

# The instruments for evaluation the quality of nursing work life

Narzędzia do oceny jakości życia zawodowego pielęgniarek

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A – Development of the concept and methodology of the study/Opracowanie koncepcji i metodologii badań; B – Query – a review and analysis of the literature/Kwerenda – przegląd i analiza literatury przedmiotu; C – Submission of the application to the appropriate Bioethics Committee/Złożenie wniosku do właściwej Komisji Biotycznej; D – Collection of research material/Gromadzenie materiału badawczego; E – Analysis of the research material/Analiza materiału badawczego; F – Preparation of draft version of manuscript/Przygotowanie roboczej wersji artykułu; G – Critical analysis of manuscript draft version/Analiza krytyczna roboczej wersji artykułu; H – Statistical analysis of the research material/Analiza statystyczna materiału badawczego; I – Interpretation of the performed statistical analysis/Interpretacja dokonanej analizy statystycznej; K – Technical preparation of manuscript in accordance with the journal regulations/Opracowanie techniczne artykułu zgodnie z regulaminem czasopisma; L – Supervision of the research and preparation of the manuscript/Nadzór nad przebiegiem badań i przygotowaniem artykułu

## STRESZCZENIE

### NARZĘDZIA DO OCENY JAKOŚCI ŻYCIA ZAWODOWEGO PIELĘGNIAREK

**Cel pracy.** Dokonać przeglądu ważnych i wiarygodnych narzędzi koncentrujących się na ocenie jakości życia zawodowego pielęgniarek i porównać narzędzia z ich psychometrycznymi właściwościami i ich zastosowaniem w praktyce klinicznej.

**Materiał i metody.** Aby utworzyć przegląd narracyjny, wykorzystano licencjonowane bazy danych: SCOPUS, Web of Science oraz ProQuest w styczniu 2022. Słowami kluczowymi były: ocena/pomiar jakości życia zawodowego pielęgniarek, jakość życia zawodowego pielęgniarek, narzędzie, pielęgniarki szpitalne.

**Wyniki.** W sumie zidentyfikowano 129 dokumentów. Do ostatecznej analizy na podstawie kryteriów wykluczenia zostało włączonych 25 badań. Do oceny jakości życia zastosowano następujące narzędzia oceny: skalę Brooks Quality of Nursing Work Life, skalę Quality of Work Life, skalę Work Related Quality of Life, skalę Professional Quality of Life oraz The World Health Organization Quality of Life.

**Wnioski.** Narzędzia oceny wykazały akceptowalne właściwości psychometryczne. Jednak ich użycie w określonym środowisku społeczno-kulturowym wymaga sprawdzenia ich trafności i rzetelności na reprezentatywnej próbie respondentów w tym środowisku.

## Słowa kluczowe:

ocena, jakość życia zawodowego pielęgniarek, pielęgniarka, szpital, narzędzie

## ABSTRACT

### THE INSTRUMENTS FOR EVALUATION THE QUALITY OF NURSING WORK LIFE

**Aim.** To provide an overview of valid and reliable tools focusing on the assessing the quality of nursing work life, and to compare the tools with their psychometric characteristics, and use in clinical nursing practice.

**Material and methods.** Licensed databases were used: SCOPUS, Web of Science and ProQuest in January 2022. Key words were: assessing/measuring the quality of nursing work life, quality of nurses working life, instrument, hospital nurses.

**Results.** A total of 129 documents were identified. Based on selection criteria, 25 studies were included to final analysis. The following instruments were used for assessing the quality of nursing work life: Brooks Quality of Nursing Work Life, Quality of Work Life, Work Related Quality of Life scale, Professional Quality of Life scale, and The World Health Organization Quality of Life.

**Conclusions.** The instruments demonstrated acceptable psychometric properties. However, their use in a specific sociocultural environment requires testing their validity and reliability on a representative sample of respondents in this environment.

## Key words:

assessment, quality of nursing work life, nurse, hospital, instrument

## INTRODUCTION

Nurses' quality of work life (QNWL) is a multifaceted variable that reflects nurses' perceptions of different dimensions in relation to their work [1]. Despite the widely acknowledged importance of the concept of quality of work life (QWL), there is no consensus among experts on its definition, and instruments [2,3]. The theoretical underpinnings of research on the concept of QWL are based on the work of Walton [4], Taylor [5], and Levine et al. [6]. In summary, QWL is defined as the employee's satisfaction rate with personal and work-related needs, with simultaneous participation in achieving the organization's objectives [1]. This concept describes the methods by which an organization can ensure the employee's well-being, rather than focusing solely on aspects related to his/her work [7]. These include job content, workplace conditions, sufficient and fair remuneration, opportunity for promotion, discretion, participation in decision-making processes, job security, job stress, organizational and individual relationships, and work life stability [8].

Brooks brought a definition of quality of nursing life. She characterizes it as the degree to which registered nurses are able to satisfy important personal needs, through their experiences in their work organization while achieving the organization's goals [9].

The quality of work life not only affects job satisfaction, but also influences other aspects of life, including family and social relationships. It is an important part of a nurse's life as it affects his/her level of performance, early retirement, job retention, organizational commitment, and last but not least patient safety and, above all, patient satisfaction [10]. As nurses are the largest group of health care workers, improving their quality of work life should be considered essential, and inevitable [11]. Nurses' role is to support patients' quality of life through nursing care, but their own needs are largely ignored [12]. If human needs are fulfilled, then the productivity of the organization can increase. Fulfilling the needs of nurses is by supporting their rights, providing explanations about the impact of decisions, giving explanations received by nurses, providing solutions, providing explanations and realistic, as well as detailed descriptions. This is a manifestation of organizational justice and has an impact on organizational commitment.

As mentioned, nurse has the dominant number (50-60 % in generally) of all human resources in the hospital, providing 24 hours a day and 7 days a week services and having more and longer contact or interaction with patients [13,14]. Nurses also face many challenges in the workplace, including staff shortages, low salary, burnout and work overload, stress at work, as a result, the rate of staff turnover among experienced nurses is high [9,13,15,16].

Issues related to nurse performance have always been a conversation in the community. Lack of performance or nursing service is a global issue [14]. According to some authors [9,15,17], the development of a universal instrument for assessing QWL in terms of organizational culture and work environment is ineffective. Lin et al. propose a specific QWL setting by industry or profession [18].

## AIM

The aim of the narrative literature review was to provide an overview of instruments assessing nurses' quality of work life, and to identify their psychometric properties. The assessment of measurement properties is useful to subsidize the selection of valid and reliable instruments, in order to ensure the quality of the results of studies.

## MATERIALS AND METHODS

A narrative literature review was conducted according to PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*) in January 2022 [19].

Before starting this study, there were two research questions asked: what instruments for assessing QNWL are available in the literature, and what are their brief descriptions? What are the psychometric properties of the QNWL assessment instruments? After identification of the research questions, we defined the following key words for search: assessing/measuring the quality of nursing work life, nurses work life, instrument/tool, hospital nurses with Boolean operator AND. A literature search strategy was performed using three scientific databases: SCOPUS, Web of Science and Pro Quest. The search included all available studies published up to January 2022 meeting predefined criteria: empirical articles; quantitative research methods; articles published in peer-reviewed journals, articles in English, studies focusing on the assessment of nurses' quality of working life, involving nurses (specially nurses working in hospital). Grey literature was excluded from the search. Exclusion criteria were the following: editorials, reviews, protocols, case studies and studies using instruments of their own design.

The selected databases were searched by the first author. A total of 129 studies were retrieved based on the set criteria SCOPUS (n = 28), Web of Science (n = 23), Pro Quest (n = 78). All data obtained were systematically included in a PRISMA diagram (Fig. 1). The titles and abstracts were screened to identify potentially relevant studies (n = 129). After this step, duplicates of the same studies were removed (n = 60). The full-text reports (n = 69) were analyzed and reviewed to check their eligibility. Then, 36 studies were further examined based on full-text reading. This was followed by an assessment of specific aspects of the measurement properties of the instruments. Articles that did not contain information on psychometric properties were excluded (n = 11). Finally, the full-text of articles (n = 25) that met the inclusion criteria were included into the final analysis. The following data were further analyzed: authors, year, country, aim, research sample, research sample size, instrument and its psychometric properties.

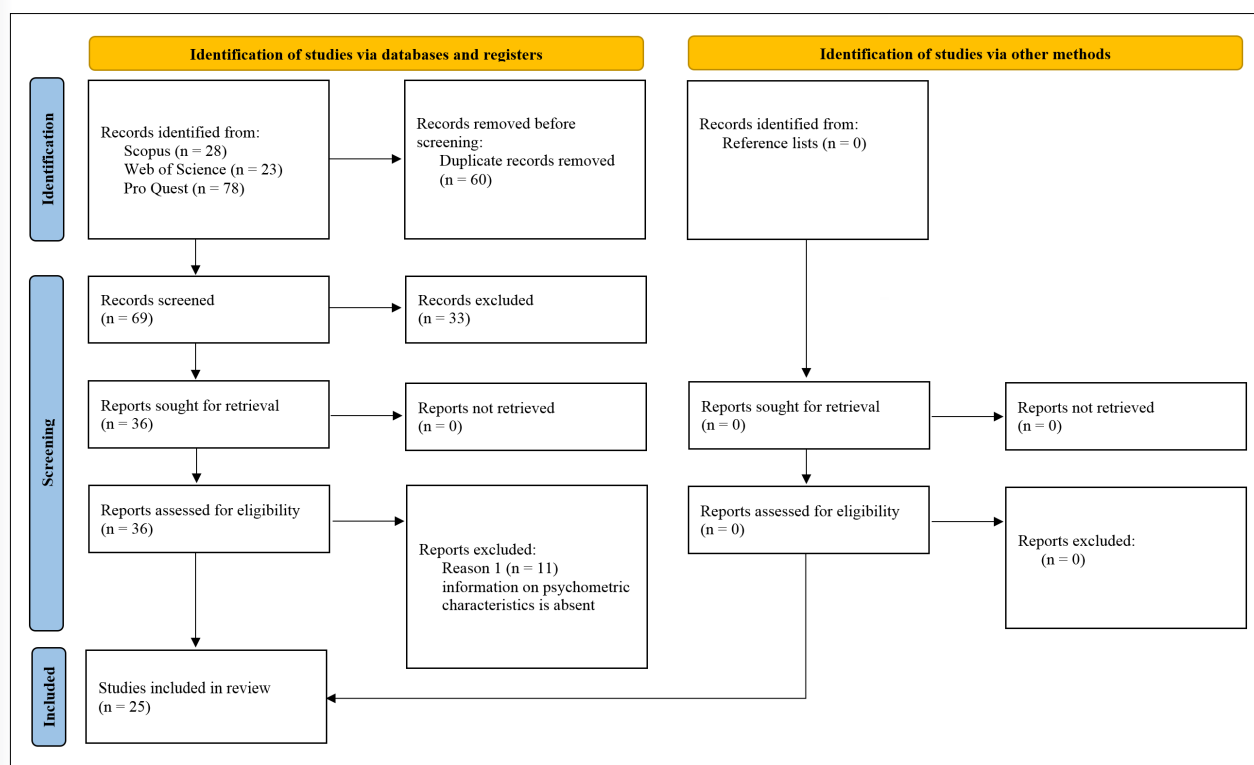


Fig 1. PRISMA flow diagram

## RESULTS

In accordance with the first research question, a total of 25 studies were included in the final analysis of the literature review, using a total of 5 instruments assessing QNWL. An overview of these instruments with their original authors is presented in Table 1. The most commonly used instrument (n = 14) [1,12,17,22-32] was Brooks' Quality of Nursing Work Life QNWL instrument [24]. This was followed by the Quality of Work Life QWL tool [2] (n = 2) [33,34]. Other instruments were the Work Related Quality of Life scale WRQoL [3] (n = 4) [31,35-37], and the World Health Organization World Health Organization Quality of Life scale, best available technique reference document WHOQOL – BREF [20], n = 5 [27,38-41]. In one case [11], the Professional Quality of Life ProQOL instrument was used [21]. All of the instruments analyzed contained subdomains, two of them contained four subscales, the third contained six, the fourth contained three, and the fifth contained ten sections. All five instruments used different Likert point scales in their responses. Three instruments were developed in the USA, the others in the UK, and in Switzerland. Studies dealing with QNWL came most frequently from Iran (n = 10). Among European countries, countries such as Croatia (n = 1), and Turkey (n = 1) were included in the review. QNWL was particularly frequently assessed in Asian countries (n = 23). Several studies used the instruments to assess QNWL in isolation [10,22,25,30]. Other authors have used the scale to assess QNWL alongside other instruments [12,26,32,39]. The theoretical basis of the instruments retrieved varied. BQNWL was inspired by STS (Sociotechnical System Theory). In addition, it is the only quality of work life assessment instrument developed

specifically for the nursing profession. The instrument contains 41 items divided into 4 dimensions (work life/home life, work design, work context, and work world) [9]. The WRQoL was derived from a theoretical overview of the field of quality of work life. Initially, 200 questions were collected, of which 61 items constituted the final version. The instrument is primarily intended for health professionals, but the authors formulated the questions in a universal way for its wider use [3]. The QWL instrument was constructed on the theoretical basis of need satisfaction and Spillover theory [2]. ProQOL was developed based on the author's twenty years of research in the observed field [21]. The World Health Organization WHOQOL-BREF instrument was derived from data collected using the WHOQOL-100 instrument [20].

In accordance with the second research question, it has been detected that instruments included in the literature review were validated in a variety of clinical practice settings, and with a large sample of respondents. Due to inclusion criteria, all studies were conducted on the nursing profession. Another criterion was that they were specifically nurses working in a hospital. Different types of hospitals were included in the studies, for example: university hospitals [30,34], tertiary hospitals [17,37], general hospitals [27], or a combination of different types of hospitals [22,26]. Authors have focused on the nursing profession in general [12,30], but individual hospital departments have also been studied, namely the emergency department [25], COVID 19 disease centers [32], ICU (Intensive Care Unit) and CCU (Cardiac Care Unit) [35]. Other studies have focused, for example, on nurses working in oncology [25]. The sample consisted exclusively of nurses [17,22,34]. The most frequently reported psychometric properties across the 25 studies, were internal consistency (Cronbach alpha) and t-test reliability.

■ Tab. 1. Overview of instruments measuring quality of nursing work life

Author, year, country	Aim	Sampling method	Instrument	Areas of assessment	Evaluation description
Brooks, 2001, USA	To develop an instrument to identify nurses' views on their quality of work life.	n = 723 Registered nurses	Quality of Nursing Work Life	The overall number of items = 42  4 subscales (work/home life, work context, work design, work world)	6 point Likert scale (1 – strongly disagree, 6 – strongly agree)  Total score is obtained by summing all the points achieved and ranges from 42 to 252 points, with a higher score indicating better QWL and vice versa.
Sirgy et al., 2001, USA	The measure was design to capture the extent to which the work environment, job requirements, supervisory behavior, and ancillary programs in an organization are perceived to meet the needs of an employee.	n = 2371 3 sample groups  2 samples involved faculty and staff from two different universities, third sample involved accountants from various accounting organizations	Quality of Work Life	The overall number of items = 16  10 sections: first 7 sections related to satisfaction with 7 categories of human needs (and 16 dimensions within) and items relating to the work environment, job requirements, supervisory behavior, and ancillary program. The eighth dimension included measures of organizational commitment; the ninth section focused on job and life satisfaction. The last (tenth) section contained demographic questions (gender, age, educational level, salary, etc.)	7 point Likert scale (1 – very untrue, 7 – very true)
Van Laar et al., 2007, Great Britain	To develop psychometric exact instrument for measuring QWL of healthcare workers. And to develop easy assessment scale including work and not work environment, and actually questions, e.g. stress.	n = 953 Healthcare workers	Work Related Quality of Life	The overall number of items = 23  6 subscales (general well-being, home-work interface, job and career satisfaction, control of work, working conditions, stress at work)	5 point Likert scale (1 – strongly disagree, 6 – strongly agree)
WHO, 2004, Switzerland	To develop a multicultural applicable instrument for assessing quality of life. Instrument derived from WHOQOL-100.	n = 11 830 From 23 countries.  Sick and well respondents were sampled from the general population, as well as from hospital, rehabilitation and primary care settings, serving patients with physical and mental disorders	World Health Organization Quality of Life BREF	The overall number of items = 26	5 point Likert scale in 3 version 1 – very poor, 5 – very good 1 – very dissatisfied, 5 – very satisfied 1 – not at all, 5 – extremely
Stamm, 2010, USA	Instrument for employees, who make emotional work and professionals who are exposed to traumatic situations.	Not specified	Professional Quality of Life	The overall number of items = 30  3 dimensions (Compassion Satisfaction; Burnout; Secondary Traumatic Stress)	5 point Likert scale (1 = never, 5 = very often)  Select the number that honestly reflects how frequently you experienced these things in the last 30 days

BREF – best available technique reference document, QWL – quality of work life, WHO – World Health Organization, WHOQOL – World Health Organization Quality of Life

The WRQoL was developed for healthcare professionals, with the intention of creating an easy-to-use rating scale incorporating both work and non-work environments, as well as more contemporary issues such as stress. In particular, the authors aimed to improve on previous research in the area of QWL, with the theoretical basis being the Spillover Theory [42,43]. They also drew on previous research in the field [44,45]. As there were psychometric inconsistencies in the QWL field [2], the authors focused on developing a psychometrically accurate instrument to measure QWL [3]. Cronbach's  $\alpha$  and internal consistency were determined to be 0.88-0.97. Reliability determined by a three-week t test was 0.88 [36].

Brooks' conceptualization of the QNWL instrument was adapted from Attridge and Callahan, who aimed to understand the characteristics of nurses' quality work environments and O'Brien-Pallas et al., who defined a general characteristic for describing the quality of nurses' work environments [9]. The theoretical underpinning of BQNWL was Sociotechnical System Theory, which seeks to improve employee productivity through a process that focuses on the interdependence between people, technology, and the environment [9]. Cronbach  $\alpha$  ranges from 0.89 to 0.912, t test reliability = 0.74 – 0.75 ( $p < 0.001$ ) [27,31].

WHOQOL BREF was derived from the WHOQOL 100 instrument, and is a shorter version of it. It was developed by The WHOQOL Working Group in an effort to construct a multiculturally applicable quality of life assessment instrument (2004). The World Health Organization (WHO) defines the quality of life as individuals' perceptions of their position in life in the context of the culture and value systems, in which they live and in relation to their goals, expectations, standards and concerns. Quality of life, health and well-being issues arise from people with or without illness and, importantly, from health professionals [20]. Cronbach  $\alpha$  ranges from 0.896 to 0.912, t test reliability = 0.74 [27].

The ProQOL monitors professional quality of life [46], and is designed for workers who perform emotional labor and professionals who are exposed to traumatic situations. The instrument is the most commonly used measure of the positive and negative impact of work on people who have experienced extremely stressful events. It was originally called the Compassion Fatigue Self-Test and was constructed by Charles Figley in the late 1980s. The current version was developed in 2009. Cronbach  $\alpha$  of ProQOL is 0.88 [21].

The construction of the QWL tool [2] was inspired by two dominant theories. The first was the Maslow's need satisfaction theory. The author identified seven needs related to QWL, namely social, family and economic, health and safety, education, aesthetics. The second was the aforementioned Spillover theory, which posits that satisfaction in one area of life, such as work, affects satisfaction in another area, such as family [2]. The reliability of the original instrument was 0.78.

## DISCUSSION

We have identified 5 instruments for evaluation the quality of nursing work life. These instruments focus on the quality of nurse's work life assessment [9], the healthcare workers QWL assessment [3], the professional quality of life assessment for employees in emotionally exposed workplaces [3], the multicultural quality of life assessment instrument [21], and the general purpose quality of work life assessment instrument [2].

Brooks' instrument QNWL based on the STS grounded theory [9], was the most commonly used instrument in clinical nursing practice. It is the only instrument that has been constructed specifically for the nursing profession.

Globally, the level of QNWL has been reported to range from medium to low [1,12,30]. Authors have focused on assessing areas such as work environment [2,3,9,21,47], home life/work life [11,32], health status, both physical and mental [2,3,21].

Nurses' quality of work life has been associated with many variables. It was nurse's stress [12,23,26], where results indicated a negative relationship between occupational stress and quality of nursing work life. Fallanchai [26] suggested that the nurses, who use coping strategies to deal with occupational stress, report a higher level of quality of nursing work life. Coping strategies and their association with QNWL were also examined by the

authors Cruz et al. [39] and Li et al. [37]. All of them highlight that proactive coping, when dealing with work-related stresses, has a positive impact on the quality of life of nurses. Next variable was nurses' public image – there was a significant positive correlation between nurses' perception of their public image and QNWL ( $r = 0.158$ ;  $p = 0.012$ ). Findings imply that enhancement of nurses' psychological status (nurses' perception of the public image of their profession) may improve their functional status, it means QNWL [30]. Another item was nurses' intention to leave the profession [28]. The QNWL and nurse turnover are challenging issues for healthcare organizations, because of its consequences and impact on patient care. Study of Kaddourah et al. [17], provided critical findings of low indication satisfaction of nurses with their QNWL and a high turnover intention. Nurses' quality of work life has been associated also with work ability. Results showed that satisfactory work ability was a major quality of life determinant in all WHOQOL BREF domains [43]. Moreover, the results of Abbasi et al. [35] showed a significant correlation between total score WRQoL and Work Ability Index. QNWL has been associated with resilience and burnout syndrome. The quality of work life indirectly affected burnout via a direct impact on nursing professionals resilience ( $p < 0.001$ ;  $\beta = 0.39$ ). In addition, resilience had negative, significant effects on all the dimensions of job burnout. The quality of work-life also had negative and significant effects on emotional exhaustion ( $p < 0.001$ ,  $\beta = -0.38$ ) and reduced personal accomplishment ( $p < 0.001$ ,  $\beta = -0.38$ ) [32]. And QNWL has been associated with ethical intelligence, too. Linear regression analysis indicated that ethical intelligence significantly predicted 2.7% of quality of work life; however, it does not predict nurses' caring behaviour [13].

Several authors of the analyzed studies point to the fact that the obtained results about the quality of the working life of nurses through measurement tools cannot be generalized for several reasons [11,12,17,22-41]. The data are from a self-administered questionnaire thus, responses may be subjected to social desirability, may not reflect the real picture of the quality of work life among nurses. In some cases, the participants might not have disclosed their real viewpoints and described their perception of their quality of working life [30]. For this reason, in order to measure the concept of the quality of work life, Cruz et al. [39] recommend conducting a study with mix methods and not just using the tool. Another limiting factor for the generalization of the results is the deliberate and small sample from one hospital in several analyzed studies, e.g. 280 nurses [12], 212 nurses [35], 202 nurses [32], 168 nurses [25], 144 nurses [33]. Alternatively, a significantly different number of respondents. The lowest number of respondents (oncology nurses) was 89 [40] and the highest number of respondents was 1922 from a selected hospital in China [27]. The deliberate selection of respondents, based on their willingness to cooperate in research, can limit the external validity of the research [26,41]. Fu et al. [27] recommend for a more reasonable study design, stratified sampling should be employed.

Several authors point to the limiting factor of study with a cross-sectional design, which therefore cannot support causal inferences in the relationships between variables [11,17,26,28,35].

The psychometric properties of instruments measuring QNWL have been identified in our narrative literature review. We found that the most frequently reported psychometric property of instruments assessing of nurses' quality of work life was reliability represented through measure of internal consistency, Cronbach's alpha [1,11,12,17,22-33,36,37,39-41]. Cronbach's alpha in these studies was higher than 0.70 for all identified instruments assessing the nurses' quality of work life. The highest Cronbach's alpha was identified by Li et al. [37], namely Cronbach's alpha of Chinese version of the Quality of Nursing Work Life scale for the total scale was high, at 0.96. The validity of the instruments was confirmed in only a few identified studies. Specifically, the validity of WOQOL-BREF [38,40], Work-related Quality of Life [35], Quality of Nursing Work Life scale [17,29], Turkish version of the Quality of Nursing Work Life Scale was mentioned [31], Taiwanese Version of the Work-Related Quality of Life Scale for Nurses [36], Chinese version of the Quality of Nursing Work Life scale [27]. In our review, we identified three studies aimed at testing the psychometric properties of instruments assessing nurses' quality of work life, namely the Chinese version of the Quality of Nursing Work Life scale [27], Turkish Version of the Quality of Nursing Work Life Scale [31], Taiwanese Version of the Work-Related Quality of Life Scale for Nurses [36]. Their reliability and validity were confirmed. The authors of these studies [27,31,36] point to the necessity of testing the psychometric properties of the instruments in a specific sociocultural environment before using them to collect data on the quality of nurses' working life in this environment. However, the identified data on the validity and reliability of the named instruments cannot be generalized due to the aforementioned limitations of the analyzed research studies, limited data on the validity of the instruments used to assess the nurses' quality of work life, and also the limitations of our literature review.

Our literature review has several limitations. It did not include studies aimed at evaluating the nurses' quality of work life in other their work environments (e.g. long-term care facilities, outpatient care, home nursing care agencies) in addition to the hospital environment. Our review is limited by including only three scientific databases, based on their institutional availability. These databases are comprehensive regarding healthcare, but some relevant studies could still be left. Also, our review is limited by including studies published only in English. Therefore, a cautious interpretation and application of the findings are necessary as well as future studies with broader samples in different cultures of the world.

## CONCLUSIONS

Nurses' quality of work life is an important factor that needs to be reflected in nursing research and clinical nursing practice. It can influence not only the working but also the private life of nurses, and both directly and indirectly affect safety and quality of patient care. As such, it is important to explore this topic further in order to plan strategies to increase motivation, reduce work stress, potential nurse turnover, creating a supportive work environment, recognition of the nurse profession, a good workload, regulating balance work time with day off, as well as regulation of nursing staff and patient care. We identified five measurement instruments with acceptable reliability used to assess this concept among hospital nurses. These tools enable a more detailed investigation of this phenomenon and the variables that influence it. The findings obtained through them can be interesting, for example, for all levels of management to support the quality of nursing work life of nurses in clinical practice. In addition, they can provide useful information for nursing and health policymakers to develop policies to improve quality of work life among nurses that can contribute to quality of nursing care.

However, their use in a specific sociocultural environment requires testing their validity and reliability on a representative sample of respondents in this environment.

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