

N. O. Fedchyshyn¹

ORCID <https://orcid.org/0000-0002-0909-4424>

A. H. Shulhai¹

ORCID <https://orcid.org/0000-0002-2145-5851>

O. O. Shevchuk¹

ORCID <https://orcid.org/0000-0001-6453-355X>

O. P. Ilkiv¹

ORCID <https://orcid.org/0009-0007-4831-8789>

O. B. Shuminska²

ORCID <https://orcid.org/0000-0002-9620-8863>

¹*I. Horbachevsky Ternopil National Medical University*

²*Separated Dubdivision NULESU "Berezhany Agrotechnical Institute"*

MENTORING IN MEDICAL SCIENCE: THE EXPERIENCE OF GERMAN-SPEAKING COUNTRIES

**Н. О. Федчишин¹, А. Г. Шульгай¹, О. О. Шевчук¹,
О. П. Ільків¹, О. Б. Шумінська²**

¹*Тернопільський національний медичний університет імені І. Я. Горбачевського
МОЗ України*

²*ВП НУБІП України «Бережанський агротехнічний інститут»*

МЕНТОРСТВО У МЕДИЧНІЙ НАУЦІ: ДОСВІД НІМЕЦЬКОМОВНИХ КРАЇН

Abstract. The article analyzes the basics of mentoring as a form of ensuring professional development, successful adaptation and positive influence on the interpersonal interaction of future scientists in the field of medicine. A comparative analysis of mentoring as a scientific support for future scientific and pedagogical medical staff is offered Germany, Austria and Switzerland. It was found that in recent decades, the medical profession in Western countries has been acquired mainly by women, however, this does not always allow them to plan a professional career due to certain obstacles: social concepts, gender stereotypes, high requirements for advanced training, strict work schedule, difficulties in obtaining PhD and habilitation degrees. Medical mentorship programs have been found to be offered beginning at postdoctoral status, particularly for women, as their proportion declines dramatically after the PhD.

Key words: mentoring; medicine; mentoring in science; career development; support of doctors; medical mentoring program.

Анотація. У статті проаналізовано основи реалізації менторства як форми забезпечення професійного становлення, успішної адаптації та позитивного впливу на міжособистісну взаємодію майбутніх науковців у сфері медицини. Запропоновано порівняльний аналіз менторингу як наукової підтримки майбутніх науково-педагогічних медичних кадрів у Німеччині, Австрії та Швейцарії. З'ясовано, що в останні десятиліття медичну професію в західних країнах здобувають переважно жінки, проте це не завжди дозволяє їм планувати професійну кар'єру через певні перешкоди: соціальні концепції, гендерні стереотипи, високі вимоги до підвищення кваліфікації, жорсткий регламент роботи, труднощі для здобуття наукових ступенів PhD та габілітації. Встановлено, що програми медичного наставництва пропонуються, починаючи з постдокторського статусу, особливо для жінок, оскільки їх частка різко зменшується після отримання PhD.

Ключові слова: менторинг; медицина; наставництво в науці; кар'єрний розвиток; підтримка лікарів; програма медичного наставництва.

Introduction. In the process of future specialists professional training at the higher education institutions, personally oriented training and a competency-based

approach have acquired special importance. The readiness of the future specialist of a higher education institution to carry out professional activities in the conditions of reforming higher education is ensured within the framework of the competence approach with

the main emphasis on the allocation and methods of formation and development of a complex of scientific abilities. Meanwhile, the specialist's role as a mentor takes on special importance. Combining the classic features of the well-known functions of a scientist, in particular, planning, organization, motivation, control, coordination, mentoring takes on a special importance in professional activities at the third level of higher education. The purposeful formation of scientific personnel's ability to implement the mentoring function effectively ensures their more successful adaptation and professional development, provides a positive impact on interpersonal interaction with students, and helps strengthen their authority.

The aim – a comparative analysis of mentoring as a form of scientific support in German-speaking countries.

Theoretical framework. In the works of N. Alyushina [1], Y. Demus [2], O. Zabolotna [3], A. Kyrychok [4], A. Mishchuk [5], K. Osadcha [6], I. Sydoruk [8] it has been indicated the need to introduce coaching, tutoring, tutoring and mentoring in higher education, emphasizing mentoring models, the role and functions of a mentor, and the characteristic features of mentoring. In the researches of A. Mishchuk [5] and O. Zabolotna [3], an analysis of mentoring models has been carried out, where the learning model, the competence model, the cultivator model, the sponsor model, the psychologist model, the reflective model, and the development model are distinguished. However, we note that the selected models in these studies are considered from different perspectives: on the one hand, mentoring is considered as a necessary element in the organization and practical training of future specialists, and on the other, in the aspect of postgraduate training of specialists.

Mentoring models analyzed by N. Alyushina, who based the selection of the model on the basis of the mentoring method, are significantly different i.e. classical mentoring, counselling (transferring knowledge from an older and more experienced person about how to perform a particular task); supervision (collaboration of two professionals for critical analysis of their own work).

A. Kyrychok singles out the phenomenon of mentoring as, firstly, mentoring assistance through the aspect of the agreement between the mentor and the mentee regarding the assessment of the quality of mentoring, and what the criteria should be for assessment, secondly, the correspondence of the mentor and his mentee to each other's characteristics, thirdly,

the gender aspect of mentoring, the mentor's functions, his key roles that benefit the mentee and the benefit of the mentor's functions for the mentor himself [4]. There is a significant amount of research devoted to various aspects of mentoring, but the problem of scientific substantiation of the organizational and pedagogical conditions for the formation of the readiness of future teachers of higher education institutions to implement the functions of a mentor in professional activity has not found its proper solution in the theory and methodology of professional training.

In European countries, in particular in Germany, Austria and Switzerland such forms of support as mentoring, tutoring, consulting and others are used. We will focus our attention on mentoring.

The shared enthusiasm for mentoring and the individual expertise of dedicated academic advisor professionals formed the foundation of the Mentor Coordinator Network. Many countries in Europe have successful science mentoring associations, which include representatives of universities and research institutions, which serve to support mentoring activities for beginners in teaching, science and research. Representatives of universities, colleges and scientific organizations initiate the transfer of professional knowledge in order to develop the collective learning process through a critical, constructive discussion of success factors, opportunities and barriers.

In recent decades, the medical profession in Western countries has changed from a predominantly male to a female one. About two-thirds of new medical students today are women. Women also predominate among postgraduate students. The situation with managerial positions is somewhat different, because heads of departments and directors of clinics are mostly men [13].

Nowadays, women equally enjoy the opportunities of higher education and acquire the profession of a doctor, and at the same time aspire to start their own business in the field of providing medical services. Still, mostly in Western society, there are traditional ideas about the role of a woman, which does not allow her to think about timely planning of her professional career in the medium and long term. This barrier is replaced by external obstacles: social role concepts, characteristic gender stereotypes, high requirements for advanced training, strict work schedule and the same difficulties for obtaining academic qualification degrees, such as PhD and habilitation. To the latter is added inflexible requirements regarding the level of employment of many directors of institutes/clinics,

all of which are oriented towards men's careers [10]. This means that many women doctors cannot hope for leadership positions in clinical, scientific and administrative fields.

Female doctors in Western European countries work under the so-called green light, that is, they usually work part-time, which slows down their career development. Various studies show that female doctors - previously especially in fields such as surgery, gynecology and others - receive less support for their future careers. That is why there was a problem in helping young talented and qualified female doctors to provide opportunities for advancement in career growth, which necessitated the creation and implementation of mentoring at the third level of higher education.

The purpose of mentoring is to develop different mentoring programs based on jointly defined quality standards, by combining creative impulses to promote knowledge transfer, learning and innovation. This promises to guarantee the long-term impact of mentoring and the consideration of challenges at different stages of a career, for example during graduate studies or at the postdoctoral or habilitation stage [12].

It is clear that mentoring programs in various fields must meet certain conditions, particularly in medicine. For example, young female medical researchers and female doctors in specialist training face the challenge of balancing their individual professional and family lives between patient care/clinic - research - teaching - career aspirations. Prevailing hierarchical structures in medicine can greatly complicate the career path of a young scientist. Differentiated regulation of education (special curricula for medical degrees) requires knowledge of so-called special subject rules and unwritten laws. This leads to the need for a medically appropriate mentoring orientation: the program of activities (seminars, online meetings and lectures) must take into account the already mentioned multiple workloads in terms of content and time. In addition, in the field of medicine, frontal forms of communication still dominate, so trainers at scientific seminars must be ready for this and be able to design appropriate transitions to energizing didactic training formats.

Medical mentoring programs are currently mostly offered starting at postdoctoral status, especially for women in Germany, as their proportion declines dramatically after the doctoral (2019 = 58 %) path to habilitation (2019 = 25 %) [11].

Over time, additional mentoring activities have become more and more important. They are often established and are intended to increase motivation,

prevent dropout and promote interest in further study in the form of scientific work.

Mentoring offers included: support for female doctors in their career growth, because mixed-gender teams usually work in clinics and in the purely scientific field. Therefore, it makes sense to support women in their desire to create a professional network of like-minded people. There was a second reason that only women were funded, which could even lead to further marginalization of women in leadership positions [14].

In the promotion of certain stages of a career, especially a scientific career, individual mentoring is ideal, when the mentor is a famous scientist. If the protégé needs strategic advice on his further career steps, the mentor can help with this, because they work in the same scientific field. Thanks to mentoring, a young employee should receive important information for the profession, gain motivation for new steps and benefit from the mentor's friendly feedback.

An evaluation of a teacher mentoring program (2016–2019) involving 55 mentees from the University of Zurich Clinic and the University Hospitals of Basel and Bern showed that an important and useful aspect of the collaboration between the mentor and the mentee is a written target agreement, as it to some extent promotes commitment ability to work together and excludes a number of negative consequences [10].

Mentors' dedication to professional and personal duty was highly appreciated by the wards as a contribution to further development. During the mentorship, the mentees were able to: take significant research steps in the form of scientific publications, receive research funding, undergo practical training in laboratories and obtain a PhD degree or habilitation. However, these parameters of success do not apply only to ascribed mentoring, as mentors themselves also understand the effectiveness of their role and external perspectives as important additions to their counseling careers.

Almost simultaneously, from 2015 to 2018, medical faculties in Germany and Austria implemented mentoring programs to promote equal opportunities, special formats that complement the individual approach to mentoring. Under these programs, small groups were formed in which the students either supported each other or received professional group coaching. For many years, international conferences on mentoring in medicine have been held at various universities in Germany, Austria, and Switzerland (Dusseldorf, Innsbruck, Frauenkimze, Regensburg, Hamburg, Vienna, Würzburg, Freiburg, Greifswald, and Lübeck), where mentor scientists develop quality

standards and practical solutions for continuous development of relevant scientific areas [10].

Almost every medical mentoring program is aimed at women scientists in medicine, this does not mean that the proposals are limited to the classic field of "medicine", but pharmacologists, medical psychologists, epidemiologists, biologists, (bio) chemists and nutritionists are involved, when the requirement was to continue the scientific careers in medicine, and especially in interdisciplinary research. In Germany, the Ministry of Science launched structural programs to promote equal opportunities for women and men, and the gender officers directed these funds to increase the proportion of female teachers, i.e., to PhD programs and habilitation of female scientists.

In connection with the attachment to a certain institution, the question of program funding arises: in some universities, mentorship offers in medicine are included as an integral part of promoting the personnel development of young scientists, which ensures funding in the long term, or are funded for a certain time by a third party, for example, in Germany, partly from the funds of the Federal Ministry and the research of the professorial program. Financial resources determine the density of offers and the intensity of support provided by the coordinator.

Mentoring projects have different conditions (funding and management structure) and depending on the location. First, issues such as: mentee selection criteria are discussed, for example, internal mentoring in one field (mentee from the mentor's university), or interdisciplinary tandem or cross-mentoring (between universities). Meanwhile, attention is paid to the assessment of the group, whether only professors are welcomed as mentors or whether there can be heads of institutes as well [12]. Issues of the structure of scientific research (seminar programs, their content, selection of guest professors, interactive forms of teaching), etc. are considered.

Special attention is paid to the role of the program manager, firstly, how he directs training and research with regard to the target group, for example, women scientists in medicine. The certification of programs and seminars by medical associations on advanced training of regional medical associations, which contribute to the regulation and support of the continuous development of the professional competence of doctors, is approved. An important role is played by cooperation with specialized institutions, medical associations, unions, especially the Federal Women's Union on the issue of equal opportunities in university hospitals and discussions at International conferences on mentoring in medicine, which take place once or twice a year in various university medical institutions in Germany, Austria and Switzerland [11]. Such events are a kind of platform for the exchange of information about one's own (mentoring) experience in individual universities, individual strategies in the management of mentoring, differences, new alternatives, continuous exchange of experience regarding practical approaches for adapting proposals for structural changes.

Conclusions and Prospects for Research. In the long term, the goal of mentoring is to continuously implement and expand the mentoring program as a tool for gender-sensitive research staff development in medical universities and university hospitals. The processes of communication and reflection between generations contain the potential of organizational development and are intended to serve as a further guide.

Therefore, such a form of support as mentoring plays an important role in the professional development of a future scientist, because thanks to it, future specialists improve their knowledge acquired in a higher education institution, learn to be professionals in their chosen profession. The prospect of further scientific exploration of the given problem is a comparison of the European experience of coordinating mentoring as one of the forms of support for scientists in Ukraine.

List of literature

1. Алюшина Н. Компетентнісна модель наставника інноваційного типу в системі державної служби / Н. Алюшина // Вісник НАДУ. – 2014. – Вип. 3. – С. 89–98.

2. Демус Я. Соціально-психологічна компетентність ментора у галузі фізичної культури / Я. Демус // Імідж сучасного педагога. – 2021. – № 2 (197). – С. 37–41.

3. Заболотна О. Менторинг як форма педагогічної підтримки майбутніх учителів в Україні та Великій

Британії / О. Заболотна, І. Палагута // Педагогічні науки: теорія, історія, інноваційні технології. – 2021. – № 7 (111). – С. 277–286.

4. Киричок А. Менторський підхід у підготовці PR-фахівців / А. Киричок // Держава та регіони. Серія «Соціальні комунікації». – 2016. – Вип. 3 (27). – С. 165–170.

5. Міщук А. Потрібне менторство / А. Міщук // Сайт «Освітня політика. Портал громадських експертів».

– Режим доступу : <http://educationua.org/ru/articles/1064-potribne-mentorstvo>.

6. Осадча К. Теоретико-методологічні засади професійної підготовки майбутніх учителів до тьюторської діяльності : автореф. дис. ... д-ра пед. наук / К. Осадча. – Запоріжжя, 2020. – 40 с.

7. Радченко В. Менторство в системі післядипломної освіти лікаря / В. Радченко // Медична освіта. – 2019. – № 1. – С. 116–120.

8. Сидорук І. Роль менторства у професійній підготовці майбутніх соціальних працівників / І. Сидорук // Вісник університету імені Альфреда Нобеля. Педагогічні науки. – 2019. – Вип. 2 (18). – С. 283–289.

9. Тулуп Л. Менторство як шлях адаптації медсестри на новому робочому місці / Л. Тулуп, О. Мялюк, М. Марущак // Медсестринство. – 2023. – № 2. – С. 4–11.

References

1. Aliushyna, N. (2014). Kompetentnisna model navtavnika innovatsiinoho typu v systemi derzhavnoi sluzhby [Competency model of an innovative mentor in the civil service system]. *Visnyk NADU – Bulletin of NADU*, 3, 89-98 [in Ukrainian].

2. Demus, Ya. (2021). Sotsialno-psykhologichna kompetentnist mentora u haluzi fizychnoi kultury [Sociopsychological competence of a mentor in the field of physical culture]. *Imidzh suchasnoho pedahoha – The image of a modern teacher*, 2(197), 37-41 [in Ukrainian].

3. Zabolotna, O., & Palahuta, I. (2021). Mentorynh yak forma pedahohichnoi pidtrymky maibutnykh uchyteliv v Ukraini ta Velykii Brytanii [Mentoring as a form of pedagogical support for future teachers in Ukraine and Great Britain]. *Pedahohichni nauky: teoriia, istoriia, innovatsiini tekhnologii – Pedagogical sciences: theory, history, innovative technologies*, 7(111), 277-283 [in Ukrainian].

4. Kyrychok, A. (2016). Mentorskyi pidkhid u pidhotovtsi PR-fakhivtsiv [Mentoring approach in training PR specialists]. *Derzhava ta rehiony – State and regions*, 3(27), 165-170 [in Ukrainian].

5. Mishchuk, A. Potribne mentorstvo [Mentoring is needed]. *Sait «Osvitnia polityka. Portal hromadskykh ekspertiv» – The site “Educational policy. Portal of public experts”*. Retrieved from: <http://educationua.org/ru/articles/1064-potribne-mentorstvo> [in Ukrainian].

6. Osadcha, K. (2020). Teoretyko-metodolohichni zasady profesiinoi pidhotovky maibutnykh uchyteliv do tiutorskoi diialnosti [Theoretical and methodological principles of

10. Buddeberg-Fischer B. *Mentoring in der Medizin* / B. Buddeberg-Fischer. – Bern, 2012. – 113 S.

11. Center of Excellence Women and Science, CEWS-Statistik-Portal. – Access mode : <http://www.gesis.org/cews/das-cews/themen/themen/statistik/>.

12. Dimitriadis K. *Erfahrungen mit Mentoring in der medizinischen Ausbildung* / K. Dimitriadis. – München, 2016. – 36 S.

13. Gender-Report 2013. *Geschlechter(un)gerechtigkeit an nordrhein-westfälischen Hochschulen. Hochschulentwicklungen | Gleichstellungspraktiken | Wissenschaftskarrieren* / B. Kortendiek, M. Hilgemann, J. Niegel, U. Hendrix // *Studien Netzwerk Frauen- und Geschlechterforschung NRW*. – 2013. – Nr. 17.

14. *Leitfaden zum Mentoring-Programm der Medizinischen Fakultät*. – Kiel, 2016. – 11 S.

professional training of future teachers for tutoring]. *Extended abstract of Doctor's thesis. Zaporizhzhia* [in Ukrainian].

7. Radchenko, V. (2019). Mentorstvo v systemi pislia-diplomnoi osvity likaria [Mentorship in the system of postgraduate education of a doctor]. *Medychna osvita – Medical Education*, 1, 116-120 [in Ukrainian].

8. Sydoruk, I. (2019). Rol mentorstva u profesiinii pidhotovtsi maibutnykh sotsialnykh pratsivnykiv [The role of mentoring in the professional training of future social workers]. *Visnyk universytety imeni Alfreda Nobelia – Bulletin of Alfred Nobel Universitet*, 2(18), 283-289 [in Ukrainian].

9. Tulup, L., Mialiuk, O., & Marushchak, M. (2023). Mentorstvo yak shliakh adaptatsii medsestry na novomu robochomu mistsi [Mentoring as a way of adapting a nurse to a new workplace]. *Medsestrynstvo – Nursing*, 2 [in Ukrainian].

10. Buddeberg-Fischer, B. (2012). *Mentoring in der Medizin*. Bern.

11. Center of Excellence Women and Science, CEWS-Statistik-Portal. Retrieved from: <http://www.gesis.org/cews/das-cews/themen/themen/statistik/>.

12. Dimitriadis, K. (2016). *Erfahrungen mit Mentoring in der medizinischen Ausbildung*. München.

13. Kortendiek, B., Hilgemann, M., Niegel, J., & Hendrix, U. (2013). *Gender-Report 2013. Geschlechter(un)gerechtigkeit an nordrhein-westfälischen Hochschulen. Hochschulentwicklungen | Gleichstellungspraktiken | Wissenschaftskarrieren. Studien Netzwerk Frauen- und Geschlechterforschung NRW*, 17.

14. (2016). *Leitfaden zum Mentoring-Programm der Medizinischen Fakultät*. Kiel.

Received 20.02.2024.
Recommended 05.03.2024.

E-mail address for correspondence: fedushunno@tdmu.edu.ua