction. It showed also that long terms of work experience in the current position were associated with the lower career and job satisfaction. A belief in that the professional capabilities and skills of respondents have been realized to the full extent in the current job was associated with an increased career and job satisfaction. A positive opinion about the importance

of continuous professional development was also associated with an increased job and career satisfaction. Pharmacists' engagement in the planning of professional career wasn't associated with an increased job and career satisfaction. One of the main predictors of pharmacists' career and job satisfaction was also their income. Pharmacists who were satisfied with their income were more often satisfied also with their job and career.

PRACTICAL RECOMMENDATIONS: To raise the professional standards the Government should make the certification of the pharmacists with higher pharmaceutical education, which is essential for pharmacists' professional perfection, their self-realization and also career advancement, the continuous professional education provision, professional growth, their job and career satisfaction. This implementation will ensure the pharmacists' higher status among the public health specialists, which is essential for pharmacists' economic welfare and career advancement. It also enables realization of the received knowledge and the professional capabilities and skills in work at the maximal extent, as well as be satisfied with the profession, job and salary. That, in turn, is essential to provide a high correspondence of the pharmacists' qualification to work and an opportunity to have a private pharmaceutical activity. The Government should organize the preparation and implementation of the regulations scheme for pharmacists' registration, certification, licensing and accreditation. All the above mentioned should raise awareness on the essence of pharmacists' profession and functions among the medical personnel and population in general. Because the pharmacist's professional activity is very important for the society, the higher education institutes must also update the pharmaceutical educational programs to meet the needs by increasing the credits (hours) in pharmacology, pharmacotherapy, pharmaceutical care and clinical pharmacy. To underline a role of pharmacists in medicines management for patients and collaborate with physicians for revision. It is necessary to provide deep cooperation between pharmacists and physicians on the issues of pharmacotherapy and health care. The Government should take care of the profession of pharmacist authority. By the governmental support the authority and social importance of the pharmacist profession in health care system is to be increased. Pharmacist profession should become of more power, authority and much higher status in health care system, when the pharmacist profession will move into the regulated health professions list. Pharmacist should registrate the side (adverse) effects and professional defects of the medicines they provide, as they are responsible for the health state of population, being a member of the health care system.