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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии
საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

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GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებშიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman (Кириллица)**, для текста на грузинском языке следует использовать **AcadNusx**. Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - <http://www.spinesurgery.ru/files/publish.pdf> и http://www.nlm.nih.gov/bsd/uniform_requirements.html В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректур авторам не высылаются, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or computer-printed on a single side of standard typing paper, with the left margin of 3 centimeters width, and 1.5 spacing between the lines, typeface - **Times New Roman (Cyrillic)**, print size - 12 (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf

In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

**Articles that Fail to Meet the Aforementioned
Requirements are not Assigned to be Reviewed.**

ავტორთა საქურაღებოლ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დაიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx**. შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შედეგის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფხიხლებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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STRATEGIES FOR IMPROVING PSYCHOLOGICAL COMPETENCE IN PHYSICAL REHABILITATION

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Abstract.

The study aims to analyse strategies for improving psychological competence in physical rehabilitation. The research was conducted using a mixed type, which involved the analysis of qualitative and quantitative data. The PRISMA approach was used to collect qualitative data. The inclusion of scientific sources involved the following 4 criteria: 1. Focus on rehabilitation, psychology, or resilience. 2. Published in peer-reviewed journals. 3. Includes process of data or methods. 4. Written in English. Semi-structured interviews were also conducted with five experts. Semi-structured interviews were chosen because they are flexible and dynamic. Transcription of the recorded interviews and coding and comparative analysis were used to analyse the data. Acquiring psychological competencies is essential for medical staff, resulting from changes in attitudes towards patients and their mental and emotional states. Among the modern strategies for improving psychological competence are cognitive behavioural therapy, support for the emotional state (empathy), psychodiagnostics and work on self-esteem, social support, psychoeducation, and work on motivation. The identified strategies have a reasonably quick effect, are long-lasting, and require the involvement of additional specialists. Taking into account experts' opinions made it possible to establish the importance of focusing on modern rehabilitation on the psychological recovery of patients, which is as important as physical recovery.

Key words. Emotional stability, cognitive techniques, psychosocial support, motivational strategies, therapeutic approaches, psychorehabilitation.

Introduction.

Physical rehabilitation is a part of patients' recovery after injuries of varying degrees, surgeries, and during the treatment of chronic diseases and their consequences. The success of the rehabilitation process depends heavily on the professional skills of the specialists who provide the treatment itself. However, other aspects, including non-therapeutic support and psychological assistance, psychorehabilitation, remain equally relevant [1,2]. Under such conditions, the role of psychological competence increases, which becomes an essential condition for a significant increase in the effectiveness of physical

rehabilitation. The psycho-emotional mood of patients affects their ability to participate in other rehabilitation programmes, provides additional motivation to overcome mental difficulties associated with the trauma, and affects their readiness to continue rehabilitation for the time required for complete recovery [3,4]. Accordingly, psychological rehabilitation also plays an important role in this process, which affects the improvement of the emotional and psychological state. In addition, the scientific literature indicates that professionals in the field of physical rehabilitation must possess a sufficient set of technical knowledge and skills and knowledge of the basics of psychology [1,3]. This will enable them to interact with patients effectively.

Research Problem.

Thus, given the previous opinions, this topic is essential for research and will demonstrate the importance of a comprehensive approach to implementing physical rehabilitation. However, despite the need to integrate modern psychological strategies, many professionals need help effectively applying psychological approaches to support patients. For this reason, not all training programs or practical training comprehensively cover this area. In addition, this research problem is that the lack of proper psychological training can limit the ability of specialists to create favourable conditions for the complete rehabilitation of patients. So, in the context of increasing requirements for providing quality healthcare services, psychological competence has become essential for improving physical rehabilitation's effectiveness.

Research Focus.

This research will attempt to identify the main effective strategies for increasing the psychological competence of physical rehabilitation specialists to provide a comprehensive approach to treatment. For this, a mixed approach will be involved, which will involve the analysis of quantitative and qualitative methods. This study is also based on the analysis of modern experts in physical rehabilitation. This was done to characterize the main contemporary and effective mechanisms of development and maintenance of psychological competence. In light of the rising standards in healthcare quality, psychological competence has emerged as a pivotal factor in enhancing the

effectiveness of physical rehabilitation. This article analyses strategies for advancing psychological competence within physical rehabilitation, addressing how these strategies may improve patient outcomes. The study begins by identifying the main psychological aspects that affect quality physical recovery and ends with a comparative analysis of the strategies that have been identified.

Research Aim and Research Questions.

The primary goal of this research is to identify and develop practical approaches for integrating psychological competence into rehabilitation programs, thus contributing to a more holistic and effective model of patient care. Particular attention is paid to the practical experience of developing such competences, as well as to the study of the role of psychological support for the rehabilitation of patients and the restoration of their health. The main research questions are as follows:

1. What are the psychological aspects that affect physical rehabilitation?
2. What are the strategies for developing psychological competence?
3. What is the speed of action, the duration of the selected techniques, and is there a need to involve additional specialists in the implementation of certain strategies?

Literature Review.

Specialists in the field of physical rehabilitation should have a sufficient range of technical knowledge and skills, as well as knowledge of the basics of psychology to effectively work with patients [3-5]. Psychological competence in such circumstances implies that rehabilitation therapists have the ability and skills to assess the emotional states of patients, take into account their needs, provide psychological support, motivate them to cooperate with other specialists and support the wounded and injured (which is extremely important in the current Ukrainian reality). In addition, knowledge of psychological strategies to support rehabilitation helps to alleviate the effects of stress experienced by patients and professionals, who may experience extreme physical, psychological and emotional stress in extreme conditions [6].

This issue has also been studied by scientists who study the optimization of rehabilitation processes. In particular, researchers believe that the consequences of injuries of varying degrees of complexity can affect the body's normal functioning for a long time [7,8]. For example, when a person has been immobilized, significant difficulties in functioning the circulatory system are formed, muscle atrophy appears, and contractures develop [9,10]. Due to the development of a timely and correct physical rehabilitation programme, it is possible to avoid complicating factors during rehabilitation. At the same time, it is noted that it is possible to further promote recovery through the additional use of psychological influence, which improves the well-being of patients and accelerates rehabilitation processes [10-12]. While physical rehabilitation programmes facilitate a faster return to the usual rhythm of life, psychological assistance allows for a quicker return to the usual physical functioning and reintegrating into social life. This scientific interpretation opens up prospects for further scientific

development in this area. However, researchers have also developed a more traditional view of the rehabilitation process, which is aimed primarily at treating physical injuries. At the same time, psychological assistance is an additional, but not mandatory, factor [13,14]. At the same time, researchers agree that the duration of the process and the efforts made are essential factors in successful rehabilitation [15-17]. It is about supporting emotional adaptation, including acceptance of possible changes in the functioning of one's own body. Social interaction is vital in rehabilitation, as the patient should not suffer from loneliness if possible [17,18]. Support from family or friends can increase a sense of security and contribute to psychological comfort [12,10,19]. The latter factor has a positive impact on a person's physical recovery. The relationship between physical and psychological recovery, as well as the assessments of scientists, will require further consideration, as comparing the views of scientists opens up opportunities to continue the scientific discussion, taking into account the views of practitioners [20]. However, modern scientists mostly pay attention to the analysis of specific mechanisms; accordingly, there currently needs to be more comprehensive studies that collect and analyze the existing mechanisms and carry out a comparative analysis. This research tries to solve this gap and characterize modern strategies for developing psychological competence.

Materials and Methods.

Research design:

This descriptive study is a mixed-methods research study that analyzes quantitative and qualitative data. To find quantitative data, modern scientometric databases were used, and scientific literature was selected according to specially formed criteria. A semi-structured interview was conducted with experts in physical and psychological rehabilitation to find qualitative data.

Data collection:

Quantitative data: Leading scientometric databases, including Scopus, Web of Science, and Google Scholar, were used to search for quantitative data. The following keywords were used in the search fields: physical rehabilitation, psychological support, psychological resilience, cognitive techniques, psychosocial support, motivational mechanisms, and therapeutic approaches. The date range was 2020 - 2024. Accordingly, a total of 9,320 results were found in these databases. Initially, all duplicates were rejected (2456 papers).

After that, the titles were analyzed, and those publications that did not relate to the chosen topic (1986) were rejected. After that, the following screening stage was carried out, and the verified scientific sources were included.

Exclusion of literature was based on the following criteria:

1. Lack of psychological focus. Studies that focus only on physical methods were excluded.
2. Studies with unclearly described methods or lack of data on information collection were excluded.
3. Publications based on outdated data and do not take into account modern achievements in psychology or rehabilitation.
4. Sources whose full texts are not available for detailed analysis.

The inclusion criteria are as follows:

1. The study is about physical rehabilitation, psychological support or the development of emotional resilience.
2. The study has been published in professional peer-reviewed journals.
3. The study contains information about data collection or methods.
4. Language of writing: English (Figure 1).

In such a step-by-step way, 51 items of professional scientific literature were collected, which made it possible to analyse the main opinions of scientists regarding the development of psychological competence.

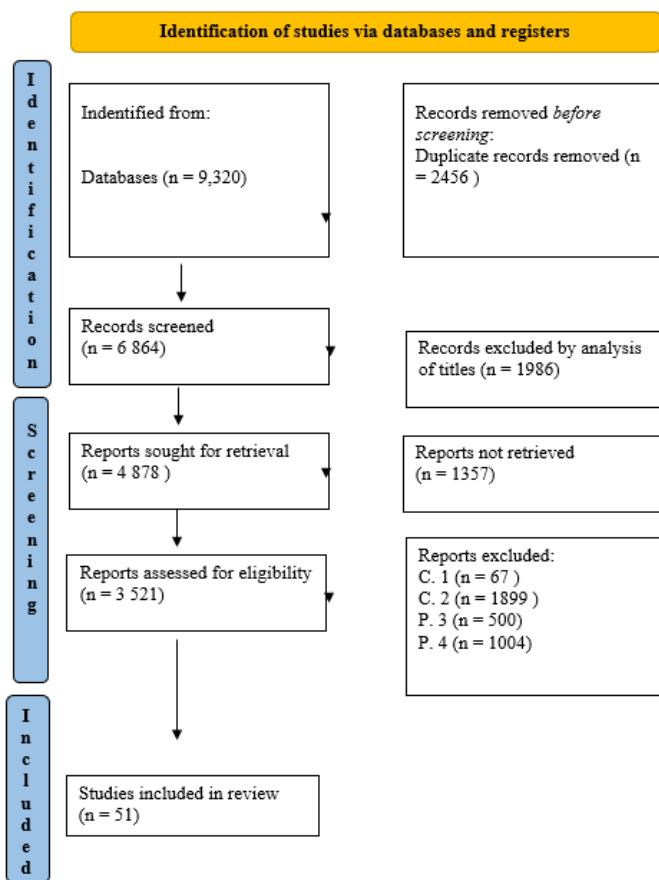


Figure 1. Study selection process for psychological competence review. Source: Compiled by the authors.

Collecting qualitative data:

To collect qualitative data, interviews were conducted with experts who provide physical rehabilitation or psychological rehabilitation. For this purpose, an announcement was made about the interviews and all the requirements for participants were outlined, including at least 1 year of experience in the professional field and the ability to understand innovative methods of supporting mental and physical health.

Accordingly, a total of 15 people volunteered. However, not all of them met the research criteria (some of them were students). In addition, several potential participants refused to be interviewed because they did not agree to the processing of their data. Therefore, the study included 5 people who met the

criteria and agreed to allow their answers to be processed in this study.

Tools.

The main instrument used in the study was a semi-structured interview conducted with 5 experts. The semi-structured interview contained several benchmark questions. The authors developed a specially prepared list of questions to serve as a basis for the conversation. However, the interviewer had full freedom to deviate from this list. This was done in order to explore complex issues in more depth. The semi-structured interview was also chosen because it is flexible and dynamic. In particular, unlike surveys, they do not have clear closed questions, and the expert has the freedom to answer and give his/her own point of view on different models of psychological rehabilitation implementation. In this way, the semi-structured interview allowed for an open and natural dialogue between the interviewer and the respondent, which may have helped to obtain more detailed answers.

These interviews were conducted remotely on the Zoom platform. Invitation letters were sent to the participants via email. The questions consisted of the following blocks:

1. How do you define psychological competence within physical rehabilitation?
2. What psychological aspects are important to you for successful patient rehabilitation?
3. What methods or approaches do you use to develop psychological competence during rehabilitation?
4. Which ones are the most effective, in your opinion?
5. What are some examples from your own experience of the successful integration of psychological methods into physical rehabilitation?

Thus, these questions were formulated to understand the role of psychological competence from the point of view of experts and to characterise the main components of its formation. These questions will also allow for a comparative analysis of the main strategies for developing psychological competence.

Data Analysis.

A combination of qualitative and quantitative research methods was used to analyse the data. Analysing the data directly from the semi-structured interviews was an important step, as it allowed us to identify key ideas emerging from the experts' responses.

Transcription of the interview.

First of all, all the answers received during the interviews were carefully transcribed. This made it possible to translate the audio recordings into text format. Since the interviews were conducted on the Zoom platform, it was possible to view them several times and further understand their content. As a result of the transcription, important textual data was obtained, which was subjected to the next stage of analysis. Before starting the actual analysis, all the transcripts were re-read in order to get a general sense of the answers and to get a general idea of the information provided by the experts.

Coding.

The coding process involved breaking down the text into separate themes. This stage formed the basis of this data analysis.

First, an open coding method was used to identify the main ideas that were repeated in the participants' responses. These ideas were mainly related to psychological strategies. After that, the axial coding stage was carried out. This allowed us to form more generalised themes that would allow us to understand the main connections between different answers.

Interpretation and analysis.

Based on the coding data, a thematic analysis was carried out. The key trends were identified by forming separate themes that were most frequently encountered in the responses. The interaction between different themes was also identified. Following the thematic analysis of the respondents' answers, a comparative analysis of different strategies was carried out. For this purpose, data from the literature was also used. In some cases, a quantitative approach was also used, particularly by counting the number of times experts mentioned certain strategies. This helped to determine which mechanisms of psychological competence development are considered the most important. After the analysis, the results are described and supported by examples from the interviews.

Results.

For modern rehabilitation therapists, psychological competence has become an important component of the physical rehabilitation process, based on the modern paradigm of understanding the effectiveness of physical rehabilitation as a combination of physical and psychological stress. Possession of such skills allows one to apply emotional self-regulation, be resistant to stressful situations, use positive thinking, and certain adaptive skills that allow successful interaction with the patient for the most effective health recovery process [11,21,22]. Certain psychological factors play an important role in effective physical rehabilitation. In order to understand their role, it is worth turning to the views of experts. Based on the transcription of the interviews, several key factors were identified.

Patient motivation - expert 1, 2, 3, 5.

Experts pointed out that patients with high motivation and awareness of the role of physical rehabilitation show better results. In this aspect, intrinsic motivation is important.

The impact of the external environment - expert 1, 2, 4, 5.

Other experts pointed out that working with the external environment is also particularly important. That is, support from family, friends, or other patients is important. In this way, those patients with a well-established social support system achieve results faster and are less prone to depression.

Stress or anxiety - an expert 3, 4, 5.

At the same time, in the system of psychological rehabilitation stress and anxiety can interfere with the rehabilitation process and even slow down the recovery process. Two experts also pointed out that patients with anxiety disorders had a lower level of cooperation with the rehabilitation therapist.

Psychological flexibility - expert 1, 2, 4.

Participants stressed the importance of developing psychological flexibility and adaptability through the process of psychological rehabilitation, as in their experience, patients with high psychological flexibility were more likely to accept changes and adapt better.

Positive attitude and belief in success - expert 1, 2, 3, 5.

Most experts also emphasised the importance of positive thinking. In particular, responses were received stating that patients who believe in their own recovery and focus on positive outcomes recover faster.

Table 1 presents a matrix of the main psychological aspects and the frequency of their mention by experts.

Thus, motivation, environmental influences, a positive attitude, and a belief in success play important roles in effective physical rehabilitation and psychological rehabilitation. These five experts believe it is important to implement a comprehensive approach to the development of psychological competence, which should take into account various psychological factors.

Applying the acquired skills indicates an increase in the formation of specific strategies used in the psychological rehabilitation process and aimed at solving specific problems. First of all, we are talking about improvements in self-awareness, increased levels of stress resistance, correction of destructive patterns in thinking, expression of negative emotions, and an increase in the overall level of motivation [23,24]. The strategies experts recommend can be summarised by several criteria that indicate their main manifestations (see **Table 2**).

The use of such strategies imposes several requirements on specialists. First and foremost, it requires a high level of training that would be constantly improved. Lifelong learning is essential as medical technology and capabilities improve [22,23-30]. This development should be considered when training rehabilitation professionals so that they have up-to-date knowledge in their speciality. Creating an atmosphere of trust among patients is also problematic, as it requires medical staff to have psychological and physical skills to ensure safety and peace of mind [31]. Although the list of such findings looks incomplete, researchers primarily focus on these aspects. However, the degree of psychological and physical trauma, as well as the individual characteristics of each person, are also significant, as the rehabilitation time also depends on the body's capabilities [13,32].

Each of the 5 selected experts mentioned these strategies with different frequency. **Table 3** shows the frequency of references by experts to individual mechanisms for supporting psychological competence. A + sign means that the expert mentioned this strategy during the interview, while - indicates that the expert did not mention the strategy.

Accordingly, all experts mentioned emotional support and CBT (5 mentions). Accordingly, these strategies are the most popular. This also emphasises their importance in effective physical rehabilitation. Motivational counselling and work on self-esteem received 4 mentions each. This data demonstrates the importance of cooperation and motivational counselling in ineffective physical rehabilitation. None of the experts mentioned social support or psychoeducation. Although these are less common, current research suggests they are important in physical rehabilitation. A comparison of these strategies indicates a paradigm shift in the perception of the rehabilitation process. In particular, current trends indicate the importance of simultaneous psychological and physical rehabilitation, while physical rehabilitation was more relevant in the past. The

Table 1. The main psychological aspects that affect recovery.

Title	1 Expert	2 Expert	3 Expert	4 Expert	5 Expert	Overall
Motivation	+	+	+	-	+	4
Environmental impact	+	+	-	+	+	4
Psychological flexibility	+	+	-	+	-	3
Stress and anxiety	-	-	+	+	+	3
Adaptability	+	+	-	+	-	3
Positive attitude	+	+	+	-	+	4
Belief in success	+	+	+	-	+	4

Source: compiled by the authors.

Table 2. Strategies for improving psychological competence during rehabilitation.

Strategy	Main methods	Objectives
Application of cognitive behavioural therapy	Conducting individual or group therapy sessions, conducting exercises to rethink your behavioural patterns	Correcting the emergence of destructive beliefs, certain behavioural patterns, directing thoughts in a positive direction [18,21,25].
Support for the emotional state (empathy)	Active listening, empathy, maintaining eye contact, avoiding interruptions, stress management techniques	Creating an atmosphere of trust, free exchange of views [11,9,6,26].
Psychodiagnostics and feedback, work on self-esteem	Use of certain testing methods, conducting surveys and interviews, and establishing feedback from a specialist	Identification of individual patient characteristics, work on solving personal problems, creating an atmosphere of mutual trust between the patient and the doctor [27,28,9].
Social support	Primarily using group meetings, communication with specialists and colleagues	Emphasis on creating an atmosphere of safety, support in difficult situations, and creating an environment for active exchange of experience [3,8,29].
Psychoeducation for patients (psychoeducation)	Conducting special classes, interest in independent study of professional literature on such issues	Providing psychological skills for better understanding of one's psychological state, which is extremely effective for further therapy, independent counteraction to manifestations of oppression, stress, etc.
Motivational work	Coaching, individual lessons and consultations, organisation of motivational exercises	Increasing the motivational level of patients, understanding the need for change, developing self-perception, adequate self-esteem of their body, etc.

Source: compiled by the authors based on scientific literature.

Table 3. Table of frequency of strategy mentions.

Name of the strategy	1 Expert	2 Expert	3 Expert	4 Expert	5 Expert	Overall
Social support	+	-	+	+	-	3
Motivational counselling	+	-	+	+	+	4
CBT	+	+	+	+	+	5
Psychoeducation Psychoeducation	+	+	-	-	-	2
Supporting the emotional state	+	+	+	+	+	5
Work on self-esteem	-	+	+	+	+	4

Source: compiled by the authors.

studied strategies can be analysed using several fundamental indicators (Table 4).

Discussion.

The purpose of this study was to identify the main strategies for developing psychological competence in implementing physical rehabilitation. Accordingly, the study indicates that psychological competence involves the application of essential knowledge and skills in psychology to understand and solve life problems related to behaviour, interaction, emotions, and thoughts. This correlates with other studies that have characterised the role of psychological competence and indicated its significant role in personal and professional development [8,15,33]. In addition, some scholars have also drawn attention to the individual components of this competence, including emotional, cognitive and social. In

particular, emotional competence is also essential, as it implies the ability to recognise, control and express one's emotional states and behave confidently in the external social environment [34,35]. In addition, other researchers have shown that patients with high social skills have a better ability to recover [34]. Modern studies have also established that cognitive competence involves skills contributing to objective thinking, analysis, and solving various complex problems [13,25]. However, in this way, attention should be paid to qualified competence-based psychotherapy [35,36].

The proposed results show that acquiring psychological competencies is an essential paradigm in modern psychological rehabilitation. However, in modern scientific studies devoted to rehabilitation, the role of psychological competence in physical rehabilitation is often recognized, but insufficiently

Table 4. Comparative analysis of strategies for improving psychological competence.

Strat	Speed of action	Duration.	The need for a specialist	Expert comment
(1)	Medium: depends on the therapy and its intensity	Sustained behavioural change (long term)	+	Expert 1: Effective in dealing with chronic problems. Expert 2: Effective in dealing with anxiety disorders.
(2)	High: emotional support has a quick impact	Needs ongoing support (short)	+ / -	Expert 2: Does not have a long-term effect but is important for patients in crisis. Expert 3 and Expert 4: Relevant strategy for building trust.
(3)	Average: depends on therapy	Depends on the success of the therapy (individual)	+	Expert 1: It is necessary for the formation of an individual treatment trajectory. Expert 2: Details rehabilitation measures. Expert 5: Contributes to an atmosphere of trust.
(4)	High: well-functioning social support increases the chance of successful rehabilitation	In the context of a stable and effective support group, it is long-lasting.	+ / -	Expert 3: Group therapy is effective in critical moments. Expert 4: It is necessary for patients who feel isolated.
(5)	Medium: takes into account the patient's direct activity	Depends on the patient's self-organisation (individual)	+	Expert 5: Not effective without patient motivation
(6)	Medium: requires consideration of individual patient characteristics	Enables you to sustain positive change (individual)	+	Expert 1: Increases the effectiveness of rehabilitation. Expert 2: Effective for those patients who also want to develop.

In table 4, (1) means the use of cognitive behavioural therapy; (2) support of the emotional state (empathy); (3) psychodiagnostic and feedback, work on self-esteem; (4) social support; (5) psychoeducation for patients (psychoeducation); (6) motivational work.

Source: authors' elaboration.

studied in terms of its basic mechanisms. Some authors indicate that psychological competence influences the phenomenon of neuroplasticity [37-39]. This refers to the brain's ability to reorganize and adapt. These processes are important during recovery. At the same time, stress management and the process of emotional regulation as key components of psychological resilience contribute to the release of cortisol levels and increase the body's ability to recover [12,31]. Other studies also show that such elements of psychological competence as communication and emotional intelligence allow patients to form strong support networks [28]. Such networks affect the provision of effective support, reduce feelings of isolation and contribute to a more positive rehabilitation environment.

The results of this study indicate that psychological factors play an essential role in the effective conduct of physical rehabilitation. Accordingly, it was found that such factors include motivation, environmental influences, psychological flexibility, positive attitude, belief in success, and adaptability. A separate negative role for recovery is played by the presence of stress and anxiety in patients. These opinions correlate with the studies of other researchers who have empirically described the role of stress, anxiety, motivation, or psychological flexibility in the recovery process [29,37,38].

The paper identifies modern strategies for improving psychological competence, including cognitive behavioural therapy, support for the emotional state (empathy), psychodiagnostics and work on self-esteem, social support, psychoeducation, and work on motivation. Other researchers also identify a similar cellular list of strategies, so the results support the current classification [38]. However, it is worth pointing out some additional research hypotheses. In particular, there are doubts about the need for motivation and psychoeducation as strategies to increase psychological competence during the physical recovery process. Some scholars emphasise the

importance of physical recovery from injuries or wounds. At the same time, motivation and psychoeducation are only additional processes that can be mastered later, only for self-development [38-40]. Although such opinions deserve attention, the views of researchers who consider such strategies to align with modern rehabilitation paradigms are more consistent [41-44]. Therefore, work on learning and self-learning, the motivational component, are important elements in the recovery process and, for this reason, should be used by rehabilitation therapists in practice.

When studying the frequency of references by experts to these strategies for developing psychological competence, it was found that all experts mentioned them with different frequencies. However, it was found that support for the emotional state and CBT was mentioned by all experts (5 mentions each). Accordingly, these techniques are the most popular among professional experts, which determines their importance in effective physical rehabilitation. Motivational counselling and work on self-esteem were also popular in physical rehabilitation. Other works also point out these aspects [7,11,45]. The results also offer a comparative analysis of strategies for improving psychological competence. The evaluation was based on several criteria: speed of action, duration, and the need for the involvement of specialists. All strategies have a reasonably quick effect, are long-lasting, and require the involvement of specialists. At the same time, we should agree with the versions of those researchers who consider the individual characteristics of patients to be extremely important for shaping the rehabilitation trajectory [46-49]. This refers to considering patients' capabilities and predispositions to improve the therapy strategy [17,50,51]. In general, similar trends can be traced in the brief remarks of the interviewed experts, indicating the relevance of such views. Obviously, such ideas reflect modern paradigms of maximum focus on the needs of the patient in each specific case of treatment or therapeutic intervention.

Given the chosen research object and methodology, this study has certain limitations. In particular, given the approach to the selection of literature (paying attention only to modern studies), attention was paid to works written later than the timeframe outlined in the study. In addition, the focus was on English-language works, which led to the fact that the study ignored the works of foreign-language authors. This opens up new directions for studying this topic: future research will include works by foreign-language authors with a wide time range. Also, given the complexity of this article and the choice of a mixed-methods approach to research design, future research should focus on conducting an empirical study among a more significant number of experts and involving professional physical rehabilitation specialists. This would allow the strategies outlined above to be evaluated from a more practical perspective. Accordingly, this work serves as an essential basis for further research in psychological competence formation and determining its role, indicating its practical and scientific value.

Conclusion.

The analysis has shown that the psychological component is vital in modern medicine, particularly rehabilitation. In such circumstances, acquiring psychological competencies becomes essential for medical staff. This transition resulted from changes in the attitude towards patients and their mental and emotional state.

At the same time, modern strategies for improving psychological competence are characterised by cognitive-behavioural therapy, support for the emotional state (empathy), psychodiagnostics and work on self-esteem, social support, psychoeducation, and work on motivation. As a result, a comparative analysis of strategies for improving psychological competence was also proposed. The evaluation was based on several criteria: speed of action, duration, and the need to involve specialists. It has been determined that these strategies are practical and long-lasting in conditions of stable support. Some of them (social support and emotional support (empathy)) require the involvement of additional specialists.

For this reason, it was noted that all strategies have a reasonably quick effect, are long-lasting and require the involvement of specialists. Considering the experts' opinions, it was possible to establish the importance of focusing modern rehabilitation on the psychological recovery of patients, which is as important as the physical recovery. This study serves as an essential basis for further research in psychological competence development and determining its role. Future research will focus on attracting foreign language workers and evaluating the above strategies using empirical indicators.

REFERENCES

- Garrand K, Pechak C, Jimenez L, et al. Survey of Disability Competence Teaching and Assessment Strategies in Physical Therapist Education. *J Phys Ther Educ.* 2018;32:55-64.
- Konoval Y, Kirzhner G. Ergospirometric testing: a modern approach to the diagnosis of physical health. *Futurity Medicine.* 2024;21-30.
- Rabinowitz AR, Arnett PA. Positive psychology perspective on traumatic brain injury recovery and rehabilitation. *Appl Neuropsychol.* 2018;25:295-303.
- Wilson S, Cramp F. Combining a psychological intervention with physiotherapy: A systematic review to determine the effect on physical function and quality of life for adults with chronic pain. *Phys Ther Rev.* 2018;23:214-26.
- Aljad RR. Analysis of Development Trends and Experience of using LMS in Modern Education: An overview. *E-Learning Innovations Journal.* 2023;1:86-104.
- Denneny D, Frijdal (nee Klapper) A, Bianchi-Berthouze N, et al. The application of psychologically informed practice: observations of experienced physiotherapists working with people with chronic pain. *Physiotherapy.* 2020;106:163-173.
- Weiss MR. Motor Skill Development and Youth Physical Activity: A Social Psychological Perspective. *J Mot Learn Dev.* 2020;8:315-44.
- Shkola OM, Otravenko OV, Donchenko VI, et al. The influence of tae-bo on the development of motor potential of students of medical and pedagogical specialties and its effectiveness in the process of extracurricular activities. *Wiadomosci Lek.* 2022;75:865-870.
- McGrane N, Cusack T, O'Donoghue G, et al. Motivational strategies for physiotherapists. *Phys Ther Rev.* 2013;19:136-142.
- Carl J, Sudeck G, Pfeifer K. Competencies for a Healthy Physically Active Lifestyle-Reflections on the Model of Physical Activity-Related Health Competence. *J Phys Act Health.* 2020;17:688-97.
- Trabacca A, Vespino T, Di Liddo A, et al. Multidisciplinary rehabilitation for patients with cerebral palsy: improving long-term care. *J Multidiscip Healthc.* 2016;9:455-462.
- LaForme Fiss A, Chiarello LA, Hsu LY, et al. Adaptive behaviour and mastery motivation in children with physical disabilities. *Physiother Theory Pract.* 2023:1-12.
- Truong LK, Mosewich AD, Holt CJ, et al. Psychological, social and contextual factors across recovery stages following a sport-related knee injury: a scoping review. *Br J Sports Med.* 2020;54:1149-56.
- Wapaño MR. Emotional Intelligence and Mental Health among Adolescents. *Int J Res Innov Soc Sci.* 2021;05:467-81.
- Kerns RD, Burgess DJ, Coleman BC, et al. Chronic Pain Self-Management: Psychologically Guided Core Competencies for Providers. *Pain Med.* 2022;23:1815-1819.
- Jacobsen HB, Kallestad H, Landrø NI, et al. Processes in acceptance and commitment therapy and the rehabilitation of chronic fatigue. *Scand J Psychol.* 2017;58:211-20.
- Gilad D, Goldblatt H, Zeilig G. End-of-life conversation from both sides of the bed: voices of family and staff. *Disabil Rehabil.* 2022;44:2774-2783.
- Figueroa E, Gutiérrez González MA, Vizcaíno Arredondo JM. Sustainable Consumption Behaviour and Common Goods: Education, Culture, Rule of Law, Work, and Solidarity. *Futurity Economics & Law.* 2024;4:169-193.
- Odynets O. Philosophy of Health Within the Metamodern Worldview Paradigm. *Futurity Philosophy.* 2024;3:42-59.
- Rief W, Wilhelm M, Bleichhardt G, et al. Competence-based training for psychological treatments - A transtheoretical perspective. *Clin Psychol Eur.* 2024;6.
- Carl JA, Geidl W, Schuler M, et al. Towards a better understanding of physical activity in people with COPD: predicting physical activity after pulmonary rehabilitation using an integrative competence model. *Chronic Respir Dis.* 2021;18:147997312199478.

22. Enwere CA, Afunugo DM. Impact of Locus of Control on Psychological Well-Being Among Male and Female Adolescents in Anambra State. *Futurity of Social Sciences*. 2024;2:182-201.
23. Seong G, Won J. Effects of Multidimensional Perfectionism, Self-esteem, and Interpersonal Competence on University Students' Psychological Well-being. *Korean Assoc Learn Centered Curric Instr*. 2024;24:553-571.
24. Murray A, Hall A, Williams GC, et al. Assessing physiotherapists' communication skills for promoting patient autonomy for self-management: reliability and validity of the communication evaluation in rehabilitation tool. *Disabil Rehabil*. 2018;41:1699-1705.
25. Podlog L, Burns R, Dimmock JA, et al. Does motivation mediate the relationship between competence perceptions and patient outcomes among individuals with chronic low back pain? A multiple mediation analysis. *Disabil Rehabil*. 2019:1-7.
26. Monroe KS, Archer KR, Wegener ST, et al. Use of Intervention Mapping to Adapt a Psychologically Informed Physical Therapy Telerehabilitation Intervention for Latino Persons with Chronic Spinal Pain. *J Pain*. 2024:104685.
27. Driscoll MA, Edwards RR, Becker WC, et al. Psychological Interventions for the Treatment of Chronic Pain in Adults. *Psychol Sci Public Interest*. 2021;22:52-95.
28. Darnall BD. *Psychological treatment for patients with chronic pain*. Washington: American Psychological Association; 2019. Overview of evidence-based psychobehavioural interventions for pain. 2024:77-84.
29. Williams AC, Fisher E, Hearn L, et al. Evidence-based psychological interventions for adults with chronic pain: precision, control, quality, and equipoise. *Pain*. 2021;162:2149-2153.
30. Grandpierre V, Milloy V, Sikora L, et al. Barriers and facilitators to cultural competence in rehabilitation services: a scoping review. *BMC Health Serv Res*. 2018;18.
31. McGowan E, Beamish N, Stokes E, et al. Core competencies for physiotherapists working with refugees: a scoping review. *Physiotherapy*. 2020;108:10-21.
32. Montesinos F, Páez M, McCracken LM, et al. Communication skills in the context of psychological flexibility: training is associated with changes in responses to chronic pain in physiotherapy students in Spain. *Br J Pain*. 2019:204946371988458.
33. Maccarone MC, Masiero S, Papathanasiou J, et al. Frailty education: promoting geriatric competencies among physical medicine and rehabilitation residents. *Am J Phys Med Amp Rehabil*. 2023;102:e137-e140.
34. Femiak J, Czechowski M. Developing Social Competence of Physiotherapy Students During Workshops Using Active Teaching Methods: An Experimental Study. *Phys Cult Sport Stud Res*. 2023;99:1-10.
35. Rief W. Moving from tradition-based to competence-based psychotherapy. *Evid Based Ment Health*. 2021;24:115-120.
36. Bulavko GV, Davidenko NA, Davidenko II, et al. Photovoltaic Characteristics of Film Composites Based on Glycidylcarbazole Cooligomer with Symmetrical Cationic Polymethine Dyes. *Theor Exp Chem*. 2013;49:219-23.
37. Rodríguez-Nogueira Ó, Leirós-Rodríguez R, Pinto-Carral A, et al. Relationship between competence for evidence-based practice and level of burnout of physical therapists with the establishment of the therapeutic relationship. *Physiother Theory Pract*. 2022:1-9.
38. Freitag SL, Marshall-Lee ED, Zhang S, et al. *Handbook of Training and Supervision in Cognitive Behavioural Therapy*. Cham: Springer International Publishing; 2023. Remediation Processes for Health Service Psychology Trainees with Problems of Professional Competence. 2024;273-290.
39. Dimech-Betancourt B, Ross PE, Ponsford JL, et al. The development of a simulator-based intervention to rehabilitate driving skills in people with acquired brain injury. *Disabil Rehabil*. 2019:1-12.
40. Kawathekar US, Campbell DF. Cultural Competence In Physical Therapy: The Road Less Travelled. *J Man Amp Manip Ther*. 2023:1-2.
41. Ghanem Al Hashmi WS, Heckroodt S. *Cultural Competence*. New York: Routledge; 2023. The Imperativeness of Culture in Cultural Competence; [cited 2024;20-31].
42. Li MG, Garcia-Pittman EC. *Essential Reviews in Geriatric Psychiatry*. Cham: Springer International Publishing; 2022. Association Between Psychological Interventions and Chronic Pain Outcomes in Older Adults: A Systematic Review and Meta-Analysis; [cited 2024;267-271].
43. Nolan SA, Cranney J, Jia F, et al. Going global: Intersections of the American Psychological Association's Guidelines 3.0 with international foundational competence framework. *Scholarsh Teach Learn Psychol*. 2024.
44. Bulavko GV, Davidenko NA, Ishchenko AA, et al. Peculiarities of the photovoltaic properties of films based on photoconducting polymer and organic dye in samples with free surfaces and between electric contacts. *Tech Phys Lett*. [cited 2025;41:191-194].
45. Beyer A, Hohagen S, Wilkens U, et al. The impact of team competence on short- and long-term team performance. *Team Perform Manag*. 2024;30:136-153.
46. Wickline V, Wiese DL, Aggarwal P. Increasing intercultural competence among psychology students using experiential learning activities with international student partners. *Scholarsh Teach Learn Psychol*. 2021;10: 272-290.
47. Seijas V, Roxanne M, Mishra S, et al. Rehabilitation in primary care for an ageing population: a secondary analysis from a scoping review of rehabilitation delivery models. *BMC Health Serv Res*. 2024;24:123.
48. Sipari S, Vänskä N, Lehtonen K, et al. Participatory Research Partnership in Rehabilitation-Co-Development of a Model for Collaboration Process. *Disabilities*. 2024;3:410-425.
49. Raghavan P. A Unified Model for Stroke Recovery and Rehabilitation. *Am J Phys Med Amp Rehabil*. 2023;102:S3-S9.
50. Kwakkel G, Stinear C, Essers B, et al. Motor rehabilitation after stroke: European Stroke Organisation (ESO) consensus-based definition and guiding framework. *Eur Stroke J*. 2023;8:880-894.
51. Wade DT. Rehabilitation potential: A critical review of its meaning and validity. *Clin Rehabil*. 2023;37:869-875.