

Quality of professional life of primary health care nurses: A systematic review

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Abstract

Aims: To identify and critically appraise the available evidence on the overall quality of professional life of primary care nurses worldwide and its main influencing factors.

Background: Quality of professional life of healthcare workers is a keystone that influences the quality of health care services provided by health care organizations. Nurses have a key role as health care services providers given the growing shortage of doctors in primary care.

Design: A systematic review design in accordance with the PRISMA statement.

Methods: The search was conducted through MEDLINE (PubMed), CINAHL, SCOPUS, Scientific Electronic Library Online (SciELO) and Web of Science databases. The grey literature was reviewed at OpenGrey. The search was limited to human studies published from April 2010 to April 2020. No limit of original language publication was applied. Three independent reviewers analysed the methodological quality of the studies.

Results: Ten studies were included from five countries. Five studies reported nurses were satisfied with their quality of professional life and the influencing factors identified were Workload, Job autonomy, Demographic variables, Management support, Recognition, Intrinsic motivation, Interpersonal relations, Compassion fatigue, Burnout, Turnover intention, and work was reported as a component of Quality of life.

Conclusion: Primary health care nurses reported a high level of quality of professional life, but the scarce studies found do not provide solid consistency to assess the overall quality of professional life. Perception of high workload was the most frequently identified factor to negatively influence the quality of professional life of nurses.

Relevance to clinical practice: Quality of professional life of primary care nurses is a key issue because of nurses' important relation with patient's care and satisfaction. Health care organizations should strive to address primary care nurses' quality of professional life to enhance their wellbeing and consequently patients' safety and high-quality health care services.

KEYWORDS

quality of professional life, nurse, primary health care, quality of work life, job satisfaction, systematic review

1 INTRODUCTION

Job satisfaction, perception of work life and quality of work life are synonym concepts used in this systematic review and are understood as quality of professional life. Quality of professional life has a crucial impact on health care services and on the global quality of any health care process. The quality of professional life of health workers affects the quality of health care services provided and patients' satisfaction, which cannot be addressed without considering the health care workers' satisfaction. The assessment of quality of professional life will enable the identification of the strengths and weaknesses inside organizations. Evidence suggests that appropriate practices addressed to improve quality of professional life will bring benefits for institutions, health care workers and patients (Vagharseyyedin, Vanaki, & Mohammadi, 2011). Interventions designed by health care organizations to improve quality of care and patients' satisfaction should first know and include the measurement of the quality of professional life.

Quality of professional life is a multi-dimensional conception (Parveen, Maimani, & Kassim, 2017). An integrative review of literature (Vagharseyyedin et al., 2011) reported that nurses' quality of professional life was considered either as an outcome or as a process. It was described as a subjective phenomenon influenced by personal feelings and perceptions. Many factors were identified to determine the quality of professional life such as management, personal relationships with colleagues, demographic characteristics, workload, job promotion, salary and rewards, and autonomy (Dehghan Nayeri, Salehi, & Ali Asadi Noghabi, 2011; Vagharseyyedin et al., 2011).

1.1 Background

Quality of professional life is an imperative issue because of its influence on health care services and quality (Parveen et al., 2017). The relationship between quality of professional life and the outcomes in professional practice is well documented (Warren et al., 2007), and health care institutions are addressing this subject. Quality of professional life has been studied broadly in health care workers from both primary care and hospital settings, although studies on primary care nurses are limited. O'Brien-Pallas & Baumann (1992) described the factors influencing the quality of professional life of nurses and classified them into internal and external factors. Internal factors include individual factors; social, environmental and contextual factors; operational factors; and administrative factors. External factors include patients' demands on the system, health care policy and labour market. Two previous literature reviews (Nowrouzi et al., 2016; Vagharseyyedin et al., 2011) identified salary, workload, education satisfaction, value career, environment, relationship with colleagues, demographic characteristics, shift working and management style as some of the factors that influence the quality of professional life of nurses. These literature reviews did not provide the overall score of the quality of professional life of the nurses studied.

The increasing shortage of physicians in primary care (Buerhaus, 2018; Poghosyan, Liu, & Norful, 2017; Van Esso et al., 2010), has enhanced the roles of nurses in primary care worldwide. Despite their key role on prevention and health promotion in primary care settings for people at all life stages, there is not much evidence on their quality of professional life. Identifying the quality of professional life of primary care nurses and the determinant factors associated would allow to address the main issues concerning quality of professional life. A prior study of quality of professional life is needed to overcome weaknesses and highlight strengths of health care organizations with the aim of improving health care services and their quality. Quality of professional life in primary care nurses was the subject of this systematic review and our research question was "what is the quality of professional life of primary care nurses worldwide?". This systematic review aims to identify and critically appraise the available

evidence on the overall quality of professional life of primary health care nurses and its main influencing factors.

2 METHODS

2.1 Design

A systematic review of the literature was undertaken according to the Preferred Reporting Items Systematic Reviews and Meta-Analyses guideline (Page et al., 2021)(Supplementary File 1). The review protocol was registered and available in the International Prospective Register of Systematic Reviews (PROSPERO) in July 2020 with registration number (source deleted for blinded review). All research designs from original primary studies were considered by the review. Quantitative observational (cross-sectional) and qualitative (descriptive and interpretative) method studies were included, whereas case studies, case series and literature reviews were excluded.

2.2 Search methods

2.2.1 Search strategy

The search was performed at MEDLINE database to identify the keywords that appeared in a larger number of studies, prior to the literature search. Table 1 shows the early search strategy to identify the keywords. After the key terms were identified, the literature search was performed through MEDLINE (via PubMed), Cumulative Index to Nursing and Allied Health Literature (CINAHL) (via EBSCO), SCOPUS, Scientific Electronic Library Online (SciELO) and Web of Science (WoS) databases. Grey literature was reviewed at OpenGrey. The search was limited to human studies published from April 2010 to April 2020. No limit of original language publication was applied. Additional studies were located through references list of selected studies on first search. The search strategy employed included the terms (MEDLINE): (nurse)

AND (primary health care) AND (quality of professional life). The same search strategy was used for the rest of databases (additional support information is in Appendix 1).

2.2.2 Inclusion/exclusion criteria

The included studies followed the research question and the described criteria. According to the PICO statement our research question was: what is the quality of professional life of primary care nurses worldwide? P: Target participants were nurses working in primary care and caring for people at any life stage. I: Studies assessing quality of professional life of primary care nurses. C: Nurses working in secondary and tertiary health care settings. O: Primary care nurses’ quality of professional life. This review considered studies assessing the quality of professional life of primary care nurses, quantitative studies using any validated questionnaire and qualitative studies through any approach. Those studies exclusively performed to validate the quality of professional life scales in health care workers were not included, since it was not possible to extract data referred to primary care nurses. All research designs from original primary studies were considered. Quantitative observational (cross-sectional) and qualitative (descriptive and interpretative) method studies were included, whereas case studies, case series and literature reviews were discarded. No studies were excluded for language reasons. After the first screening of titles and abstracts in English language. After a first screening of titles and abstracts in English, all languages from the full text studies likely to be included in the review were well known by the authors.

2.2.3 Screening

Records of different databases were gathered, and duplicated studies removed. All titles and abstracts of considered articles were independently studied for inclusion by two reviewers (source deleted for blinded review). Both reviewers assessed the full text of relevant articles and identified the finally included studies. A reference list of 22 studies likely to be included was screened to identify more relevant studies. 13 additional studies were identified and assessed

through the reference list. Discrepancies were resolved through a third reviewer (source deleted for blinded review), or by consensus involving all review authors when the intervention of the third reviewer failed to settle discrepancies. Reviewers were not blind to study data. References of the included articles were managed with Mendeley software ("Mendeley Reference Manager," n.d.)

2.3 Search outcome

Figure 1 shows the study selection process (PRISMA flow diagram) (Page et al., 2021). 1555 studies were identified by means of the search literature and 13 other studies by the reference list of potential eligible studies. Duplicates were removed, 812 remaining study titles were examined, also the abstracts if needed, and 790 records were dismissed. Twenty-two full text articles were reviewed for suitability according to the inclusion criteria, that is, studies evaluating the quality of professional life in primary care nurses using any validated questionnaire or through different qualitative approaches. Twelve articles were excluded; four of them described the quality of professional life of nurses and doctors in hospitals and primary care settings, although the quality of professional life of primary care nurses could not be identified; two studies were validating a scale tool; two other studies identified the quality of professional life of primary health care workers but nurses' data were not assessed separately; one was a literature review; one study assessed the quality of professional life of nurses, but nurse assistants were also included; one study assessed quality of care, intention of leaving the current job and the prevalence of professional exhaustion of family health nurses; and one study assessed the factors associated with health-related quality of life of nurses in both primary and hospital care (it was not possible to identify nursing data separately by work settings). A total of 10 studies were identified and included for qualitative synthesis.

2.4 Quality appraisal

In this stage, three authors (source deleted for blinded review) independently assessed the methodological quality of included studies. An appropriate appraisal checklist was used in accordance with the studies' design: the QualSyst evaluation tool (Kmet, Lee, & Cook, 2004). QualSyst assesses the methodological quality of both quantitative and qualitative studies. QualSyst evaluation tool consists of two different scoring systems, one assesses the quality of studies through quantitative methods (14 items scored 0-2; maximum score of 28), and the other evaluates the quality of studies using qualitative methods (10 items scored 0-2; maximum score of 20). The non-applicable items in quantitative studies are marked as "n/a". The sum of the total item scores divided by the total possible scores is expressed as a percentage from 0 to 100%, where 100% corresponds to the best methodological quality. Discrepancies were resolved by consensus or by the judgement of a fourth reviewer (source deleted for blinded review) when agreement was not reached. No studies were discarded in terms of methodological quality.

2.5 Synthesis and analysis

Data were collected from reports in duplicates by a peer reviewer independently (source deleted for blinded review). Discrepancies were either discussed by a third reviewer (source deleted for blinded review) or involving all the review authors. Data were distributed into literature tables and extracted according to the research question. Extracted data were gathered in a data template (Appendix 2) and main summarized data were main author, year of publication, country, study design; study population: sample size, source, age: mean (SD) or median (range); exposure/ intervention; outcomes measure and main statistical results found. A meta-analysis could not be performed due to the range of outcome measures across the studies. Therefore, a narrative synthesis was conducted to report the findings based on a textual approach (Popay, Arai, Rodgers, & Britten, 2006). The narrative synthesis was structured around the outcomes measured and the main results found.

3 RESULTS

3.1 Study characteristics

Ten studies were included in the review, eight of them were quantitative studies and the other two were qualitative studies. Studies following a quantitative methodology were cross-sectional studies (Almalki, Fitzgerald, & Clark, 2012a; Almalki, Fitzgerald, & Clark, 2012b; Castro, García, Gironés, Serrano, & Ocaña, 2015; Elustondo et al., 2010; Ruiz-Fernández, Pérez-García, & Ortega-Galán, 2020; Perdok et al., 2017; Pérez-Ciordia, Guillén-Grima, Brugos, & Aguinaga, 2013; Pron, 2013). One of the qualitative studies (Daubermann & Tonete, 2012) was an interpretative qualitative study, while the other (Schrader et al., 2012) was a descriptive qualitative study.

Five studies were carried out in Europe, four of them in Spain (Castro et al., 2015; Elustondo et al., 2010; Pérez-Ciordia et al., 2013; Ruiz-Fernández et al., 2020) and one in The Netherlands (Perdok et al., 2017), two in Saudi Arabia (Almalki et al., 2012a, 2012b), two in Brazil (Daubermann & Tonete, 2012; Schrader et al., 2012), and one study in the USA (Pron, 2013).

Four studies identified only primary health care nurses working in primary health care centres (Almalki et al., 2012a; Almalki et al., 2012b; Daubermann & Tonete, 2012; Schrader et al., 2012), three studies included all health care professionals in primary health care centres (Castro et al., 2015; Elustondo et al., 2010; Pérez-Ciordia et al., 2013), one study considered nurses in primary health care and hospital care (Ruiz-Fernández, Pérez-García, et al., 2020), one study focused on maternity care professionals including primary care midwives in midwives practices (Perdok et al., 2017) and one study reported only nurse practitioners in nurse-managed health centres and basic health units providing primary care (Pron, 2013). Primary care nurses were registered nurses working in primary care settings except for two studies with specialized nurses such as midwives in one study (Perdok et al., 2017) and nurse practitioners in the other (Pron, 2013).

Data collection were self-administered questionnaires in eight studies; six of them performed a descriptive statistics and bivariate analysis (Almalki et al., 2012a; Castro et al., 2015;

Elustondo et al., 2010; Pérez-Ciordia et al., 2013; Pron, 2013; Ruiz-Fernández et al., 2020), and two of them included a multivariate analysis (Almalki et al., 2012b; Perdok et al., 2017). Qualitative studies performed semi structured interviews that were submitted to thematic analysis (Daubermann & Tonete, 2012; Schrader et al., 2012). The main features of the studies are presented in Table 2.

3.2 Risk of bias within studies

3.2.1 Quantitative studies

The sample of included studies was not randomly selected, it was a convenience sample for all eight quantitative studies (Almalki et al., 2012a, 2012b; Castro et al., 2015; Elustondo et al., 2010; Perdok et al. 2017; Pérez-Ciordia et al., 2013; Pron, 2013; Ruiz-Fernández et al., 2020). One study used a snowball- sampling (Perdok et al., 2017). Eight studies used a validated questionnaire tool to measure quality of professional life (Almalki et al., 2012a, 2012b; Castro et al., 2015; Elustondo et al., 2010; Perdok et al., 2017; Pérez-Ciordia et al., 2013; Pron, 2013; Ruiz-Fernández et al., 2020), and a self-administered survey was used in all eight studies. The validated tools used in the studies to measure quality of professional life were: Professional Quality of Life (CVP- 35) questionnaire in two studies (Castro et al., 2015; Elustondo et al., 2010), Quality of Nursing Work Life survey (QNWL) in two other studies (Almalki et al., 2012a, 2012b), Professional quality of life (ProQOL v. IV) in one study (Ruiz-Fernández, Pérez-García, et al., 2020), Questionnaire on Improving Work Satisfaction (CMSL) in one study (Pérez-Ciordia et al., 2013) and Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS) in another (Pron, 2013). One study (Perdok et al., 2017) used Leiden Quality of Work Life Questionnaire for Nurses (LQWLQ-N) to measure job autonomy. The source of information and variables were described partially in one study (Castro et al., 2015). The sample size was partially appropriate in two studies with insufficient data to assess them (Castro et al., 2015; Pron, 2013). Outcomes and means of assessment were reported partially in two studies (Perdok et al., 2017; Pérez-Ciordia et al., 2013) and results were not presented in sufficient detail in one of these studies (Perdok

et al., 2017). In six quantitative studies it was not possible to assess the item control for confounding (Almalki et al., 2012a, 2012b; Castro et al., 2015; Pérez-Ciordia et al., 2013; Pron, 2013; Ruiz-Fernández et al., 2020) and two studies reported partial control for confounding (Elustondo et al., 2010; Perdok et al., 2017). Conclusions supported by the results were partially outlined in one study (Almalki et al., 2012b).

3.2.2 Qualitative studies

Participants were intentionally selected in two qualitative studies (Daubermann & Tonete, 2012; Schrader et al., 2012), and both used semi-structured interviews that were submitted to thematic analysis. Sampling strategy was not justified and described enough in these studies. Data collection methods in two studies were only partially described. Both studies did not use verification procedures to establish credibility. Data analysis was partially described in one study (Schrader et al., 2012).

3.2.3 All studies

Eight quantitative studies had an observational design. None of the studies included was a clinical trial or a quasi-experimental design, and none was blinded for participants or outcomes assessment by the nature of the studies. No mixed-method study was selected in accordance with the inclusion criteria. Quality assessment score (Kmet et al., 2004) range was from 86.36% to 100% in quantitative studies and quality assessment score range for qualitative methodology was from 75% to 80%. QualSyst assesses the methodological quality of studies and scores between 0% (lowest score for methodological quality) and 100% (highest score for methodological quality). The scores are shown in Table 3 (quantitative studies) and Table 4 (qualitative studies).

3.3 Results of studies

Main results found in included articles are presented in Table 2.

3.3.1 Overall quality of professional life

One quantitative study (Pron, 2013) found nurse practitioners reported quality of professional life, and total score for the Misener Nurse Practitioner Job Satisfaction Scale was strongly correlated with the subscales: intrapractice partnership/ collegiality; challenge/autonomy; professional, social and community interaction; and professional growth; and moderately correlated with time and benefits. One quantitative study (Pérez-Ciordia et al., 2013) reported statistically significant differences in overall quality of professional life scores, which were higher in nurses than in doctors or paediatricians. Qualitative studies (Daubermann & Tonete, 2012; Schrader et al., 2012) reported nurses were satisfied with their quality of professional life. A quantitative study (Castro et al., 2015) found nurses group had a medium-low overall quality of professional life. Two quantitative studies (Almalki et al., 2012a, 2012b) showed that the majority of nurses were dissatisfied with their work life.

3.3.2 Workload

High perception of workload was identified as a negatively influencing factor of quality of professional life in five studies (Almalki et al., 2012a; Castro et al., 2015; Daubermann & Tonete, 2012; Elustondo et al., 2010; Schrader et al., 2012). Only one of them (Castro et al., 2015) reported high perception of workload in nurses' group and found statistically significant differences depending on the professional group, being higher in the physicians and nurses' group. Qualitative studies (Daubermann & Tonete, 2012; Schrader et al., 2012) related nurses' inadequate conditions at work, overload, overtime and lack of collaboration among team workers with low quality of professional life.

3.3.3 Job autonomy

Job autonomy is a factor included in quality of professional life and is mentioned in four studies because of its relevance (Almalki et al., 2012a; Daubermann & Tonete, 2012; Perdok et al., 2017;

Pron, 2013). One study (Pron, 2013) found an association between nurses' quality of professional life and a high score on perceived autonomy and satisfied with autonomy. One study (Almalki et al., 2012a) reported one third of nurses do not have the required autonomy to make patient care decisions but it was not associated with quality of professional life. One qualitative study (Daubermann & Tonete, 2012) reported quality of professional life being involved with autonomy and professional responsibilities. Perdok et al. (2017) found higher scores on job autonomy of experienced primary care midwives as an indicator of quality of professional life, measured through a quality of professional life scale.

3.3.4 Demographic variables

Two studies (Almalki et al., 2012a, 2012b) found statistically significant differences between demographic variables like gender, age, marital status, dependent children, dependent adults, nationality, nursing tenure, organizational tenure, positional tenure and payment per month, and quality of professional life. Male nurses had lower mean scores on quality of professional life than female nurses. Nurses with children were more satisfied with their quality of professional life, whereas nurses caring for dependent adults were less satisfied with their quality of professional life than nurses without dependent adults. Older nurses achieved higher mean scores on quality of professional life than younger nurses, and experienced nurses were more satisfied with their quality of professional life than less experienced nurses. Pron (2013) also found a relationship between the number of years of nurse practitioners' experience and the overall quality of professional life, and an inverse correlation between age on becoming a registered nurse and quality of professional life. Payment was found to be the major factor for dissatisfaction in primary health care nurses in relation to their quality of professional life. Also in qualitative studies (Daubermann & Tonete, 2012; Schrader et al., 2012) payment was found to be an important factor in quality of professional life, although it not was the prime motivator for work.

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3.3.5 Management support

Three studies (Almalki et al., 2012a; Elustondo et al., 2010; Schrader et al., 2012) identified management support as an influencing factor in quality of professional life. Only one of these studies (Elustondo et al., 2010) found nurses' group had significantly higher scores on managerial support than other health care groups. Low quality of professional life was related to poor managerial support in a qualitative study (Schrader et al., 2012).

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3.3.6 Recognition

Recognition of profession is an influencing factor in quality of professional life and was identified in three studies (Almalki et al., 2012a; Daubermann & Tonete, 2012; Schrader et al., 2012). Almalki et al. (2012a) found disregarding the relevance of nursing profession as a factor influencing quality of professional life, though it was not statistically significant. One of the qualitative method studies (Daubermann & Tonete, 2012) found engagement with and responsibility of the team with nursing tasks to be a positive indicator of quality of professional life, and Schrader et al. (2012) reported professional belittling was related to low quality of professional life.

3.3.7 Intrinsic motivation

Two studies (Castro et al., 2015; Elustondo et al., 2010) found nurses' group higher intrinsic motivation than other health care workers' groups, although in one of them (Castro et al., 2015) data did not show significance.

3.3.8 Compassion fatigue and burnout

One study (Ruiz-Fernández, Pérez-García, et al., 2020) reported compassion fatigue was higher in primary care nurses than in hospital care nurses, and burnout was elevated in all nursing professionals in both primary and hospital care.

3.3.9 *Interpersonal relations*

Qualitative studies (Daubermann & Tonete, 2012; Schrader et al., 2012) revealed team and interpersonal relations to be related to quality of professional life.

3.3.10 *Turnover intention*

One study (Almalki et al., 2012b) found an association between nurses' high turnover intention and low satisfaction with their quality of professional life.

3.3.11 *Quality of life*

A qualitative study (Daubermann & Tonete, 2012) reported nurses emphasized that work is an important component of quality of life.

4 DISCUSSION

This systematic review is, as far as we know, the first one to explore quality of professional life of primary care nurses worldwide. The purpose of this review was to know the overall quality of professional life score of primary health care nurses and its main influencing factors. A previous comprehensive literature review (Nowrouzi et al., 2016) analysed American and Canadian nurses' quality of work life, but included nurses working in both primary and hospital care. This literature review revealed a broad set of predictors of quality of professional life, but it did not identify nurses' overall quality of professional life score. Another previous integrative worldwide review (Vagharseyyedin et al., 2011) found that according to the conceptualization of quality of professional life in nursing, researchers used a specific measuring scale to identify the major predictors of nurses' quality of professional life. This literature review also focused on both primary and hospital care nurses.

Nurses are often the health care professionals people have first access to in primary care due to the increasing shortage of physicians. Primary care nurses have taken up advanced

roles and clinical practices in many countries worldwide to improve access to care and attend people's demands in response to the shortage of medical professionals (Grant, Lines, Darbyshire, & Parry, 2017; Maier & Aiken, 2016). Hence, nurses' wellbeing has become a key issue for health care organizations to preserve quality of care. Therefore, they focus on quality of professional life because of its relation to nurses' physical and psychosocial well-being. The gap found in recent literature on the assessment of quality of professional life of primary health care nurses made it imperative to conduct this systematic review.

Based on our findings, quality of professional life was identified among studies with the terms: quality of work life, quality of professional life and job satisfaction. Quality of professional life total score was reported in most studies. One study reported the three sub-dimensions of quality of professional life independently, but it did not provide the overall quality of professional life score, and another study used a quality of professional life validated scale to measure job autonomy, as the item correlated with professional satisfaction, but it did not report the overall quality of professional life score either. Globally, in relation to the overall quality of professional life score, five studies (Daubermann & Tonete, 2012; Elustondo et al., 2010; Pérez-Ciordia et al., 2013; Pron, 2013; Schrader et al., 2012) showed nurses were satisfied with their quality of professional life, one study (Castro et al., 2015) showed a medium-low quality of professional life score, and two studies (Almalki et al., 2012a, 2012b) reported nurses were dissatisfied with their quality of professional life. Ruiz-Fernández et al. (2020) did not provide an overall score but the item compassion satisfaction was below the estimated mean. In line with our findings, a previous research about the quality of professional life of medical professions, including nursing professionals, shows that they were very satisfied with their quality of professional life (Padminii, Brindha, & Venkatramaraju, 2015). However, this research did not identify the quality of professional life separately by professions.

Our systematic review, as found in a previous literature review (Vagharseyyedin et al., 2011) identified the following predictors of quality of professional life of primary care nurses:

workload, management support, interpersonal relations, demographic characteristics and turnover intention. In addition, our findings suggest that high perception of workload is the most named factor found in studies to have a negative influence on quality of professional life. Furthermore, job autonomy is a factor included in quality of professional life and highly mentioned in studies by its relevant relation with quality of professional life. The findings of the current review identified other factors that determine quality of professional life such as compassion fatigue and burnout, and highlight work as an important component of quality of life. Despite we found only one study reporting work as an essential component of quality of life in primary care nurses, it is well documented that quality of professional life is a complex entity influenced by many aspects of work and personal life (Hsu & Kernohan, 2006). The relation between quality of life, work conditions and quality of professional life on different health care workers and levels of care has been studied broadly (Chen et al., 2021; Ruiz-Fernández, Ortega-Galán, et al., 2020; Teles et al., 2014).

This review reported perception of high workload as the most identified factor to negatively influence nurses' quality of professional life, as was found in previous research studies (Dolan, García, Cabezas, & Tzafrir, 200; Gurses, Carayon, & Wall, 2009) that identified high job demands and heavy workloads to be negatively correlated with quality of professional life. Recognition of profession was identified as an influencing factor of quality of professional life. Daubermann & Tonete (2012) reported it was found to be a positive feature for quality of professional life and Schrader et al. (2012) reported professional belittling was related to low quality of professional life. These findings were in line with previous research that showed the importance of recognition of nurses' performance as an important aspect of quality of professional life and its positive association with quality of professional life (Blegen et al., 1992; Larsen, 1993).

As seen in previous literature (Nowrouzi et al., 2016; Vagharseyyedin et al., 2011), this review found a relationship between demographic characteristics of nurses and their overall quality of professional life. We found male nurses had lower mean scores on quality of

professional life than female nurses, which might be explained by the poor image of the nursing profession has in Saudi Arabia according to these studies. As in previous research studies, we found older and experienced nurses showed a higher level of overall quality of professional life than younger and less experienced nurses (Al Otabi, M., Shah, M. A., Chowdhury, R. I., & Al-Enezi, 2004; Torunn Bjørk, Beate Samdal, Hansen, Tørstad, & Hamilton, 2007). This fact might be due the ability of older and more experienced nurses to have a better insight into the work environment and expectations. As found in a previous research study on nurses (Al-Ahmadi, 2006), this review found payment to be important to nurses in terms of quality of professional life, however it was not the prime motivator for work.

The use of different validated tools to measure quality of professional life made it not possible to compare the overall quality of professional life and the domains that influence quality of professional life in the studies found. Likewise, several validated tools in literature were found to measure the quality of professional life of health care workers such as the QPL-35 professional quality of life questionnaire (García-Sánchez, 1993), a questionnaire to measure quality of nursing work life (Brooks, 2001), the Professional Quality of Life Scale (ProQOL) (Stamm, 2005) and a questionnaire on improving work satisfaction in primary care professionals (CSML)(Pérez-Ciordia, I., Guillén-Grima, F., Brugos Larumbe, A., Aguinaga Ontoso, I., & Fernández-Martínez, 2012). The measuring tool was chosen according to several factors and the area where it was validated. There is no consensus on the use of a specific validated questionnaire to measure quality of professional life at international level. The use of several validated tools is a handicap to determine the level of quality of professional life of health care professionals. A reproducible measuring tool validated in different countries would contribute to unify criteria and better understand the professional quality of life of health care workers and their wellbeing at work. The studies included in the qualitative synthesis provide limited evidence, and outcomes data do not report enough evidence on the overall quality of professional life of primary health care nurses. Only two studies using the same psychometric instrument (QPL-35) to measure nurses' professional quality of life (Castro et al., 2015;

Elustondo et al., 2010) were carried out in Spain. Data in both studies are variables between equal dimensions and show a relevant variability in management support and professional quality of life dimensions means of more than 0.5 points. These data also differ from another study conducted in Spain (Corte et al., 2013) which analysed quality of professional life using the same validated questionnaire for a study sample of 1395 professionals from primary and specialized care, with a response rate of 67% primary care professionals from different occupational categories. Results showed lower mean values for perception of workload and intrinsic motivation in primary health care professionals, and higher mean values for management support and professional quality of life. Job disconnection capacity mean in both primary and specialized health care providers was also higher. Variations among studies are explained by the fact that questionnaire QPL-35 is a change sensitive tool and it varies according to the population, with variations around 0.5 points considered to be relevant for quality of professional life and the different domains of quality of professional life (Martín Fernández et al., 2008).

4.1 Strengths

One of the strengths of this systematic review is the exhaustive search strategy through multiple databases and a source for grey literature. This review also included quantitative and qualitative method studies to broaden the research scope. Another strength was that no limit of original language publication was applied in the search.

4.2 Limitations

An important limitation of this research was the short number of studies recorded, despite the high methodological quality of the studies included. Some limitations of the studies' findings were the use of different validated tools to measure quality of professional life, the convenience sample of many studies and the methodology of included studies. Hence, the available evidence is not conclusive in relation to the overall quality of professional life score range and its

1
2 influencing factors in primary health care nurses. Since the samples, methodology design and
3
4 validated questionnaire tools to measure quality of professional life differed between studies, it
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6 was not possible to perform a meta-analysis.
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9 This systematic review shows the absence of scientific evidence on nurses’ quality of
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11 professional life in primary health care. More studies on this field are needed. Since quality of
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13 professional life influences and is related to quality of health care services and quality of care
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15 provided, it is imperative to enhance the study of the quality of professional life of primary
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17 health care nurses. There is not enough scientific evidence on the overall quality of professional
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19 life score of primary health care nurses. Therefore, an appropriate sample size, participants’
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21 selection and solid methodology design are needed to validate the results.
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27 **5 CONCLUSIONS**
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31 No consistent scientific evidence is available on the quality of professional life of primary health
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33 care nurses. Primary health care nurses reported a high level of quality of professional life in
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35 some studies, although data was not always significant. The studies summarized the factors that
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37 influence quality of professional life, and perception of high workload was the most identified
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39 factor to negatively influence nurses’ quality of professional life. However, the results do not
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41 provide firm consistency to assess the overall quality of professional life score of primary care
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43 nurses. More research focused on professional quality of life of primary health care nurses
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45 worldwide is needed to gain understanding on nurses’ wellbeing in primary health care.
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50 **6 RELEVANCE TO CLINICAL PRACTICE**
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56 Nurses’ physical and psychosocial wellbeing, and their quality of professional life are core issues
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58 that influence the quality of health care services and patients’ safety. Health care organizations
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worldwide should aim to maintain and improve professional practice, health workers' wellbeing and therefore quality of professional life if they wish to preserve high quality health care.

What does this paper contribute to the wider global clinical community?

- This paper identifies a gap in the literature over the quality of professional life of primary health care nurses.
- The quality of professional life of primary health care nurses is a core issue that needs to be explored by health care organizations because of its influence on the quality of health care services provided.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interests.

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For Peer Review

TABLE 1 Early search strategy to identify the keywords

Database	Search terms
MEDLINE (Pubmed)	1. Nurse (SH) 2. Primary health care (SH) 3. Primary care (SH) 4. 2 or 3 5. Quality of work life (KW) 6. Quality of professional life (KW) 7. Professional quality of life (KW) 8. 5 or 6 or 7 9. 1 and 4 and 8

Note: Subject Heading (SH); Keyword (KW)

For Peer Review

TABLE 2 Summary of included studies

Authors, year, country, study design	Study population: sample size, source, age: mean (SD) or median (range)	Exposure/ intervention	Outcomes measure	Results
Almalki et al.(a), 2012, Saudi Arabia, cross-sectional	n= 508 PHC nurses, 134 PHC centres, 44.1% aged between 20 and 29 years.	Self-reporting survey. A validated instrument to collect data by internal mail service, Quality of Nursing Work Life (QNWL) survey and demographic data questions. QNWL survey, 42 items divided into four dimensions; 7 items work life/home life; 10 items work design; 20 items work context; and 5 items work world. The scale can range from 42 to 252.	QWL among PHC nurses.	- PHC were dissatisfied with their work life. - Significant differences were found in the QWL scores in demographic variables according to gender, age, marital status, dependent children, dependent adults, nationality, nursing tenure, organizational tenure, positional tenure, and payment per month. - QNWL score was 45 to 218; mean 139.45 (SD 22.7). - By dimensions: - Work life /home life (possible range 7-42): mean 18.97 (SD 5.15). - Work design (possible range (10-60): mean 35.66 (SD 6.72). - Work context (possible range 20-120): mean 66.25 (SD 12.4). - Work world (possible range 5-30): mean 18.69 (SD 3.6).
Almalki et al.(b), 2012, Saudi Arabia, cross-sectional	n= 508 PHC nurses, 134 PHC centres, 44.1% aged between 20 and 29 years.	Self-reporting survey. Two validated instruments to collect data by internal mail service: QNWL survey and the Anticipated Turnover Scale (ATS) survey. Demographic data questions.	QNWL and turnover intention (ATS) of nurses.	- The study shows nurses' low satisfaction with their QWL and a high turnover intention. - PHC nurses were dissatisfied with their work life. They had a range score of QWL of 45-218 (mean 139.45). - 40.4 % of the respondent nurses intended to leave their current employment. - Four demographic variables (gender, dependent adults, positional tenure, and payment per month) were highly related to turnover intention; p<0.05. - QWL dimensions accounted for the 19% of the variance in turnover intention. There is a significant association between QWL and turnover intention of PHC nurses.

Note: (PHC) Primary Health Care; (QWL) Quality of Work Life; (QNWL) Quality of Nursing Work Life; (ATS) Anticipated Turnover Scale.

TABLE 2 Summary of included studies (continued)

Authors, year, country, study design	Study population: sample size, source, age: mean (SD) or median (range)	Exposure/ intervention	Outcomes measure	Results
Castro et al., 2015, Spain, cross-sectional	n= 430 health care workers, Primary Health Care Area, 47.7 +/- 8.6 years.	- Online self-administered CVP-35 (Professional Quality of Life) validated questionnaire and sociodemographic and labour data.	- Sociodemographic and labour data. - PQL-35 professional quality of life questionnaire.	- Differences were found in the perception of workload depending on the professional group (higher in physicians and nurses) with a statistical significance (6.4 +/- 1.1 in physicians, 6.3 +/- 1.3 in nurses, 5.9 +/- 1.6 in non-sanitary professionals, and 5.3 +/- 1.2 in support units professionals); $p < 0.001$. - Nurses' dimensions PQL-35 questionnaire: management support (4.8 +/- 1.5); perception of workload (6.3 +/- 1.3); intrinsic motivation (8.1 +/- 1.0); job disconnection capacity (6.3 +/- 2.6); professional quality of life (5.1 +/- 2.1).
Daubermann and Tonete, 2012, Brazil, interpretative qualitative study	n= 8 PHCNs, basic health units, from 25 to 49 years.	Semi structured interviews were submitted to thematic analysis.	Nurses' conceptions and experiences of QWL and QoL.	- QoL construct involves a generic, complex, and subjective expression, caring for oneself, everything becomes easier and better. - QWL construct involves having autonomy and professional responsibilities, to respect and be respected, and having self- satisfaction with and at work, the value of teamwork, and providing proper care to users. - Nurses emphasized that work is an important component of QoL. - Experience regarding the QWL and QoL of PHCNs: mostly reported being satisfied with their QWL and QoL; the team is essential in the job; teamwork problems affect QoL; QWL is affected by problems in the PHC setting and interventions are needed to improve QWL in PHC setting.

Note: (PQL) Professional Quality of Life; (PHCNs) Primary Health Care Nurses; (QWL) Quality of Work Life; (QoL) Quality of Life; (PHC) Primary Health Care.

TABLE 2 Summary of included studies (continued)

Authors, year, country, study design	Study population: sample size, source, age: mean (SD) or median (range)	Exposure/ intervention	Outcomes measure	Results
Elustondo et al., 2010, Spain, cross- sectional	n= 471 Primary Health Care workers (physicians; nurses and physiotherapists; administrative assistants and porters), in a Primary Care Area.	Self- administered CVP-35 (PQL-35) validated questionnaire, and sociodemographic and professional variables were collected.	PQL perceptions of workers: perceptions of demands, managerial support, intrinsic motivation, ability to disconnect from work at the end of the shift, and global quality of professional life, by professional category and description of biannual evolution from 2004 to 2008.	- Nurses and physiotherapists achieved the highest scores in relation to managerial support (mean 5.56); (p<0.01). Intrinsic motivation was the highest of the three groups (mean 7.83); (p<0.01). - No statistically significant data: nurses and physiotherapists perceived a better global QoPL mean 6.07 (SD 1.89); physicians mean 5.37 (SD 1.85); administrative assistants and porters mean 4.97 (SD 2.12). Nurses- physiotherapists perception of demands was lower mean 5.84 (SD 1.27); physicians mean 6.28 (SD 1.17); administrative assistants and porters mean 6.07 (SD 1.41). Ability to disconnect at the end of the shift: nurses' group was lower mean 6.61 (SD 2.35); physicians mean 6.75 (SD 2.52); administrative assistants and porters mean 6.99 (SD 2.50). - Slight improvements in perceptions of demands, managerial support, and quality of life from 2004 to 2008.
Perdok et al., 2017, The Netherlands, cross- sectional	n= 799 professionals (362 primary care midwives, 240 obstetricians, 93 clinical midwives and 104 obstetric nurses), 242 (54%) midwifery practices and 88 (of the 91) obstetric hospital departments.	- Self- administered online questionnaire. LQWLQ-N validated instrument to assess job conditions.	Level of job autonomy and future perspective of job autonomy in an integrated maternity care system.	- Primary care midwives had a statistically significant higher score (p < or = 0.05) (mean 2.94 on a 4- point scale) for experienced job autonomy compared to obstetricians (mean 2.73), clinical midwives (mean 2.70) and obstetric nurses (mean 2.61). - Primary care midwives scored highest with regards of losing job autonomy in a system of integrated maternity care.

Note: (PQL) Professional Quality of Life; (QoPL) Quality of Professional Life; (LQWLQ-N) Leiden Quality of Work Life Questionnaire for Nurses.

TABLE 2 Summary of included studies (continued)

Authors, year, country, study design	Study population: sample size, source, age: mean (SD) or median (range)	Exposure/ intervention	Outcomes measure	Results
Pérez-Ciordia et al., 2013, Spain, cross- sectional	n= 428 primary care professionals (192 doctors, 186 nurses and 50 paediatricians), 56 PHC centres.	A self- administered 47 items validated questionnaire (CMSL), socio-demographic data, and job satisfaction was self- evaluated on a scale of 1 (lower satisfaction) to 10 (higher satisfaction), and rank of those 10 factors (of the 47 items in the validated questionnaire) that could improve job satisfaction were collected by post.	Job satisfaction in primary care professionals and factors capable of improving it.	- Job satisfaction of professionals was mean 6.7 (scale of 1 to 10). Higher in nursing by a mean score of 7.02; $p=0.002$. Differences were found between physicians and nurses ($p=0.036$), and paediatricians versus nurses ($p=0.006$). - The most highly valued items/ factors were training activities, followed by economic and care pressure aspects, with no differences found between professions.
Pron, 2013, USA, cross- sectional	n= 99 (50%) NPs, in NMHCs that provided PC, 49.7 (26- 69) years.	Self-administered MNPJSS survey, a validated scale to measure primary care NP job satisfaction; 44 Likert- type items, from 6 (very satisfied) to 1 (very dissatisfied); two additional items (perceived autonomy and recommendations or not to others NPs to work in a NMHC; and a demographic questionnaire. Total job satisfaction score ranges from 44 to 264, with scores tallied for each subscale: intrapractice partnership/ collegiality; challenge/autonomy; professional, social and community interaction; professional growth; time; and benefits. One item assessed "level of autonomy" and take part of the challenge/ autonomy subscale.	NPs's job satisfaction and perceived autonomy, and the relationship between satisfaction and autonomy.	- NPs were satisfied by a mean score of 4.63 (SD 0.79) for the MNPJSS. - Total MNPJSS score was strongly correlated with four of the six subscales: challenge/ autonomy mean 5.09 (SD 0.56); benefits mean 4.93 (SD 0.94); professional, social and community interaction mean 4.79 (SD 0.66); and time mean 4.52 (SD 1.10). The subscale challenge/ autonomy had the highest satisfaction score. - NPs were minimally satisfied with intrapractice partnership/ collegiality mean 4.30 (SD 1.10), and professional growth mean 4.19 (SD 1.19). - Perceived autonomy was high, mean 5.53 (SD 0.56). - NPs were satisfied with the single item "level of autonomy" mean 5.36 (SD 0.77). Perceived autonomy and satisfied with autonomy correlated with total job satisfaction but not as highly as expected. - No correlations with demographic variables except for a weak correlation with the number of years of NP experience and total job satisfaction (0.33; $p<0.01$), and between age on becoming a RN and total job satisfaction which was inversely correlated (-0.30; $p<0.01$).

Note: (PHC) Primary Health Care; (CMSL) Questionnaire on Improving Work Satisfaction; (NPs) Nurse Practitioners; (NMHC) Nurse- managed health centre; (PC) Primary Care; (MNPJSS) Misener Nurse Practitioner Job Satisfaction Scale; (RN) Registered Nurse.

TABLE 2 Summary of included studies (continued)

Authors, year, country, study design	Study population: sample size, source, age: mean (SD) or median (range)	Exposure/ intervention	Outcomes measure	Results
Ruiz-Fernández et al., 2020, Spain, cross-sectional	n= 1521 nurses, 685 (45%) Primary care and 836 (55%) Hospital care in Andalusian Public Health System.	Socio-demographic and work-related data collection sheet. Self-administered questionnaire consisting of 30 items rated on a 5- point Likert scale from 1 (never) to 5 (very often). The scale is divided into three subscales: CF (10 items), CS (10 items), and BO (10 items).	Nurses' professional quality of life and its relationship with socio-demographic variables and work context.	- Significantly higher CF: in PHC nurses mean 21.19 (SD 7.99), than in Hospital care nurses CF mean 20.37 (SD 7.66); p=0.04. - Not statistically significant data: - CS: PHC nurses mean 35.12 (SD 7.39), Hospital nurses CS mean 35.78 (SD 7.39). - BO: PHC nurses mean 23.36 (SD 5.40), Hospital nurses CS mean 23.50 (SD 5.19). - Primary care setting is a predictive variable of CF dimension (B= 0.11; p<= 0.001). - Primary care setting decreases level of CS (B= -0.11; p<= 0.001). - Levels of CF and BO were elevated. Level of CS was below the estimated mean.
Schrader et al., 2012, Brazil, descriptive qualitative study	n=7 PHCNs, basic health units.	Semi structured interviews were submitted to thematic analysis.	Nurses' perception of QWL.	- Low QWL was related with inadequate working conditions, professional devaluation, and poor support from managers. - Interpersonal relationship and satisfaction with care work was positively related to professional performance and QWL.

Note: (CF) Compassion Fatigue; (CS) Compassion Satisfaction; (BO) Burnout; (PHC) Primary Health Care; (PHCNs) Primary Health Care Nurses; (QWL) Quality of Work Life.

TABLE 3 Risk of bias of quantitative studies included*

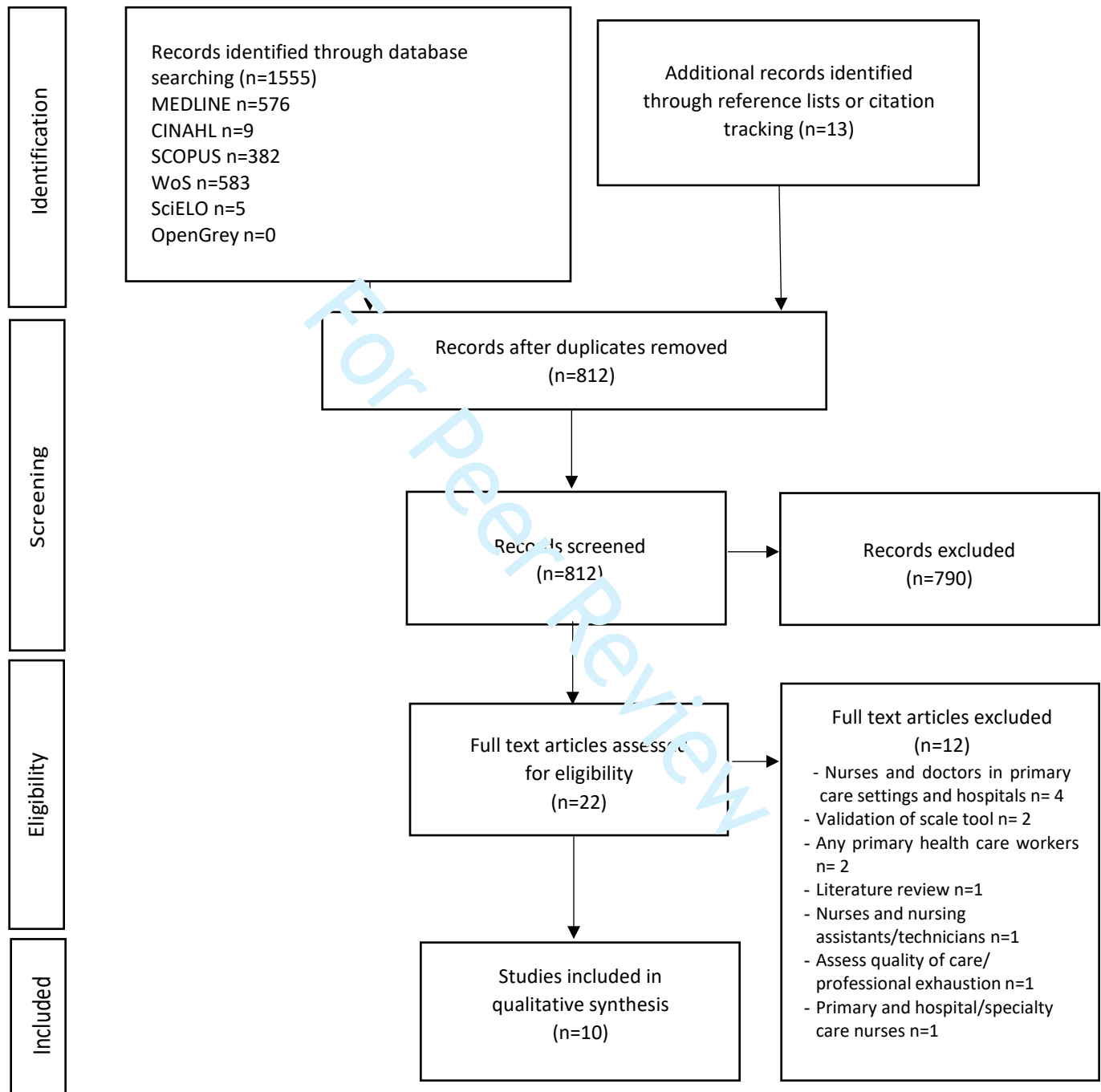
	Almalki et al., 2012a (cross-sectional)	Almalki et al., 2012b (cross-sectional)	Castro et al., 2015 (cross- sectional)	Elustondo et al., 2010 (cross- sectional)	Perdok et al., 2017 (cross- sectional)	Pérez-Ciordia et al., 2013 (cross- sectional)	Pron, 2013 (cross- sectional)	Ruiz-Fernández et al., 2020 (cross- sectional)
Question / objective sufficiently described?	2	2	2	2	2	2	2	2
Study design evident and appropriate?	2	2	2	2	2	2	2	2
Method of subject/comparison group selection or source of information/input variables described and appropriate?	2	2	1	2	2	2	2	2
Subject (and comparison group, if applicable) characteristics sufficiently described?	2	2	2	2	2	2	2	2
If interventional and random allocation was possible, was it described?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
If interventional and blinding of investigators was possible, was it reported?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
If interventional and blinding of subjects was possible, was it reported?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Outcome and (if applicable) exposure measure(s) well defined and robust to measurement / misclassification bias? Means of assessment reported?	2	2	2	2	1	1	2	2
Sample size appropriate?	2	2	1	2	2	2	1	2
Analytic methods described/justified and appropriate?	2	2	2	2	2	2	2	2
Some estimate of variance is reported for the main results?	2	2	2	2	2	2	2	2
Controlled for confounding?	N/A	N/A	N/A	1	1	N/A	N/A	N/A
Results reported in sufficient detail?	2	2	2	2	1	2	2	2
Conclusions supported by the results?	2	1	2	2	2	2	2	2
Overall score	20/20 (100%)	19/20 (95%)	18/20 (90%)	21/22 (95.45%)	19/22 (86.36%)	19/20 (95%)	19/20 (95%)	20/20 (100%)

*Note: QualSyst evaluation tool (Kmet et al., 2004)

TABLE 4 Risk of bias of qualitative studies included*

	Daubermann and Tonete, 2012 (interpretative qualitative)	Schrader et al., 2012 (descriptive qualitative)
Question / objective sufficiently described?	2	2
Study design evident and appropriate?	2	2
Context for the study clear?	2	2
Connection to a theoretical framework / wider body of knowledge?	2	2
Sampling strategy described, relevant and justified?	1	1
Data collection methods clearly described and systematic?	1	1
Data analysis clearly described and systematic	2	1
Use of verification procedure(s) to establish credibility?	0	0
Conclusions supported by the results?	2	2
Reflexivity of the account?	2	2
Overall score	16/20 (80%)	15/20 (75%)

*Note: QualSyst evaluation tool (Kmet et al., 2004)

FIGURE 1 Flow diagram of the literature search and study selection process (PRISMA statement)

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3 **APPENDIX 1** Search matrix
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6	Time period	Search terms	Databases	Number of hits	Titles screened	Abstracts screened	Full text assessed	Studies included
7	16 April 2020 to	Nurse (SH)	MEDLINE	576	576	188	10	5
8	11 May 2020	AND						
9		Primary health care (SH)	CINAHL	9	9	7	3	2
10		AND						
11		Quality of professional	SCOPUS	382	382	83	5	0
12		life (KW)						
13			SciELO	5	5	5	0	0
14			WoS	583	583	77	4	3
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16			OpenGrey	0	0	0	0	0
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19 **Note:** Subject Heading (SH); Keyword (KW)

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For Peer Review

APPENDIX 2 Data extraction template items

Paper (reference)	
Authors	
Year of publication	
Setting	Country of study
	Geographical area
Aims	What was the aim/ objective of the study?
Study Population	What professionals were included?
	Professional role
	Age: mean (SD) or median (range)
Recruitment and sample	Sample size
	Eligibility criteria
Exposure/ interventions	Description of exposure/ intervention
	Variables
	Instruments
Methodology	Frequency measurement
	What was the methodological approach?
	Study design
	Data collection method
	Data analysis method
Findings	What was found?
Outcomes	What were the outcomes measure?
Discussions	Study limitations
Notes on inclusion/exclusion	Relevance to clinical practice
Comments	