


The occupational burnout of mental health nurses in selected European countries: a meta-analysis of research studies using the MBI questionnaire

Wypalenie zawodowe wśród europejskich pielęgniarek psychiatrycznych – metaanaliza badań z wykorzystaniem kwestionariusza MBI

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Key words: meta-analysis, occupational burnout, MBI, mental health nursing.

Słowa kluczowe: metaanaliza, wypalenie zawodowe, MBI, pielęgniarstwo psychiatryczne.

Abstract

Introduction: Maslach and Jackson proposed a comprehensive and multi-dimensional description of burnout. They developed an inventory of occupational burnout to detect and measure its level.

Aim of the research: A meta-analysis of published studies on burnout among European psychiatric nurses using MBI.

Material and methods: A systematic review of studies published in the following databases was made: PubMed, Web of Science, ProQuest, and Google Scholar. Works published between 01/01/2018 and 31/12/2020 have been taken into account. Two meta-analyses were performed: quantitative in the group of 740 and qualitative in the group of 2378 nurses.

Results: The analysis of metaanalyses showed that the level of burnout of the respondents in terms of emotional exhaustion and depersonalization is medium. The quantitative analysis showed a high level and the qualitative analysis a low level of one's own achievements.

Conclusions: European psychiatric nurses show moderate burnout in terms of emotional exhaustion and depersonalization.

Streszczenie

Wprowadzenie: Wypalenie zawodowe jest to wielowymiarowe zaburzenie. Kompleksowy opis zjawiska zaproponowały Maslach i Jackson. Opracowały MBI (*Maslach Burnout Inventory*) zarówno do wykrywania wypalenia, jak i mierzenia jego poziomu.

Cel pracy: Metaanaliza badań dotyczących poziomu wypalenia zawodowego mierzonego za pomocą MBI wśród europejskich pielęgniarek psychiatrycznych.

Materiał i metody: Dokonano systematycznego przeglądu badań opublikowanych w następujących bazach danych: Pub-Med, Web of Science, ProQuest, Google Scholar. Uwzględniono prace opublikowane między 1.01.2018 a 31.12.2020 roku. Wykonano dwie metaanalizy: ilościową w grupie 740 oraz jakościową w grupie 2378 pielęgniarek.

Wyniki: Analiza obu metaanaliz pozwoliła stwierdzić, że poziom wypalenia badanych w zakresie wyczerpania emocjonalnego i depersonalizacji mieści się w przedziale określanym jako średni. W analizie ilościowej wykazano wysoki, a w analizie jakościowej niski poziom dokonań własnych.

Wnioski: Europejskie pielęgniarki psychiatryczne cechuje średnie wypalenie w zakresie wyczerpania emocjonalnego i depersonalizacji.

Introduction

The issues of occupational burnout have been discussed in the literature for more than 40 years and still remain an object of interest for researchers in many fields [1].

Occupational burnout is a multi-faceted disorder triggered by chronic stress. It affects mainly people in occupations that require close and emotionally engaging interpersonal interactions and direct work with other people. Occupational burnout develops as a consequence of a mismatch between the person and his/her working environment. It is a response of the body to chronic interpersonal stress at work. As a process, it develops gradually; it is often inconspicuous and difficult to reverse [2]. The first person to study occupational burnout was H. Freudenberg. His scholarly contribution published in 1974 described occupational burnout as “a state of extreme exhaustion caused by excessive demand for energy and all the resources which an individual possesses” [3]. A comprehensive and multidimensional description of occupational burnout as a phenomenon and a process is proposed by Maslach and Jackson. They identified 3 dimensions of burnout and the order in which they occur, and developed what is known as the Maslach Burnout Inventory (MBI) as a method of both detecting and measuring the level of occupational burnout. The MBI measures 3 dimensions of burnout: emotional exhaustion, depersonalisation (a negative or cynical attitude to patients), and the loss of a sense of personal accomplishment at work [4]. There are 2 categories of factors affecting the development of occupational burnout. One of them is represented by individual (or personal) factors, while the other covers situational and organisational factors. Such individual (personal) factors include low resistance to stress, a high level of self-criticism, temperament, or excessive expectations of oneself. This category may also cover interpersonal factors such as disrupted communication with colleagues, lack of support, or low motivation. The other category, i.e. situational and organisational factors, includes low occupational status, lack of an appropriate motivational scheme, lack of clearly defined occupational requirements, inappropriate workloads, or limited opportunities for career development [5, 6].

Nursing is an occupation in which close and frequent communication with other people is critical [7]. During hospitalization, nursing care consumes most of the time, and therefore it creates opportunities for intensive patient-nurse contact [8]. The requirements that nurses are expected to meet make nursing different from other professions. Moreover, mental strain, low pay, poor cooperation within therapeutic teams, and difficult communication with patients and their family members are major factors in the development of occupational burnout [9]. Analysis of global disease rates and mental problems shows the need to study this

profession in terms of such health symptoms as: insomnia, fatigue, and emotional exhaustion [10]. The issue of burnout among mental health nurses has been studied for many years. There are different tools to assess the level of occupational burnout. An MBI questionnaire is the most popular instrument to assess the general level of occupational burnout and its dimensions among European mental health nurses. Hence, it seems necessary to conduct a meta-analysis as the most reliable index of effects obtained from studies.

Aim of the research

The aim of this study was to perform a meta-analysis of research studies investigating the level of the problem of occupational burnout among European mental health nurses, measured with an MBI questionnaire.

Material and methods

A systematic review of the literature was carried out based on the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) [11]. A review of the literature dealing with the occupational burnout of mental health nurses in Europe was conducted. The review covered papers published between 1 January 2018 and 31 December 2020. Searches for such papers were conducted in the following databases: PubMed, Web of Science, ProQuest, and Google Scholar. A total of 165 papers were found.

Criteria for inclusion of texts in the literature review

The following criteria for inclusion of papers in the review of the literature dealing with the occupational burnout of mental health nurses were applied. The first criterion was the date of publication between 1 January 2018 and 31 December 2020. The second criterion was the use of Maslach's MBI questionnaire. In the PubMed database, *burnout syndrome* and *psychiatric nurse*, and the Polish-language equivalents of these terms, were used as the search phrases. The results were narrowed down to studies published between 1 January 2018 and 31 December 2020, delivering a total of 58 published studies, including 8 dealing with the situation in Europe and using the MBI method. In the Web of Science search, the results returned by applying the same criteria comprised 9 studies, of which 3 met all the requirements. The ProQuest and Google Scholar searches returned 70 and 28 results respectively, but only 2 met the criteria for inclusion in the review. All the searches returned a total of 165 results. This included 14 studies meeting the requirements, of which 10 items were original papers. All the papers were studied carefully, and the results reported by the authors were tested for inclusion in our meta-analysis. Half of the papers differed in the

presentation of the MBI parameters or presented only coefficients of correlation with other parameters but without descriptive statistics relating to the MBI results. Therefore, these papers did not qualify for our meta-analysis.

The second difference in the analyzed studies concerned the presentation of the results by the authors. In some of them, the results are presented numerically and in the form of ranges, and in others in the form of scales. Therefore, the analysis of these parameters was divided into two parts. A quantitative meta-analysis was conducted to calculate the average and the standard deviation for all the papers. The other was a qualitative meta-analysis based on the MBI criteria (divided according to specified MBI criteria – the level of occupational burnout). A total of 5 studies were included in the qualitative meta-analysis. However, the results reported by Brudek *et al.* [12] are significantly different from the results reported by the other authors. Importantly, the study by V. Bogiatzaki did not only include specifically nurses, but all medical personnel. A total of 5 papers were ultimately included in the quantitative meta-analysis. For the qualitative part 3 papers were qualified, but ultimately 2 papers were included in this meta-analysis approach. The research carried out by Borgers [13] methodologically could

be included into the quantitative meta-analysis, but its results were incomplete. Because it failed to cover depersonalisation in 2 countries and ignored the personal accomplishment dimension in the analysis, the research was excluded from further statistical analysis (Table 1) [14–19].

The methodological quality of the studies was appraised using a critical appraisal checklist according to Ciapponi's observational studies [20]. The recommendation level was classified using a method proposed by the Centre for Evidence-Based Medicine, University of Oxford [21].

The MBI scales used in the studies included in the meta-analysis

Although the authors used the same research instrument, namely the MBI-questionnaire, they used different scale options in their measurements. The original scale developed by Maslach was used by Bogiatzaki, Struzu, and Berry. The study by Konstantinos used the reversed scale (based on the $PA' = 48 - PA$ formula). The reversed scale was used by Petrelli and Dalfrate as well, but their studies used the scale differently, which was also reflected in the meta-analytical calculations.

Table 1. List of papers included in the quantitative meta-analysis [14–17] and qualitative meta-analysis [18, 19]

Paper cited	Published in year	Authored by	Published in journal	Number of subjects
Quantitative meta-analysis:				
Empathy and burnout – a cross-sectional study among mental healthcare providers in France	2019	Sturzu L, Lala A, Bisch M, Gutter M, Dobre D, Schwan R	Journal of Medicine and Life	241
Burnout evaluation and potential predictors in a Greek cohort of mental health nurses	2018	Konstantinou A, Bonotisa K, Sokratousb M, Siokasb V, Dardiotisb E	Archives of Psychiatric Nursing	232
Burnout within forensic psychiatric nursing, its relationship with ward environment and effective clinical supervision	2019	Berry S, Robertson N	Journal of Psychiatric and Mental Health Nursing	137
Empathy and burnout of healthcare professionals in public hospitals of Greece	2019	Bogiatzaki V, Fregidou E, Savakis E, Trigoni M, Galanis P, Anagnostopoulos F	International Journal of Caring Sciences	130
The mediating role of types of coping styles in the relations between temperamental traits and staff burnout among psychiatric nurses	2019	Brudek P, Steuden S, Ciula G	Psychiatria Polska	60
Qualitative meta-analysis:				
Moral distress (MD) and burnout in mental health nurses: a multicentre survey	2018	Delfrate F, Ferrara P, Spotti D, Terzoni S, Lamiani G, Canciani E, Bonetti L	La Medicina del Lavoro	163
Public health and burnout: a survey on lifestyle changes among workers in the healthcare sector	2019	Petrelli F, Scuri S, Tanzi E, Nguyen T, Grappasonni I	Acta Biomedica	2216

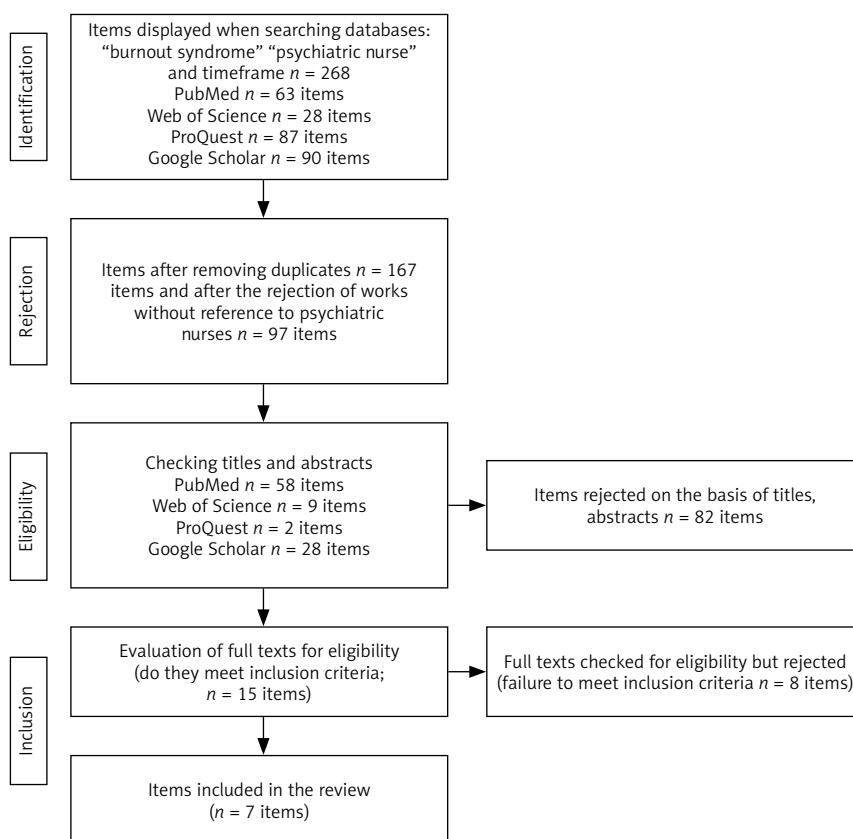


Figure 1. PRISMA flow chart

According to the original scale by Maslach, the level of emotional exhaustion is high if the score is above 27, and the level of depersonalisation is high if the score is above 13. A low level of personal accomplishment requires a score of less than 31. In contrast, according to the reversed scale, personal accomplishment is labelled as a sense of personal achievement, which is low if the score is equal to or higher than 17, medium with a score ranging from 10 to 16, and high if the score is equal to or lower than 6.

To estimate the level of burnout among the mental health nurses from the given research, 2 analyses were conducted, namely a quantitative meta-analysis and a qualitative meta-analysis. In the quantitative meta-analysis, the average values and standard deviation values were calculated for all the dimensions of burnout. The qualitative analysis included 3 fixed-effects meta-analyses, one for each of the dimensions of burnout, and they were compared with corresponding confidence intervals.

Statistical analysis

The data was analysed using the R statistical package. The meta-analytical values of the level of burnout were estimated for 740 mental health nurses in the

quantitative analysis and 2379 nurses in the qualitative analysis. Given the form of presentation of the results in the studies and the fact that access to raw data was not available, the 2 meta-analyses could not be combined.

Results

A total of 7 studies were included in the meta-analysis, 5 studies were included in the quantitative analysis, and 2 studies were included in the qualitative analysis (Figure 1). The excluded studies are presented in the supplementary file.

The meta-analysis includes evaluation of the same characteristics, but presents them in different manners, which makes it impossible to analyse the outcome as a whole. The research indicates 2 main ways of presenting the results. The first introduces the average score together with the corresponding standard deviation, and the second does not present the numerical average result but shows the ratio obtained from the participants divided into 3 groups, i.e. low, medium, or high score. The second way of interpreting the results may seem more understandable, but it is much more problematic when compared with other data in the meta-analysis. The main problem is that different studies use different cut-off points to decide

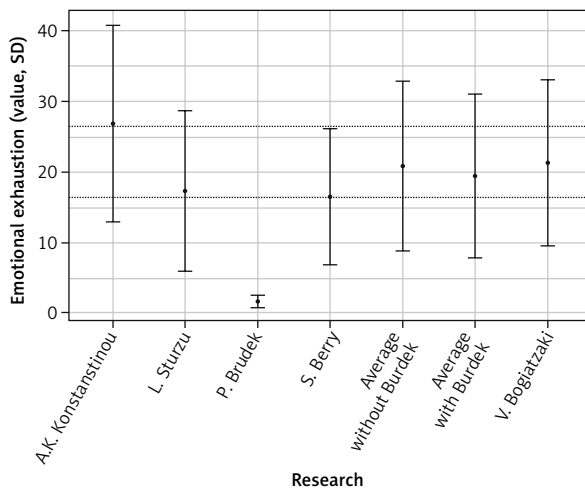


Figure 2. Results of the meta-analysis for the emotional exhaustion dimension

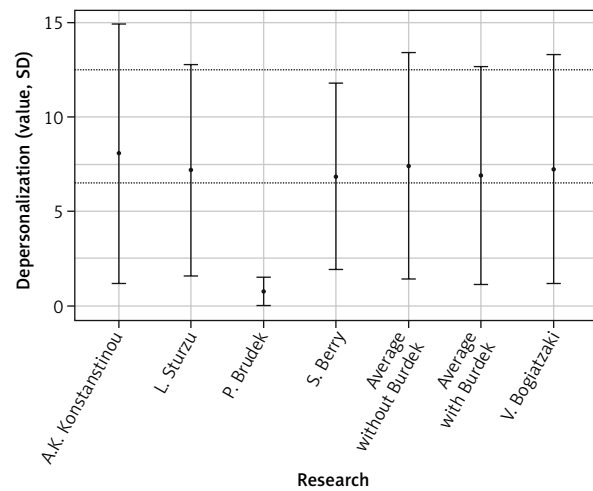


Figure 3. Results of the meta-analysis for the depersonalisation dimension

whether the score is low, medium, or high. To include the studies in the meta-analysis, they had to be given cut-off points, and these could not be different from the cut-off points of other studies. Research, with significantly different cut-off points (more than one point difference from the standard proposed index) could not be included in the study. In cases where the authors evaluated the numbers of subjects for each group, they had to be summed and the ratio had to be recalculated. 95% confidence intervals were calculated using the proportion test. The analysis of the numerical results was much simpler. A new mean was calculated and a new standard deviation was determined using the standard formula for combined standard deviation.

An analysis of the results of both meta-analyses shows that the level of burnout in terms of emotional exhaustion and depersonalisation falls within the medium range. The quantitative meta-analysis revealed that emotional exhaustion is medium but close to low. Depersonalisation is medium, while the level of personal accomplishment is high and far from medium, as shown in Figures 2–4.

The present study reveals the most diverse level of burnout is associated with the depersonalization dimension, followed by emotional exhaustion, with the smallest differences for the personal accomplishment dimension. The conducted meta-analysis shows that 68% of the results fall within the medium range of burnout in terms of emotional exhaustion and depersonalisation.

The remaining part of the results, however, fall outside the single standard deviation boundaries, which suggests the results differ significantly because the ranges (the figure’s lines) cover a greater part of the ones on the scale.

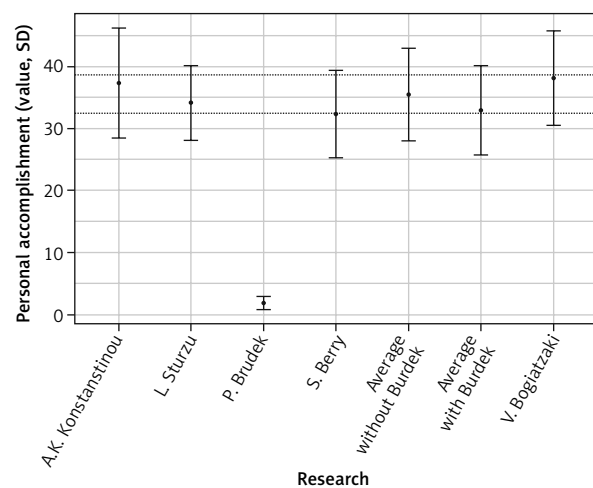


Figure 4. Results of the meta-analysis for the personal accomplishment dimension

Considering the personal accomplishment dimension, the data are more similar. The mean value is usually on the boundary between a medium and high level of burnout. These results show that burnout affects mental health nurses mostly in this dimension. All considered studies give similar results, with the exception of Brudek’s research.

The results of our calculations in the qualitative meta-analysis also show a medium level of burnout in terms of depersonalisation and emotional exhaustion. These results are similar to those of the quantitative meta-analysis. However, the level of personal accomplishment measured in the qualitative part is the opposite of the result obtained in the quantitative meta-analysis, with the level being low for 60% of the subjects. The results of the qualitative meta-analysis are presented in Figures 5 and 6.

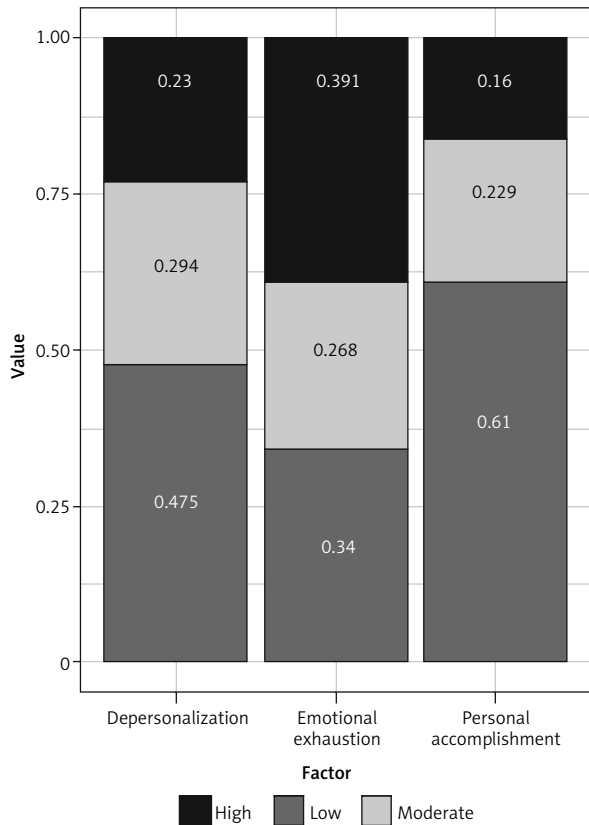


Figure 5. Results of the qualitative meta-analysis for the dimensions of burnout

The results obtained from the conducted meta-analysis show that numerous analysis results better present the average data, while data within the range show extremes more clearly. The dimensions of numerous meta-analyses in terms of occupational burnout are more detailed and safer to compare because the authors of the research use different scales and ranges. The data within the range are easier to manipulate. In the case of figures, the manipulation is also possible but definitely more difficult.

Discussion

The systematic literature review of MBI-based studies dealing with the occupational burnout of European mental health nurses revealed that this issue is frequently studied. A hundred sixty-five different references in literature were found within the last 24 months. Moreover, there are significant differences in how the results of the studies are presented. The studies make use of different variants of scales for measurements in terms of the personal accomplishment dimension. According to the original MBI scale, this dimension is measured as a reduced sense of personal accomplishment, meaning that the higher the score, the lower the level of burnout [22]. Pasikowski,

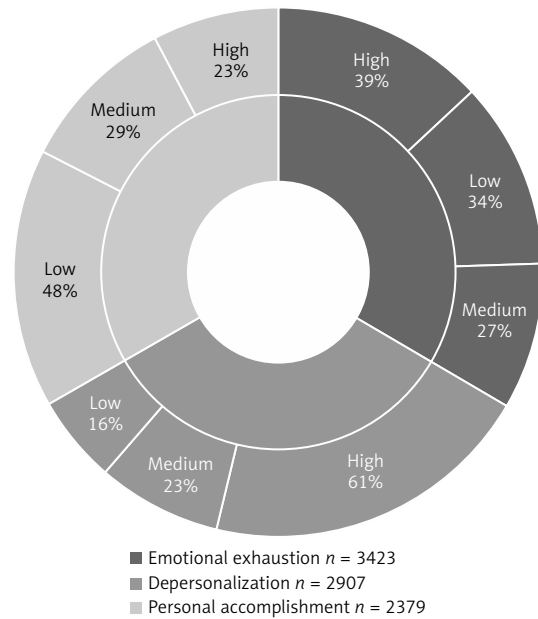


Figure 6. Results of the qualitative meta-analysis for the dimensions of burnout

the author of the Polish adaptation of the MBI questionnaire, explains that a low score for personal engagement is a manifestation of a high level of burnout. In the Polish adaptation of the questionnaire, Pasikowski employed a procedure in which partial scores in the personal engagement subscale are reversed. This can be used to compare the average results for all the 3 subscales and to calculate the value of a global measure of burnout as the sum of (a) the partial results for the subscales of emotional exhaustion and depersonalisation and (b) reversed results for the third subscale [23]. The reversed subscale is used by both Polish and foreign authors, which makes the meta-analysis very difficult.

In this study, the qualitative meta-analysis included 2 papers authored by Italian scholars: Petrelli *et al.* [19] and Delfrate *et al.* [18]. They used the reversed scale, although differently.

It is methodologically correct to use both the original scale and the reversed scale in studies, and both scales are used. Although authors usually inform which method they used for their calculations, the fact that 2 measurement scales are used (and in various options) can be misleading. As a result, it may lead to errors in analysis of the studies, which may cause the accuracy of this dimension to be challenged. This inconsistency undoubtedly makes the meta-analysis process difficult, as well as a systematic literature review.

The quantitative meta-analysis in this study shows that the level of emotional exhaustion of European

mental health nurses is medium and close to low. Depersonalisation is medium, while the level of personal accomplishment is high and far from medium. An Irish study by McTiernan among mental health nurses and community nurses showed medium levels of emotional exhaustion and personal accomplishment for both groups. An analysis of differences between the 2 groups revealed a higher level of depersonalisation and a lower level of satisfaction with private life and work in the case of mental health nurses as compared to community nurses [24].

Wilczek-Rużyczka and Kalicińska note in their study that mental health nurses experience a high level of stress and burnout in terms of emotional exhaustion and depersonalisation [25]. In her study involving surgical nurses, nonsurgical nurses, and primary care nurses ($n = 189$), Wilczek-Rużyczka showed that 20.58% of the nurses experienced emotional exhaustion, 7.29% – depersonalisation, and 30.84% – loss of a sense of personal accomplishment [26].

A study by Łopatkiewicz *et al.* ($n = 327$) among European mental health nurses shows that the level of burnout in terms of emotional exhaustion and depersonalisation falls within the medium range. At the same time, for nearly half of the people included in the study, the levels for these 2 dimensions are low: 43.3% for emotional exhaustion and 47.5% for depersonalisation. The average level of dissatisfaction with the subjects' personal accomplishment is also low. The study has also shown that the occupational burnout landscape is different in different countries. In Poland, the level of emotional exhaustion is high for more than 40% of the nurses surveyed, the level of depersonalisation is high for nearly a half of the subjects, and more than 70% have a high sense of personal accomplishment. The results are very different for Slovakia, where the levels of emotional exhaustion and depersonalisation are low for 80% of the subjects. The level of burnout caused by a low sense of personal accomplishment is low in all the countries included in the study, meaning that the percentage of subjects in each of the countries with a low level of this variable is at least close to 50%, although it is even higher in countries such as Poland and Germany (76.3% and 92.3%, respectively) [27].

The literature review in this study shows that from 165 titles relating to the issue of occupational burnout among European mental health nurses only 14 of them met the criteria used in the further analysis. Both theoretical [28–31] and empirical [32–34] research were excluded from the meta-analysis. The subject of occupational burnout is discussed by many authors. However, it is worth noting that the studies we have examined employed different research instruments. This review of studies based on the MBI questionnaire shows that even studies that use standardised instruments present the results differently.

The use of 2 different scales to calculate the results for the personal accomplishment dimension makes it difficult to compare the studies. The method of picturing the research results by authors is also important, because figures and data within the range cannot be compared. To obtain unambiguous results, a multi-centre study according to a single measurement scale should be considered.

Conclusions

It can be concluded from our literature review of European MBI-based studies dealing with the occupational burnout of mental health nurses that the authors of such studies do not present complete sets of descriptive statistics for burnout and report only coefficients of correlation with other parameters. Moreover, they do not report all the results of the MBI test itself. The meta-analysis in this study has shown a medium level of burnout among European mental health nurses in terms of emotional exhaustion and depersonalisation. Although the highest level of burnout in the studied group exists in the personal accomplishment dimension, the authors of the studies use 2 different measurement scales (in various options) to measure it, which hinders or prevents meta-analysis of such studies.

Conflict of interest

The authors declare no conflict of interest.

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Załącznik

1. Jaki był poziom wypalenia zawodowego europejskich pielęgniarek psychiatrycznych w latach 2018–2020?
- Koncept 1 → wypalenie zawodowe (*burnout syndrom*)
 - Koncept 2 → pielęgniarstwo psychiatryczne (*psychiatric nursing*) (Community Psychiatric Nurse), (Community Mental Health Nurse)
 - Koncept 3 → Europa (Europe)
 - Koncept 4 → kwestionariusz MBI Ch. Maslach (MBI questionnaire Ch. Maslach)
2. Przeprowadzono systematyczny przegląd piśmiennictwa z lat 2018–2020 dotyczącego wypalenia zawodowego pielęgniarek psychiatrycznych. Jako ograniczenie dat przyjęto trzy ostatnie pełne lata kalendarzowe sprzed pandemii COVID-19.

Wybór źródeł informacji

Przeszukano następujące bazy danych: PubMed, Web of Science, ProQuest, Google Scholar.

Article	Year	link
Burnout in nursing: a theoretical review	2020	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7273381/
Public health and burnout: a survey on lifestyle changes among workers in the healthcare sector	2019	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6502147/
Empathy and Burnout – A Cross-Sectional Study Among Mental Healthcare Providers in France	2019	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6527412/
Moral Distress (MD) and burnout in mental health nurses: a multicentre survey	2018	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7682177/
Why is change a challenge in acute mental health wards? A cross-sectional investigation of the relationships between burnout, occupational status, and nurses' perceptions of barriers to change	2019	https://pubmed-1ncbi-1nlm-1nih-1gov-100001a59082b.han3.wum.edu.pl/29993168/
Burnout Evaluation and Potential Predictors in a Greek Cohort of Mental Health Nurses	2018	https://pubmed-1ncbi-1nlm-1nih-1gov-100001a59082b.han3.wum.edu.pl/29784229/
Burnout within forensic psychiatric nursing, its relationship with ward environment and effective clinical supervision	2019	https://pubmed-1ncbi-1nlm-1nih-1gov-100001a590b5e.han3.wum.edu.pl/31209980/
Prevalence of burnout in mental health nurses and related factors: a systematic review and meta-analysis.	2019	https://pubmed-1ncbi-1nlm-1nih-1gov-100001a590b5e.han3.wum.edu.pl/31132216/

Wyniki dla PubMed – burnout syndrome AND psychiatric nurse

Publication date from 2018/01/01 to 2020/12/31 = 58 results.

Web of science – burnout syndrome AND psychiatric nurse

Publication date from 2018/01/01 to 2020/12/31 = 9 results.

Article	Year	Link
Burnout in mental health professionals: a systematic review and meta-analysis of prevalence and determinants	2018	https://www-1sciencedirect-1com-100000259021f.han3.wum.edu.pl/science/article/abs/pii/S0924933818301275
Empathy, stress, and professional burnout syndrome suffered by psychiatric nurses	2020	https://apps-1webofknowledge-1com-10002995905a6.han3.wum.edu.pl/full_record.do?product=WOS&search_mode=GeneralSearch&qid=7&SID=E4V33FUKDaP4JEt1a8M&page=2&doc=17&cacheurlFromRightClick=no
The mediating role of types of coping styles in the relations between temperamental traits and staff burnout among psychiatric nurses	2019	https://apps-1webofknowledge-1com-10002995905a6.han3.wum.edu.pl/full_record.do?product=WOS&search_mode=GeneralSearch&qid=7&SID=E4V33FUKDaP4JEt1a8M&page=3&doc=22&cacheurlFromRightClick=no

ProQuest – burnout syndrome AND psychiatric nurse AND MBI AND Europe

Publication date from 2018/01/01 to 2020/12/31 = 70 results.

Article	Year	Link
Published Research on Burnout in Nursing in Spain in the Last Decade: Bibliometric Analysis	2020	https://search-1proquest-1com-1lh4h9d5907fb.han3.wum.edu.pl/docview/2461181992/419974F012A54878PQ/3?accountid=48118
Empathy and Burnout of Healthcare Professionals in Public Hospitals of Greece	2019	https://search-1proquest-1com-1lh4h9d5907fb.han3.wum.edu.pl/docview/2303668478/419974F012A54878PQ/6?accountid=48118

Google Scholar = 28 results.

Article	Year	Link
Cechy temperamentu i style radzenia sobie ze stresem jako predyktory wypalenia zawodowego u pielęgniarek psychiatrycznych	2018	https://lsmll.journals.umcs.pl/j/article/view/7000
Medycyjna rola stylów radzenia sobie ze stresem w związkach temperamentu i wypalenia zawodowego. Badania pielęgniarek psychiatrycznych	2019	https://rebus.us.edu.pl/handle/20.500.12128/13300

https://www.researchgate.net/publication/327562596_Burnout_symptoms_in_forensic_psychiatric_nurses_and_their_associations_with_personality_emotional_intelligence_and_client_aggression_A_cross-sectional_study