ORIGINAL ARTICLE

CONTENTS

Modern paradigms of treatment of coronary heart disease: consistency of opinions of participants in the treatment process

Maryna M. Dolzhenko[1], **Natalia A. Bilousova**[1], **Vasyl M. Mykhalchuk**[1], **Natalia O. Tkachenko**[2], **Liudmyla I. Yakovenko**[1]

[1]SHUPYK NATIONAL HEALTHCARE UNIVERSITY OF UKRAINE, KYIV, UKRAINE

[2]ZAPORIZHZHIA STATE MEDICAL AND PHARMACEUTICAL UNIVERSITY, ZAPORIZHZHIA, UKRAINE

ABSTRACT

Aim: To study the consistency of opinions of participants in the treatment process of coronary heart disease with comorbid conditions with further analysis of the quality of pharmaceutical care and development of a strategy for improving interprofessional interaction of pharmacists in integrated care teams.

Materials and Methods: The materials of the study were the results of a survey, conducted among the pharmacists of pharmaceutical stores, patients with coronary heart disease with comorbid conditions and doctors, according to the specified criteria for providing pharmaceutical care. The following research methods were used: analysis, deduction, induction, comparison, systematization, generalization, forecasting, statistical and bibliographic.

Results: An intermediately satisfactory level of pharmaceutical care was determined. It was found that the implementation of pharmaceutical care requires the development of clinical competencies and communication skills of pharmacists with patients and the improvement of regulatory and legal support. Kendall's consistency coefficient W = 0.85.

Conclusions: A sufficiently high level of agreement of opinions (W = 0.85) of doctors, pharmacists and patients regarding the criteria for providing pharmaceutical care has been reliably confirmed. Directions for the development and improvement of mechanisms for providing pharmaceutical care have been identified. It is proposed to develop standards for providing pharmaceutical care to patients with coronary heart disease with comorbid conditions in accordance with the ESC/AHA recommendations and taking into account the compatibility of medicines of different pharmacological groups used to cure the cardiovascular diseases.

KEY WORDS: pharmaceutical care, coronary heart disease, pharmaceutical care criteria, integrated care team, interprofessional interaction, rational pharmacotherapy

Wiad Lek. 2025;78(6):1142-1149. doi: 10.36740/WLek/207372 DOI

INTRODUCTION

It is known that the main cause of mortality in the world among non-communicable diseases is coronary heart disease (CHD) [1].. The highest incidence and mortality from CHD among European countries is observed in Ukraine [2]. It is obvious that during the war in Ukraine, the incidence of CHD increases under the influence of stress factors of war and socioeconomic factors [3]. To address the issues of reducing the incidence of cardiovascular pathologies in the world and improving the quality of medical care for patients with CHD with comorbid conditions, the World Health Organization has proposed patient-oriented interdisciplinary approaches with the participation of pharmacists as part of integrated care teams [4]. The clinical guidelines of the American Heart Association (AHA) and the European Society of Cardiology (ESC) also emphasize the interprofessional interaction of pharmacists as part of integrated care teams including doctors of different specialties, nurses, dietitians, medical psychologists and social workers [5;6] in order to provide high-quality patient-centered care to patients with cardiovascular diseases. The International Pharmaceutical Federation (FIP) has proposed actions to implement pharmaceutical care at a qualitatively new level with value-oriented approaches [7]. The Roles and Functions of Pharmacists in Good Pharmacy Practice (GPP) have been expanded [8, 9] by transforming pharmaceutical provision, ensuring the sustainability of pharmacy institutions [10] with the further integration of pharmacists into primary health care. The document on regulatory pharmaceutical policy and practice in Eastern Europe emphasizes the need to review the critical attitude of healthcare professionals towards the integration of pharmacists into primary health care [7]. It is expected that these actions will improve access to primary health care in the future.

Under martial law in Ukraine, the population's access to primary health care is decreasing due to bombings and missile attacks on health care facilities, medical workers (their shortage and professional burnout), mobilization and other reasons [11]. Conceptually new approaches to integrating pharmacists into primary health care and reviewing marketing approaches by pharmacy business owners with a patient-centered approach to pharmaceutical care in the health care structure could improve the population's access to medicines. The proposed measures for primary and secondary prevention, monitoring of pharmacotherapy and checking the compatibility of prescribed pharmacotherapy with medicines would likely contribute to early diagnostics, disease prevention and adherence to treatment in patients with coronary heart disease with comorbid conditions, as emphasized in the EUROASPIRE IV,V observational studies [12, 13] and ESC/AHA clinical guidelines [14, 15].

At the state level, it is also planned to implement the outlined measures with conceptually new approaches [8, 9] to the provision of pharmaceutical care to patients with CHD for the purpose of early diagnostics and prevention of the disease. However, at the sectoral level, pharmaceutical care for such patients is regulated by pharmacists' protocols when dispensing medicines that are subject to reimbursement [16], a significant part of which is not included in the clinical protocol "Stable ischemic heart disease" [17] and requires significant revision [18, 19].

Thus, it is especially relevant in the conditions of martial law to determine the consistency of opinions of doctors, patients and pharmacists regarding the quality of pharmaceutical care for patients with CHD with comorbid conditions with the subsequent development of a strategy for implementing interprofessional interaction of pharmacists as part of integrated care teams.

AIM

The purpose of the article is to study the consistency of opinions of participants in the treatment process of coronary heart disease with comorbid conditions and further analysis of the quality of pharmaceutical care and development of a strategy for improving interprofessional interaction of pharmacists in integrated care teams.

MATERIALS AND METHODS

The study was conducted at the Department of Cardiology of the Shupyk National Healthcare University of Ukraine using an online survey of doctors, patients and pharmacists using Google Forms from April to December 2024. The questionnaires were distributed via the social network Facebook, the Viber messenger, communities of general practitioners of family medicine, the pharmaceutical community, pharmacy chains "Low Price Pharmacy" ("Apteka Nyzkykh Tsin"), "We wish you good health" ("Bazhayemo Zdorovya"), "CE Pharmacy", "Vitamin". The questionnaires for all respondents contained 19 questions each. In this study, we used 8 questions: 2 of which determined the age and regional distribution of respondents, 6 questions determined the criteria for providing pharmaceutical care and made it possible to find out the consistency of respondents' opinions regarding the state of pharmaceutical care for patients with CHD with comorbid conditions. The answers were ranked from the best to the worst results. The remaining answers were processed in another study. The questionnaires were anonymous, previously the survey participants provided verbal consent, confirmed by one of the questions in the online survey. A total of 527 questionnaires (331 doctors, 86 patients, 110 pharmacists) from 23 regions of Ukraine were processed. The study was attended by general practitioners of family medicine (88%) and doctors of therapeutic specialties (6%) - cardiologists and neurologists; patients with CHD with comorbid conditions who participated in the EUROASPIRE IV, V studies; pharmacists with specializations in "general pharmacy" (86.4%), "clinical pharmacy" (13.6%). Incomplete questionnaires were the exclusion criteria. The difference in indicators was considered significant at the level of the CI 95%, $p<0.0001$. The Kendall agreement coefficient was calculated using the formula:

$$W=\frac{12\sum_{i=1}^{k}(R-R1)^2}{n(n^2-1)}$$

where W is the Kendall consistency coefficient, R is the sum of the rank scores for each pharmaceutical care criterion, R1 is the average value of the sum of the rank scores, n is the number of pharmaceutical care criteria.

The methods of analysis, deduction, induction, comparison, systematization, generalization, forecasting, statistical and bibliographic were used.

The accumulation, correction, systematization of information, visualization of results and calculations were carried out in Microsoft Office Excel spreadsheets. Statistical processing was carried out using the STATISTICA.13 program.

RESULTS

The average age of respondents was determined as the following: doctors - 54.5 ± 4.0 years; patients - 52.7 ± 4.0 years; pharmacists - 43.8 ± 4.0 years.

The overall satisfaction of respondents with pharmaceutical care provided in pharmacies in the country was

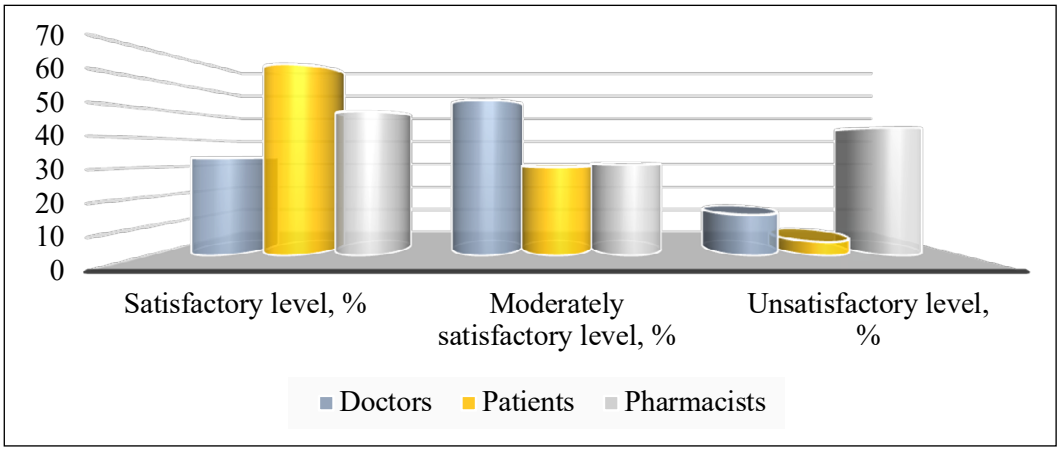

Fig. 1. Overall satisfaction of respondents with pharmaceutical care provided to patients with CHD with comorbid conditions

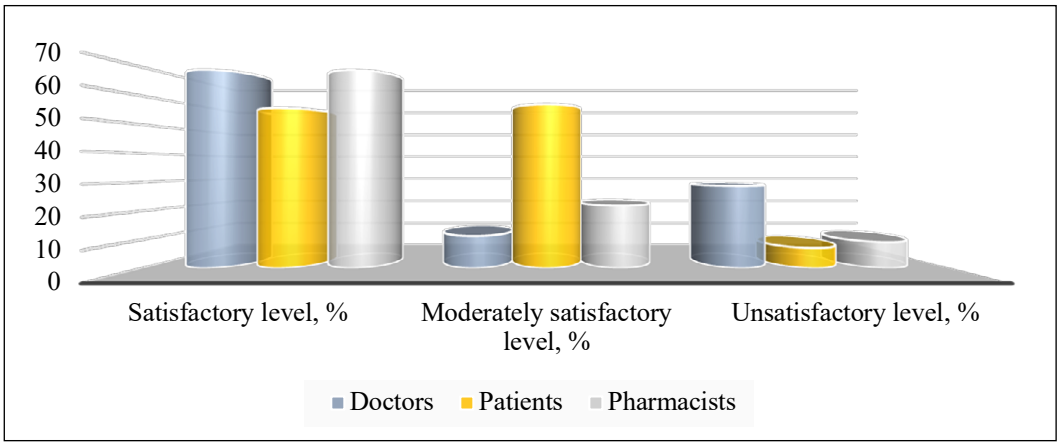

Fig. 2. Determination of the level of information support for patients CHD with comorbid conditions regarding the rational use of medicines

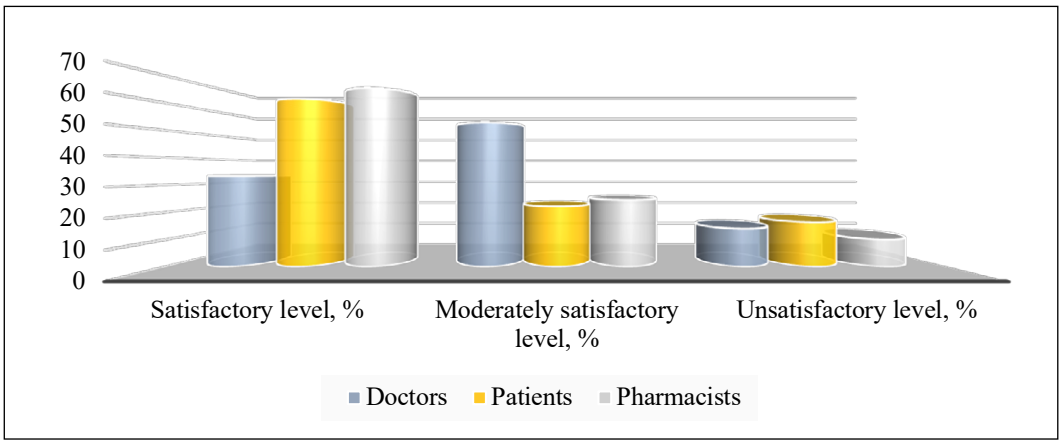

Fig. 3. Level of effectiveness of pharmacists' response to patients' questions

investigated and includes pharmaceutical provision; explanations for patients regarding the safe use of medicines; promotional offers in pharmacies; attentiveness and friendliness of pharmacists, etc. (Fig. 1). It should be noted that patients with ischemic heart disease with comorbid conditions, in most cases (65.6% [CI 95% 65.6 ± 0.05, p<0.0001]), are satisfied with the provision of pharmaceutical care. The majority of doctors noted that the provision of pharmaceutical care to such patients is at an intermediate satisfactory level (52.9% [CI 95% 52.9 ± 0.03, p<0.0001]). However, pharmacists themselves are critical of the quality of pharmaceutical care and 43.6% [CI 95% 43.6 ± 0.05, p<0.0001] noted an unsatisfactory level.

The level of information support for patients with CHD and comorbid conditions regarding the rational use of medicines was determined (Fig. 2). In general, doctors (69.2% [CI 95% 69.2 ± 0.03, p<0.0001]) and pharmacists (69.1% [CI 95% 69.1 ± 0.04, p<0.0001]) determined a satisfactory level of information support for patients, however, according to the patients themselves, information support is at a satisfactory (55.8% [CI 95% 55.8 ± 0.05, p<0.0001]) and moderately satisfactory levels (57.1% [CI 95% 57.1 ± 0.05, p<0.0001]).

The effectiveness of pharmacists' responses to patients' questions was determined (Fig. 3). Overall, pharmacists (65.5% [CI 95% 65.5 ± 0.05, p<0.0001]), patients

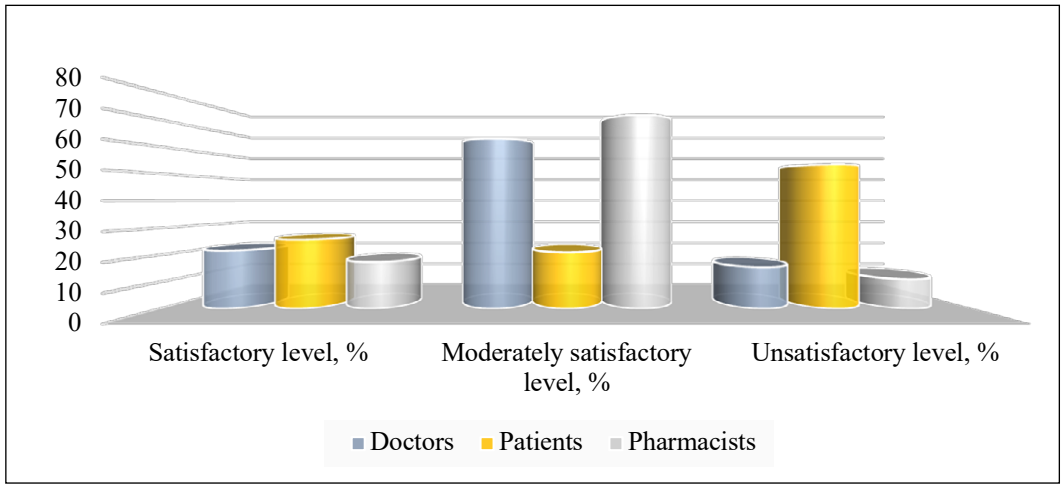

Fig. 4. Assessment of the effectiveness of pharmacists' communication with patients regarding the education of patients with CHD with co-morbid conditions regarding the safe use of medicines

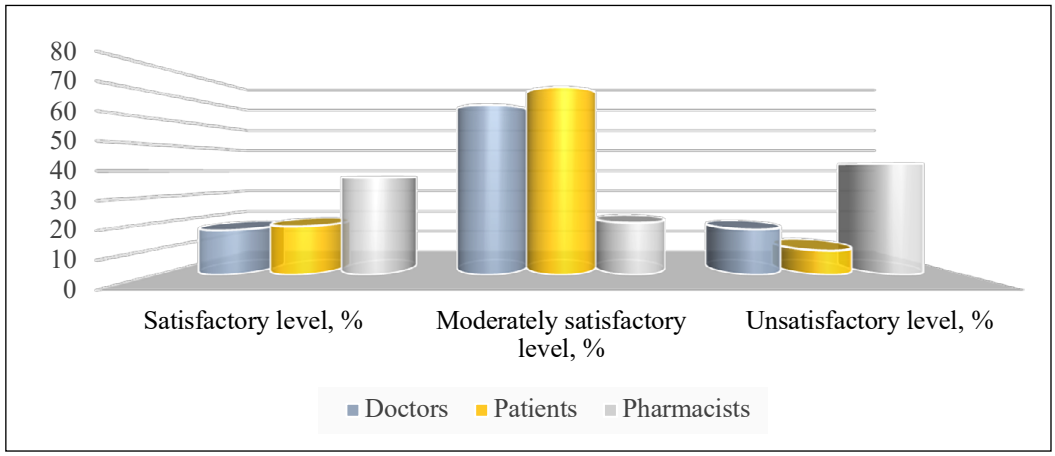

Fig. 5. Assessment (self-assessment) of clinical competencies of pharmacists when providing consultations to patients with CHD with co-morbid conditions

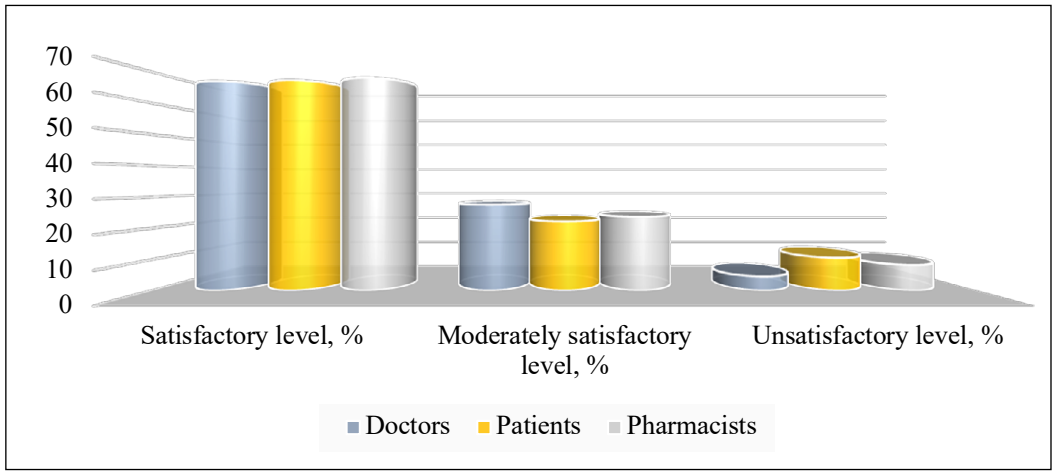

Fig. 6. Level of pharmacists' provision of confidentiality of patients' medical data

(61.6% [CI 95% 61.6 ± 0.05, p<0.0001]) and physicians (33.2% [CI 95% 33.2 ± 0.03, p<0.0001]) were satisfied with pharmacists' responses to patients' questions, but physicians (52.9% [CI 95% 52.9 ± 0.03, p<0.0001]) would like to see better responses from pharmacists and more responsiveness to patients.

The assessment of the effectiveness of pharmacists' communications with patients regarding the awareness of patients with CHD with comorbid conditions regarding the safe use and compatibility check of medicines was documented. Pharmacists (71.8% [CI 95% 71.8 ± 0.04, p<0.0001]) and doctors (63.1% [CI 95% 63.1 ± 0.03, p<0.0001]) noted a moderately satisfactory level of effectiveness of such communications. However, patients themselves (53.5% [CI 95% 53.5 ± 0.05, p<0.0001]) noted that in half of the cases such support does not occur in pharmacies and after purchasing medicines, pharmacists are generally reluctant to provide explanations regarding the safe intake and use of medicines (Fig. 4).

Respondents were also asked to assess (self-assess) the clinical competencies of pharmacists when providing consultations to patients with CHD and comorbid

Table 1. Ranking of aspects of pharmaceutical care provision by different groups of respondents according to levels of pharmaceutical care quality

Pharmaceutical care criteria	Levels of pharmaceutical care provision					
	Doctors	Rank	Patients	Rank	Pharmacists	Rank
Overall satisfaction with pharmaceutical care	Moderately satisfactory	2	Satisfactory	1	Satisfactory	1
Informational support of patients regarding the use of medicines	Satisfactory	1	Moderately satisfactory	2	Satisfactory	1
Effectiveness of pharmacists' response to patients' questions	Moderately satisfactory	2	Satisfactory	1	Satisfactory	1
Effectiveness of communications with patients and education on the use of medicines	Moderately satisfactory	2	Unsatisfactory	3	Moderately satisfactory	2
Examination of clinical competencies of pharmacists when providing consultations to patients	Moderately satisfactory	2	Moderately satisfactory	2	Unsatisfactory	3
Ensuring confidentiality of patient medical data	Satisfactory	1	Satisfactory	1	Satisfactory	1

conditions (Fig. 5). After assessing the clinical competencies of pharmacists, it was determined that doctors (65.3% [CI 95% 65.3 ± 0.03, p<0.0001]) and patients (72.1% [CI 95% 72.1 ± 0.05, p<0.0001]) noted a mediocre level of clinical competencies. However, pharmacists' opinions on this matter were divided. The majority of pharmacists were very critical of such self-assessment and believed that the level of clinical knowledge, skills and abilities was unsatisfactory (42.7% [CI 95% 42.7 ± 0.05, p<0.0001]). The rest of the pharmacists noted a satisfactory level (37.3% [CI 95% 37.3 ± 0.05, p<0.0001]) of their own clinical competencies.

The level of pharmacists' ensuring of confidentiality of patients' medical data was investigated (Fig. 6). All three groups of respondents: doctors (67.1% [CI 95% 67.1 ± 0.03, p<0.0001]), patients (67.4% [CI 95% 67.4 ± 0.05, p<0.0001]) and pharmacists (68.2% [CI 95% 68.2 ± 0.04, p<0.0001]) assessed the pharmacists' ensuring of confidentiality of patients' medical data satisfactorily. However, all groups of respondents noted that the confidentiality of medical data could be improved.

Furthermore, the obtained data was ranked according to the criteria for providing pharmaceutical care to patients with CHD with comorbid conditions, different groups of respondents and levels of quality of pharmaceutical care (Table 1).

The calculated Kendall coefficient W = 0.85 indicates a high result of the consistency of opinions between doctors, patients and pharmacists for the studied criteria for the provision of pharmaceutical care. The statistical significance of the Kendall coefficient W = 0.85 was confirmed: $\chi 2 = 12.71$ at a given confidence level $\alpha = 0.05$, which indicates the consistency of opinions of doctors, patients and pharmacists for most criteria for the provision of pharmaceutical care. The results obtained regarding the quality of pharmaceutical care for patients suffering from CHD with comorbid conditions indicate the possibilities of developing communications between pharmacists and patients, the need to develop clinical competencies of pharmacists and improve information support for patients in terms of the safe use of medicines by pharmacists.

DISCUSSION

The results of the analysis of scientific data show that the study of interprofessional interaction in integrated care teams attracts the attention of researchers from different countries of the world [20-23]. The study of the general opinion regarding the criteria for providing pharmaceutical care of doctors, pharmacists and patients allows us to identify the main problems that arise between participants in the treatment process of CHD with comorbid conditions in modern conditions of martial law when providing pharmaceutical care. These criteria are considered as generalized criteria for providing pharmaceutical care in a systematic review of 19 randomized clinical trials [24] and a meta-analysis on primary and secondary prevention of strokes in patients with CHD with atrial fibrillation [22], which are confirmed by the pharmacoeconomic effectiveness of pharmacists' interventions in the process of interprofessional interaction.

The results of the study obtained by us allow us to determine the general opinion of all respondents for further development of a strategy for the development of interprofessional interaction and integration of pharmacists into primary health care. This survey showed the main obstacles that arise in the provision of pharmaceutical care: insufficient level of commu-

nication between pharmacists and patients, clinical competencies of pharmacists and information support for patients with ischemic heart disease, which includes the safety of using medicines. The results of our study are confirmed by the data of a systematic review [25]. The patients themselves who participated in the study noted that the information provided by pharmaceutical store pharmacists regarding the proper use of medicines is not always clear and understandable. Accordingly, pharmaceutical store pharmacists are assigned tasks to develop mechanisms for information support for patients, which may include paper notes for patients, development of mobile applications for monitoring health status and compliance with the medication regimen of patients with CHD with comorbid conditions.

In accordance with the standards of higher education in the specialty 226 Pharmacy, Industrial Pharmacy [26], good pharmacy practice (GPP) [8], pharmacists' protocols [16], pharmacists of pharmaceutical stores should pay attention to pharmaceutical care, which includes primary prevention of CHD with comorbid conditions, such as diabetes mellitus, arterial hypertension and chronic kidney disease. In addition, pharmacists, in accordance with modern legislation [8;9;16] and standards of higher education [26], should check the compatibility of medicines used by patients with ischemic heart disease, promote their rational use; monitor adverse reactions; provide information support on the correct use and storage of medicines in addition to pharmaceutical provision in order to improve the population's access to medicines.

However, in our study, doctors and patients indicate an intermediately satisfactory level of the listed criteria. Pharmacists realize that in many cases they do not always provide such support to patients due to workload at the workplace, orientation towards pharmaceutical provision of medicines, marketing agreements of pharmacy chains with pharmaceutical companies, promotion of private labels of dietary supplements in pharmacy chains and insufficient development of communication skills. The current Ukrainian legislation has contradictions and needs to be normalized in accordance with the requirements of the European Union countries [27]. The quality standards of pharmacy services [8] are of a recommended nature, the new version of the law "On Medicines" [9] comes into force a year after the end of martial law in Ukraine, and pharmacists' protocols [16] do not contain all pharmacological groups of medicines used by patients with CHD with comorbid conditions. In addition, electronic health systems do not allow tracking the entire list of medicines taken by a patient, so monitoring pharmacotherapy and checking the compatibility of medicines takes a lot of time, which makes it impossible to implement these measures if there are queues in pharmacies. Such contradictions affect the quality of pharmaceutical care and remove responsibility for patient safety from pharmacists and pharmacy business owners regarding the rational use of medicines. The lack of mandatory requirements for continuous professional development of pharmaceutical store pharmacists makes it impossible to develop clinical competencies and requires a review of approaches to modern regulatory and legal regulation of pharmacists' activities in Ukraine.

In the world pharmaceutical practice, there is a rapid transformation and reorientation of pharmaceutical services, therefore the problems and factors influencing the quality of pharmaceutical care outlined by us are also characteristic of other countries of the world [23, 28-30].

The consistency of opinions (W = 0.85) regarding the criteria for providing pharmaceutical care in the structure of medical care for patients with CHD with comorbid conditions, reliably confirmed by our research, indicates the same understanding between all participants during the treatment process within the interprofessional interaction. The shortcomings we have identified allow us to identify the main tasks for improving the quality of pharmaceutical care: development of communication skills and clinical competencies of pharmacists, development of information booklets for patients, development of mobile applications for monitoring the health status and compliance with the medication regimen of patients with ischemic heart disease with comorbid conditions, improvement of the regulatory field of pharmaceutical care in accordance with the Law of Ukraine "On Medicines" [9].

CONCLUSIONS

1. A sufficiently high level of agreement of opinions (W = 0.85) regarding the criteria for providing pharmaceutical care in the structure of medical care for patients with CHD with comorbid conditions has been reliably confirmed.
2. The directions for the development of pharmaceutical care have been identified: the development of pharmacists' communication skills, clinical competencies and information support on the rational use of medicines for patients with CHD with comorbid conditions, which is confirmed by the results of systematic reviews and meta-analyses of international studies.
3. The need to improve the regulatory field of pharmaceutical care in accordance with the Law of Ukraine "On Medicines" has been identified.

REFERENCES

1. The Heart of the World. Global Heart. Global Heart. doi:10.5334/gh.1288. DOI
2. Health Profile Ukraine. World Life Expectancy. 2024. https://www.worldlifeexpectancy.com/country-health-profile/ukraine [Accessed 14 December 2024]
3. Bilousova NA, Mykhalchuk VM. Analytical review of the inf l uence of socio-economic factors on the state of pharmaceutical care for patients with cardiovascular diseases. Pol Merkur Lek. 2024;52(3):347-355. doi:10.36740/merkur202403112. DOI
4. Framework for action on the health and care workforce in the WHO European Region 2023-2030: Draft resolution cosponsored by Andorra, Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, Malta, Monaco, Netherlands (Kingdom of the), Poland, Portugal, Republic of Moldova, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Tajikistan, Türkiye and Ukraine of 26.10.2023 no. EUR/RC73/CONF./4 Provisional agenda item. 2023. https://www.juniordoctors.eu/sites/default/files/2023-12/73wd08e-HealthCareWorkforce-230575.pdf. [Accessed 14 December 2024]
5. Marx N, Federici M, Schütt K та ін. 2023 ESC Guidelines for the management of cardiovascular disease in patients with diabetes. Eur Heart J. 2023. doi:10.1093/eurheartj/ehad192. DOI
6. Virani SS, Newby LK, Arnold SV et al. 2023 AHA/ACC/ACCP/ASPC/NLA/PCNA Guideline for the Management of Patients With Chronic Coronary Disease: A Report of the American Heart Association/American College of Cardiology Joint Committee on Clinical Practice Guidelines. Circulation. 2023. doi:10.1161/cir.0000000000001168. DOI
7. Community pharmacy regulatory and practice models in eastern Europe and central Asia. Copenhagen: WHO Regional Office for Europe; 2024. Licence: CC BY-NC-SA 3.0 IGO. https://iris.who.int/bitstream/handle/10665/376552/9789289060776-eng.pdf?sequence=1&isAllowed=y [Accessed 14 December 2024]
8. Nalezhna aptechna praktyka: Standarty yakosti aptechnykh posluh (Spilna nastanova MFF/VOOZ z NAP), Standart Vsesvitnoi orhanizatsii okhorony zdorovia, 1 sichnia 2011 [Good Pharmacy Practice: Quality Standards for Pharmacy Services (Joint IFF/WHO Guidelines on NAP), World Health Organization Standard, 1 January 2011.]. https://zakon.rada.gov.ua/laws/show/897_009#Text [Accessed 14 December 2024] (Ukrainian)
9. Pro likarski zasoby: Zakon Ukrainy [On medicinal products] vid 28.07.2022 r. No 2469. Vidomosti Verkhovnoi Rady Ukrainy (VVR). Kyiv: Verkhovna Rada Ukrainy; 1996,No22,86. https://zakon.rada.gov.ua/laws/show/2469-20#Text [Accessed 14 December 2024] (Ukrainian)
10. International Pharmaceutical Federation (FIP). Economic sustainability and pharmacy: A commentary article. The Hague: International Pharmaceutical Federation. 2023, p. 21. https://www.fip.org/file/5870 [Accessed 14 December 2024]
11. Khanyk N, Hromovyk B, Levytska O et al. The impact of the war on maintenance of long-term therapies in Ukraine. Front Pharmacol. 2022. doi:10.3389/fphar.2022.1024046. DOI
12. Kotseva K, De Backer G, De Bacquer D et al. Primary prevention efforts are poorly developed in people at high cardiovascular risk: A report from the European Society of Cardiology EURObservational Research Programme EUROASPIRE V survey in 16 European countries. Eur J Prev Cardiol. 2020:204748732090869. doi:10.1177/2047487320908698. DOI
13. OUP accepted manuscript. Eur J Prev Cardiol. 2021. doi:10.1093/eurjpc/zwab115. DOI
14. McEvoy JW, McCarthy CP, Bruno RM et al. 2024 ESC Guidelines for the management of elevated blood pressure and hypertension. Eur Heart J. 2024. doi:10.1093/eurheartj/ehae178. DOI
15. Vrints C, Andreotti F, Koskinas KC et al. 2024 ESC Guidelines for the management of chronic coronary syndromes. Eur Heart J. 2024. doi:10.1093/eurheartj/ehae177. DOI
16. Pro zatverdzhennia protokoliv farmatsevta [On approval of pharmacist protocols]: Nakaz Ministerstva okhorony zdorovia Ukrainy vid 05.01.2022 r. № 7. Kyiv: MOZ Ukrainy; 2022. https://zakon.rada.gov.ua/rada/show/v0007282-22#Text [Accessed 14 December 2024] (Ukrainian)
17. Unifikovanyy klinichnyy protokol pervynnoyi, vtorynnoyi (spetsializovanoyi) ta tretynnoyi (vysokospetsializovanoyi) medychnoyi dopomohy «Stabil'na ishemichna khvoroba sertsya». [Unified clinical protocol of primary, secondary (specialized) and tertiary (highly specialized) medical care "Stable coronary heart disease"]. Kyiv: MOZ Ukrainy. 2021. https://www.dec.gov.ua/wp-content/uploads/2021/12/2021_2857_ykpmd_stabihs.pdf. [Accessed 14 December 2024] (Ukrainian)
18. Bilousova NA. Primary prevention of a coronary heart disease within the structure of pharmaceutical care provision: functional role fulfillment of the pharmacist. Pharmaceutical Review Farmacevtičnij časopis. 2024;(3):42-52. doi:10.11603/2312-0967.2024.3.14862. DOI
19. Bilousova N. Justification for expanding the pharmacist's role in the prevention of coronary heart disease at secondary and tertiary levels of medical care. Mod Med Pharm Psychol Health. 2024;(3):41-50. doi:10.32689/2663-0672-2024-3-7. DOI
20. Chaudhri K, Caleres G, Saunders S et al. Does Collaboration between General Practitioners and Pharmacists Improve Risk Factors for Cardiovascular Disease and Diabetes? A Systematic Review and Meta-Analysis. Glob Heart. 2023;18(1):7. doi:10.5334/gh.1184. DOI
21. Improving Collaboration between Primary Care Providers and Community Pharmacists: A CrossSectional Survey. Fam Med Prim Care. 2024;8(1). doi:10.29011/2688-7460.100250. DOI

22. Al-Qahtani S, Jalal Z, Paudyal V et al. The Role of Pharmacists in Providing Pharmaceutical Care in Primary and Secondary Prevention of Stroke: A Systematic Review and Meta-Analysis. Healthcare. 2022;10(11):2315. doi:10.3390/healthcare10112315. DOI
23. Zielińska-Tomczak Ł, Cerbin-Koczorowska M, Przymuszała P et al. Pharmacists' Perspectives on Interprofessional Collaboration with Physicians in Poland: A Quantitative Study. Int J Environ Res Public Health. 2021;18(18):9686. doi:10.3390/ijerph18189686. DOI
24. Angibaud M, Jourdain M, Girard S et al. Involving community pharmacists in interprofessional collaboration in primary care: a systematic review. BMC Prim Care. 2024;25(1). doi:10.1186/s12875-024-02326-3. DOI
25. Hatton K, Bhattacharya D, Scott S, Wright D. Barriers and facilitators to pharmacists integrating into the ward-based multidisciplinary team: A systematic review and meta-synthesis. Res Soc Adm Pharm. 2021. doi:10.1016/j.sapharm.2021.02.006. DOI
26. Pro zatverdzhennia Standartu vyshchoi osvity zi spetsialnosti 226 Farmatsiia, promyslova farmatsiia dlia druhoho (mahisterskoho) rivnia [On approval of the Standard of Higher Education in specialty 226 Pharmacy, industrial pharmacy for the second (master's) level] : Nakaz Ministerstva osvity i nauky Ukrainy vid 04.11.2024 № 981. Kyiv: MON Ukrainy; 2024. https://mon.gov.ua/npa/pro-zatverdzhennya-standartu-vishoyi-osviti-zi-specialnosti-226-farmaciya-promislova-farmaciya-dlya-drugogo-magisterskogo-rivnya-vishoyi-osviti. [Accessed 14 December 2024] (Ukrainian)
27. Henman MC, Ravera S, Lery FX. Council of Europe Resolution on the Implementation of Pharmaceutical Care—A Step Forward in Enhancing the Appropriate Use of Medicines and Patient-Centred Care. Healthcare. 2024;12(2):232. doi:10.3390/healthcare12020232. DOI
28. Wang C, Li M, Huang Y, Xi X. Factors influencing clinical pharmacists' integration into the clinical multidisciplinary care team. Front Pharmacol. 2023;14. doi:10.3389/fphar.2023.1202433. DOI
29. Zajac S, Woods A, Tannenbaum S et al. Overcoming Challenges to Teamwork in Healthcare: A Team Effectiveness Framework and Evidence-Based Guidance. Front Commun. 2021;6. doi:10.3389/fcomm.2021.606445. DOI
30. Zaij S, Pereira Maia K et al. Intervention of pharmacist included in multidisciplinary team to reduce adverse drug event: a qualitative systematic review. BMC Health Serv Res. 2023;23(1). doi:10.1186/s12913-023-09512-6. DOI

We see the development of standards for providing pharmaceutical care to patients with coronary heart disease with comorbid conditions in accordance with ESC/AHA recommendations and taking into account the compatibility of medicines of different pharmacological groups used in cardiovascular diseases as prospects for further research.

CONFLICT OF INTEREST

The Authors declare no conflict of interest

CORRESPONDING AUTHOR

Natalia Bilousova
Shupyk National Healthcare University of Ukraine
9 Dorohozhytska St, 04112 Kyiv, Ukraine
e-mail: arinatala@gmail.com

ORCID AND CONTRIBUTIONSHIP

Maryna M. Dolzhenko: 0000-0002-8559-9598 A E F
Natalia A. Bilousova: 0000-0001-6732-426X A B C D E F
Vasyl M. Mykhalchuk: 0000-0002-5398-4758 A F
Natalia O. Tkachenko: 0000-0002-8566-5938 E F
Liudmyla Yakovenko: 0009-0003-8811-8782 B

A – Work concept and design, B – Data collection and analysis, C – Responsibility for statistical analysis, D – Writing the article, E – Critical review, F – Final approval of the article

RECEIVED: 12.01.2025
ACCEPTED: 27.05.2025