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**MODERN SCIENTIFIC DISCUSSION OF SPECIFICITIES OF THE ROLE, ACHIEVEMENTS,  
INNOVATIONS, PROFESSIONAL AND ENHANCEMENT PROSPECTS OF PHARMACISTS  
IN THE CONTEXT OF THE DEVELOPMENT OF HEALTH CARE SECTOR GLOBALLY**

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ფარმაცევტთა პროფესიული პერსპექტივების, როლის, მიღწევებისა და ინოვაციების,  
თანამედროვე სამეცნიერო განხილვა ჯანდაცვის სექტორის განვითარების კონტექსტში*  
<sup>1</sup> მხითარ ჰერაცის სახელობის ერევნის სახელმწიფო სამედიცინო უნივერსიტეტი, ერევანი,  
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### რეზიუმე

კვლევის მთავარი მიზანი იყო ფარმაცევტების როლის, მიღწევების, ინოვაციების, პროფესიული განვითარების სპეციფიკის ანალიზი საქართველოს ჯანდაცვის სექტორში. ჩატარებული იქნა რაოდენობრივი კვლევა, კითხვარების გამოყენებით შესწავლილი იქნა ფარმაცევტების როლის, მიღწევების, სიახლეების, პროფესიული განვითარების მახასიათებლები საქართველოში. ჩატარებულ იქნა რესპოდენტთა გამოკითხვა კითხვარების გამოყენებით. გამოყენებულია 7 სახის დამტკიცებული კითხვარი (რესპოდენტები შემთხვევითად იყვნენ შერჩეულები): კითხვარი მთავარი ფარმაცევტებისთვის: 410 მთავარი ფარმაცევტი მონაწილეობდა კვლევაში. კითხვარი პაციენტებისთვის: კვლევაში მონაწილეობდა 1506 პაციენტი. კითხვარი დასაქმებული ფარმაცისტის ფაკულტეტის სტუდენტისთვის: კვლევაში მონაწილეობდა 222 დასაქმებული ფარმაცევტული ფაკულტეტის სტუდენტი. კითხვარი ჯანდაცვის სპეციალისტებისთვის: კვლევაში მონაწილეობდა 307 საზოგადოებრივი ჯანდაცვის სპეციალისტი. ფარმაცევტ სპეციალისტის კითხვარი: 810 ფარმაცევტ სპეციალისტი მონაწილეობდა კვლევაში. გამოყენებული იქნა სისტემური, სოციოლოგიური (გამოკითხვა), შედარებითი, მათემატიკურ-სტატისტიკური და გრაფიკული ანალიზის მეთოდები. მონაცემები დამუშავდა და გაანალიზდა SPSS პროგრამით. ჩატარდა აღწერითი სტატისტიკური და რეგრესიული ანალიზი ცვლადებს შორის ასოციაციის დასადგენად. სტატისტიკური ანალიზი გაკეთდა SPSS 11.0. ვერსიით Chi-square ტესტის გამოიყენებოდა სტატისტიკური მნიშვნელობისა და განსხვავებების შესაფასებლად, ყველა სტატისტიკური ანალიზისთვის განისაზღვრა  $p < 0.05$ .

**Introduction:** Pharmacists have a different and gainful career, with possibilities for pharmaceutical care, science study and innovations. They could work in uncountable occupational directions. Many pharmacists work in the pharmacies and deliver consultancy to customers/patients for the take of prescribed and over the counter (OTC) drugs [1,2]. The pharmacists are working in various another healthcare conditions also, inclusive clinics, care houses, special care points, control health care institutions, the pharmaceutical companies, pharmacy industries, higher pharmaceutical educational institutions pharmacy colleges, schools

and the insurance companies. Pharmacists are acting main leader functions and roles in whole possibilities of the healthcare division [3-5]. Based on the current situation analysis and identifying gaps in the pharmacy system, as well as taking into consideration international regulations and the peculiarities available in Georgia elaboration of the recommendations aimed at solving the existing problems have been encountered [7,8]. A comprehension of the existing problems solving urgency moved us to perform the given research with the selected appropriate design, which defined such objectives, as assessment and analyzing of the current situation of pharmacist in Georgia, and detection of the gaps and outlines of the Georgian pharmacist system's perspectives. Development and justifying the practical recommendations for improving the professional development of pharmacists and the quality of pharmaceutical care in whole [9-12].

**The goal and objectives of the research.** The goal of the research was to provide a complex study, analysis and evaluation of the specificities of the role, achievements, innovations, professional and enhancement prospects of pharmacists in health care sector globally.

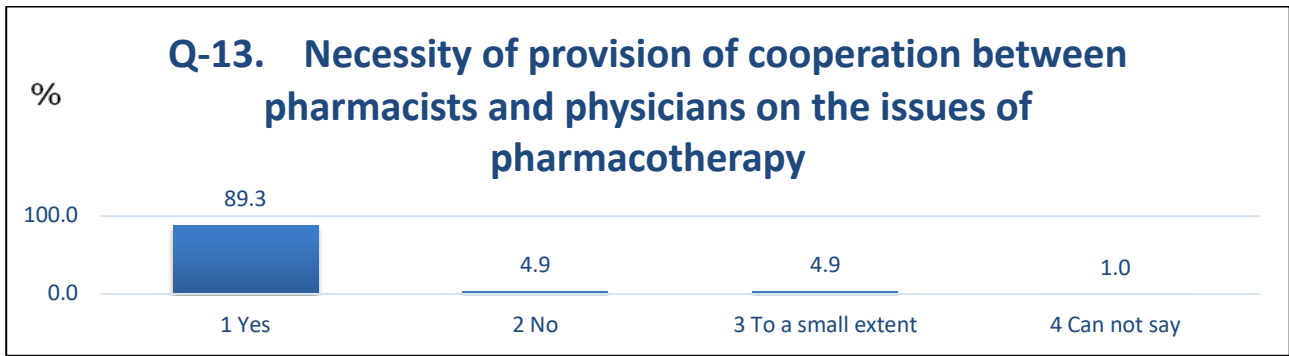
**Materials and methods of research.** The following 7 types of approved questionnaires there were used (respondents were randomly selected): Questionnaire for pharmacy faculty students: 319 pharmacy faculty students were participated in the study; Questionnaire for the young pharmacist specialists up 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. Research was conducted based on the analysis of data from official sources of respondents' filled questionnaires. The collected data were subjected to analysis by means of the SPSS 11. Program. Methods of the systematic, sociological (surveying, questioning), comparative segmentation, mathematical-statistical, graphical analyses were used. The research implementation required the following sub studies: Study of the level of awareness regarding the roles and responsibilities of pharmacists' staff in Georgia.

**Results and discussion:** The respondents' public health specialists' vast majority considered that the issues to for pharmacists needed the further regular studies or trainings in the following fields: new medications, issues of pharmacotherapy of certain diseases, pharmacology and pharmacotherapy, drugs toxicity (See tabl.1). From the study results it is obvious that in the higher pharmaceutical institutions' pharmaceutical educational programs and curriculum need upgrade, renewal, modernization to the new modern medical challenges. Therefore, continuous pharmaceutical educational programs should be created. These programs should be more focused on new medications, pharmacotherapy, drugs toxicity and dosage, routes of drug administration, selection of OTC drugs, cost-effectiveness and cost-benefits of drugs.

**Table 1. The respondents' (public health specialists) opinions about the issues for pharmacists necessary for the further regular studies or trainings**

The issues for pharmacists necessary for the further regular studies or trainings	Count	Percent %
1. Safety and effectiveness of drugs	154	50.2
2. Pharmacology and pharmacotherapy	224	73.0
3. Drugs toxicity	164	53.4
4. Drugs dosage	112	36.5
5. Routes of drug administration	110	35.8
6. Rules of drug administration	123	40.1
7. Selection of OTC drugs	108	35.2

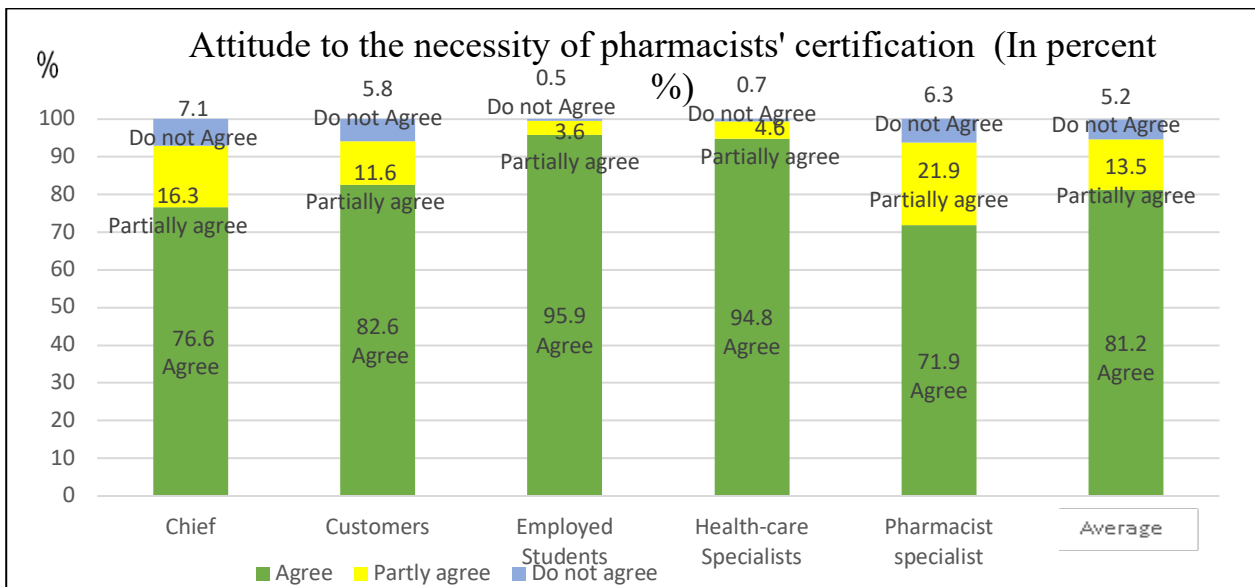
The respondents' public health specialists' large majority considered necessity of provision of cooperation between pharmacists and physicians on the issues of pharmacotherapy (See fig.1).



**Figure 1. The respondents' opinion about the necessity to provide cooperation between pharmacists and physicians on the issues of pharmacotherapy**

To provide contribution and assistance in teaching of patients to understand the prescribed drugs intake rules, pharmacists need in deep knowledge in basics of medicine, pharmacology, pharmacotherapy, pharmaceutical chemistry, pharmaceutical care, clinical pharmacy and other pharmaceutical disciplines. Properly educated pharmacists have great importance and value for the provision higher quality health care services, for the provision higher quality pharmaceutical care and very essential for patient's safety.

A large majority of respondents consider that the Government should make the certification of pharmacists (See Ill.1). As revealed, it is very important that the occupation of pharmacist should become regulated health profession.



**Illustration 1. Attitude to the necessity of pharmacist certification.**

**Conclusions.** Because the pharmacist's professional activity is very important for the society, the higher education institutes must also update the pharmaceuticals educational programs to meet the needs by increasing the credits (hours) in pharmacology, pharmacotherapy, pharmaceutical care and clinical pharmacy. Develop a partnership between doctors and pharmacists furthermore with different healthcare vocationals. It is necessary to provide deep cooperation between pharmacists and physicians on the issues of pharmaceutical care, clinical pharmacy and rational pharmacotherapy and other health care challenges. To raise the professional standards, the Government should make the certification of higher pharmaceutical education pharmacists. The Government should organize the preparation and implementation of the pharmacists' registration, certification and accreditation regulations scheme for pharmacist staff. All the above mentioned should raise awareness on the essence of pharmacists' profession and pharmacist' functions among medical personnel and the general public.

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## **СОВРЕМЕННОЕ НАУЧНОЕ ОБСУЖДЕНИЕ ОСОБЕННОСТЕЙ РОЛИ, ДОСТИЖЕНИЙ, ИННОВАЦИЙ, ПРОФЕССИОНАЛЬНЫХ ПЕРСПЕКТИВ И ПЕРСПЕКТИВЫ РАЗВИТИЯ ПРОФЕССИИ ФАРМАЦЕВТОВ В КОНТЕКСТЕ РАЗВИТИЯ СЕКТОРА ЗДРАВООХРАНЕНИЯ В МИРЕ**

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## **РЕЗЮМЕ**

Основная цель исследования состояла в том, чтобы проанализировать особенности роли, достижений, инноваций, профессиональных перспектив и повышения квалификации фармацевтов в секторе здравоохранения в Грузии. Исследование представляло собой количественное исследование и анализ специфики роли, достижений, нововведений, профессиональных перспектив и перспектив повышения квалификации

фармацевтов в секторе здравоохранения во всем мире в Грузии с использованием анкет. Были проведены анкетные исследования. В исследовании использовался метод глубинного интервьюирования респондентов. Было использовано 7 типов утвержденных анкет (респонденты были отобраны случайным образом): Анкета для главных фармацевтов: в исследовании приняли участие 410 главных фармацевтов. Анкета для пациентов: в исследовании приняли участие 1506 пациентов. Анкета для трудоустроенного студента фармацевтического факультета: в исследовании приняли участие 222 трудоустроенных студента фармацевтического факультета. Анкета для специалистов здравоохранения: в исследовании приняли участие 307 специалистов в области общественного здравоохранения. Анкета для фармацевта-специалиста, в исследовании приняли участие 810 фармацевтов-специалистов. Были использованы методы систематического, социологического (анкетирование), сравнительного, математико-статистического, графического анализа. Данные обрабатывались и анализировались с помощью программы SPSS. Были проведены описательная статистика и регрессионный анализ для выявления связи между переменными. Статистический анализ был выполнен в SPSS версии 11.0. Для оценки статистической значимости и различий применялся критерий хи-квадрат. Мы определили  $p < 0,05$  как значимое для всех анализов.

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**SUMMARY:**

The main objective of the study was to analyze the specificities of the role, achievements, innovations, professional and enhancement prospects of pharmacists in health care sector in Georgia. The study was a quantitative investigation and analysis of the specificities of the role, achievements, innovations, professional and enhancement prospects of pharmacists in health care sector globally in Georgia by using questionnaires. Were conducted a survey study. The in-depth interview method of the respondents was used in the study. The 7 types of approved questionnaires were used (Respondents were randomly selected): Questionnaire for chief pharmacists: 410 chief pharmacists participated in the study. Questionnaire for patients: 1506 patients participated in the study. Questionnaire for the employed pharmacy faculty-student: 222 employed pharmacy faculty students participated in the study. Questionnaire for health-care specialists: 307 public health specialists participated in the study. Questionnaire for pharmacist specialist, 810 pharmacist specialists participated in the study. Were used methods of systematic, sociological (surveying, questioning), comparative, mathematical-statistical, graphical analysis. The data were processed and analyzed with the SPSS program. Were conducted descriptive statistics and regression analyses to detect an association between variables. Statistical analysis was done in SPSS version 11.0. A Chi-square test was applied to estimate the statistical significance and differences. We defined  $p < 0.05$  as significant for all analyses.

**Key words:** Specificities, profession, health care, pharmacist, patient, pharmacy.