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Picture of the employment status of nurses in the world: Scoping review on pros and cons

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Abstract:

Nurses play a vital role in the delivery, quality improvement of healthcare services, and promoting patient health. Therefore, methods of providing nurses are an important issue. This study was conducted to collect evidence on the methods of providing nurses and their advantages and disadvantages by a scoping review method. The Arksey and O'Malley Framework and PRISMA were used in directing the present scoping review. Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines were used to conduct the review and report on results. The ISI Web of science, PubMed, Scopus, and ProQuest electronic databases were searched for relevant articles published between January 2010 and December 2020 using the keywords and their synonyms. Finally, 19 articles out of 1813 ones to answer the research questions were selected. The results showed that although two general methods are for the employment status of nurses (full-time and part-time nurses), different classification countries are dissimilar from each other. A total of 13 advantages and 20 disadvantages of the part-time pattern and 6 advantages and 4 disadvantages were extracted from the full-time pattern of studies. None of the patterns has precedence over the other. Despite the strengths and weaknesses, each of the full-time or part-time patterns in its position is beneficial. With proper management and planning, it is possible to minimize their weaknesses and benefited from their advantages. Training part-time nurses to maintain and improve their level is a key point in reducing the disadvantages of this pattern.

Keywords:

Employment status, full time, health system, nurse, part time

Introduction

One of the strategic factors of organizations is human resources,^[1,2] so that on the 2030 agenda is the sustainable development of attraction, development, training, and maintenance of the workforce.^[3] In particular, although human resources play a critical role in the development of health systems, it still faces many difficulties. Thus, strengthening the governance and management of human resources should be one of the priorities of governments^[4,5] in health systems, human resources play a remarkable role in the management, procurement of health services, and improving the health level

of society.^[6,7] On the other hand, usually between 60 and 80% of total healthcare spending accounts for human resource costs. The most important of all quality, efficiency, effectiveness, accessibility, and acceptance of health services depends on the performance of the service.^[8] Achieving the goals of health systems depends on the powerful and efficient Manpower especially nurses.^[9,10] Proper planning and intervention in the human resource area will also have an increasing effect on stewardship and leadership, service delivery, financial system, and health information^[11] in human resource planning, proper supply of employees to provide services in terms of quality and quantity is an important issue for managers and policymakers.^[12,13] Having the right

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number of employees leads to providing patients quality care and enables the ability to provide safe and quality care to the entire population.^[14,15]

Planning for nursing staff is highly important because of their role in patient safety and quality care.^[16-18] More than 50% of the staff of a hospital is nurses and they play the most important role in delivering services to patients and improving their health.^[19,20] The delivery of quality care to patients is, therefore, dependent on the use, development, and promotion of nurses.^[21] However, it should be noted that different methods of hiring and employing personnel in different systems and in different context and conditions have different efficiency and effectiveness.^[22,23] So that the type of employment of nursing staff has a direct impact on clinical outcomes, patient safety, and patient satisfaction and has made the strategy of employing nursing staff one of the important issues for healthcare managers.^[24] Failure to pay attention to this issue can lead to problems in providing the required number of nurse workforce, challenges such as poor quality of care, adverse patient outcomes, problems in maintaining and motivating Etcetera.^[25,26]

Therefore, considering the important position and role of nursing staff in the health system, it is necessary to know the methods of the employment status of nurses and their strengths and weaknesses.^[27] One way to create evidence to assist managers’ planning and decision-making is a comprehensive review of the scientific literature in the field. Because by comprehensively reviewing and summarizing all the studies related to a research question, it interprets the results of those studies in a general framework of evidence.^[28,29] This study was conducted to collect evidence about the methods of providing nurses and their advantages and disadvantages through a scoping review method.

Materials and Methods

Study design and setting

The present study was a scoping review of publications relating to the picture and pros and cons of the

employment status of nurses in the world. The study was performed based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

Data collection tool and technique

The aim of this scoping review was to systematically illustrate the picture and pros and cons of the employment status of nurses in the world. This study was a review that was conducted in 2021–2020. We searched electronic databases ISI Web of science, PubMed, Scopus, and ProQuest from the beginning of 2010 until December 5, 2020 to identify related studies. Arksey and O’Malley’s methodological steps were used to develop and specify the research questions, identify relevant literature, select articles, extract and chart the data, and report the results. As the methodological guidance for the report of scoping review is still evolving, we used the PRISMA guidelines where appropriate PRISMA Extension for Scoping Reviews (PRISMA-ScR).^[30] The research questions are derived from the research objective that was regulated using the participants (Population)/Context/Concept framework.^[31,32]

The first and secondary research questions were “What’s the employment status of nurses in the world?” And “What are the advantages and disadvantages of the employment status of nurses?” The researcher also registered and activated the alert option to be informed about new studies related to the subject in the above databases. The keywords were selected after an initial search and consultation with an experienced librarian [Table 1]. The search strategies formed on the selected keywords in Emtree and Entry Terms in MeSH in databases are presented in Table 2.

A librarian performed the literature search. The search results were entered into EndNote v.X20 software by the research team for review and screening. The selection of studies from electronic databases is usually conducted in two stages (title and abstract and full text). The inclusion and exclusion criteria are shown in Table 2. In the initial

Table 1: Keywords

Pico	Keyword	Synonyms	Place
Population/ Setting	Nurse	Nurse* OR “Nursing Personnel” OR “Registered Nurse**” OR “Hospital Nursing Staff” OR “Travel Nursing” OR “Nurse Practitioner**” OR “Nursing workforce”	Abstract Or Title Or Key
Intervention	Employment OR Recruitment	Employment OR “Employment Status” OR “Occupational Status” OR “Full-time Nurse**” OR “Part-time Nurse**” OR “temporary employment” OR Recruitment OR “Personnel Selection**” OR “Recruitment Activit**” OR “Personnel Recruitment**” OR “contract nurse**” OR “continuous contract**” OR “permanent contract**” OR “temporary contract**” OR “annual job contract**” OR “temporary job contract**” OR “casual job**” OR “short-term contract**” OR “short-term contract**” OR “Contract-based nurse**” OR “Contract-based nurse**” OR “lifetime employment”	Abstract Or Title Or Key
Outcome	nurse recruitment methods	“recruitment method**” OR “Employment method**” OR “nurse recruitment method**” OR “employment procedure**” OR “recruitment procedure**”	Abstract or Title Or Key

Table 2: Search strategies and inclusion and exclusion criteria

Database	Search strategies and inclusion and exclusion criteria
PubMed	((“Employment Status”[Title/Abstract] OR “Recruitment Status”[Title/Abstract] OR “Full-time Nurse”*[Title/Abstract] OR “Part-time Nurse”*[Title/Abstract] OR “temporary employment”[Title/Abstract] OR “Personnel Selection”*[Title/Abstract] OR “Recruitment Activit”*[Title/Abstract] OR “Personnel Recruitment”*[Title/Abstract] OR “contract nurse”*[Title/Abstract] OR “continuous contract”*[Title/Abstract] OR “permanent contract”*[Title/Abstract] OR “temporary contract”*[Title/Abstract] OR “annual job contract”*[Title/Abstract] OR “temporary job contract”*[Title/Abstract] OR “casual job”*[Title/Abstract] OR “short-term contract”*[Title/Abstract] OR “short-term contract”*[Title/Abstract] OR “Contract-based nurse”*[Title/Abstract] OR “Contract-based nurse”*[Title/Abstract] OR “lifetime employment”[Title/Abstract] OR “recruitment method”*[Title/Abstract] OR “Employment method”*[Title/Abstract] OR “nurse recruitment method”*[Title/Abstract] OR “employment procedure”*[Title/Abstract] OR “recruitment procedure”*[Title/Abstract]) AND ((Nurse*[Title/Abstract] OR “Nursing Personnel”[Title/Abstract] OR “Registered Nurse”*[Title/Abstract] OR “Hospital Nursing Staff”*[Title/Abstract] OR “Travel Nursing”[Title/Abstract] OR “Nurse Practitioner”*[Title/Abstract] OR “Nursing workforce”)[Title/Abstract])
Scopus	TITLE-ABS-KEY(“Employment Status” OR “Recruitment Status” OR “Full-time Nurse” OR “Part-time Nurse” OR “temporary employment” OR “Personnel Selection” OR “Recruitment Activit” OR “Personnel Recruitment” OR “contract nurse” OR “continuous contract” OR “permanent contract” OR “temporary contract” OR “annual job contract” OR “temporary job contract” OR “casual job” OR “short-term contract” OR “short-term contract” OR “Contract-based nurse” OR “Contract-based nurse” OR “lifetime employment” OR “recruitment method” OR “Employment method” OR “nurse recruitment method” OR “employment procedure” OR “recruitment procedure”) AND TITLE-ABS-KEY (Nurse* OR “Nursing Personnel” OR “Registered Nurse” OR “Hospital Nursing Staff” OR “Travel Nursing” OR “Nurse Practitioner” OR “Nursing workforce”) AND (LIMIT-TO (PUBYEAR,2020) OR LIMIT-TO (PUBYEAR,2019) OR LIMIT-TO (PUBYEAR,2018) OR LIMIT-TO (PUBYEAR,2017) OR LIMIT-TO (PUBYEAR,2016) OR LIMIT-TO (PUBYEAR,2015) OR LIMIT-TO (PUBYEAR,2014) OR LIMIT-TO (PUBYEAR,2013) OR LIMIT-TO (PUBYEAR,2012) OR LIMIT-TO (PUBYEAR,2011))
ProQuest	AB, TI(“Employment Status” OR “Recruitment Status” OR “Full-time Nurse” OR “Part-time Nurse” OR “temporary employment” OR “Personnel Selection” OR “Recruitment Activit” OR “Personnel Recruitment” OR “contract nurse” OR “continuous contract” OR “permanent contract” OR “temporary contract” OR “annual job contract” OR “temporary job contract” OR “casual job” OR “short-term contract” OR “short-term contract” OR “Contract-based nurse” OR “Contract-based nurse” OR “lifetime employment” OR “recruitment method” OR “Employment method” OR “nurse recruitment method” OR “employment procedure” OR “recruitment procedure”) AND AB, TI (Nurse* OR “Nursing Personnel” OR “Registered Nurse” OR “Hospital Nursing Staff” OR “Travel Nursing” OR “Nurse Practitioner” OR “Nursing workforce”)
ISI Web of science	TOPIC: ((“Employment Status” OR “Recruitment Status” OR “Full-time Nurse” OR “Part-time Nurse” OR “temporary employment” OR “Personnel Selection” OR “Recruitment Activit” OR “Personnel Recruitment” OR “contract nurse” OR “continuous contract” OR “permanent contract” OR “temporary contract” OR “annual job contract” OR “temporary job contract” OR “casual job” OR “short-term contract” OR “short-term contract” OR “Contract-based nurse” OR “Contract-based nurse” OR “lifetime employment” OR “recruitment method” OR “Employment method” OR “nurse recruitment method” OR “employment procedure” OR “recruitment procedure”) AND TOPIC: ((Nurse* OR “Nursing Personnel” OR “Registered Nurse” OR “Hospital Nursing Staff” OR “Travel Nursing” OR “Nurse Practitioner” OR “Nursing workforce”))
Inclusion criteria	English language articles Studies after 2010 Studies in the field of nursing staff supply and factors affecting it
Exclusion criteria	Lack of access to the full text of articles Studies related to other occupations Perspective studies, letters to the editor, books, reports Studies that did not have a detailed review process

review, authors independently screened articles to confirm whether the title and abstract were related to describe the employment status of nurses. Thus, 1813 articles were evaluated based on the selection criteria. Among them, 387 articles were excluded because they were duplicated records. Finally, the full text of 19 articles was entered into the final analysis [Figure 1].

Data were extracted from selected studies to answer the objectives and research question. The study was verified in two stages (title, abstract, and full text) by two people. Review selection and characterization were performed by two independent reviewers to ensure data quality and accuracy. In this way, a data extraction form was considered first. This form consists of two parts. In the first part, general information about the articles including the authors of the article, year, country, type

of study, purpose of the study, and setting of the study were extracted. In the second part, the materials related to the research question were included. At this stage, first, one of the authors extracted the desired data from the selected studies and the second author reviewed and checked this data. This form was completed for each study in word software. All these articles were studied and evaluated based on information such as the title, definition, purpose, target population, and country of origin.

Ethical considerations

The collected data were only used for scientific purposes, and the authorship and copyright rules were respected in the reporting and publication of the results. All articles earned from the search were reviewed in the primary screening. They were not included in the study if they

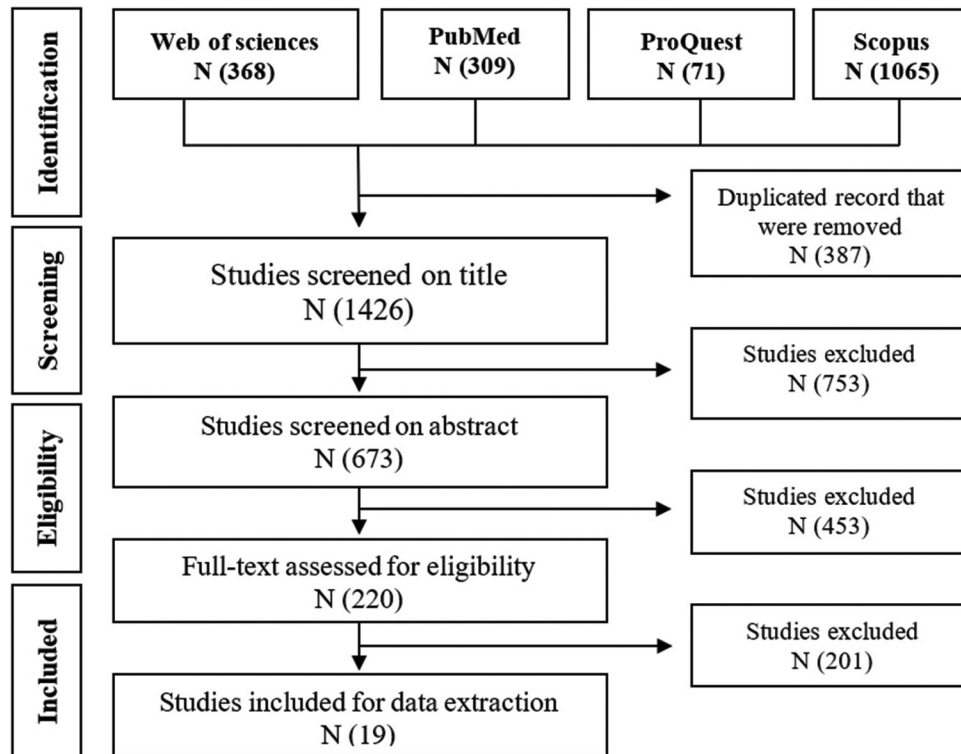


Figure 1: PRISMA Extension for Scoping Reviews (PRISMA-ScR)

did not fulfill the inclusion criteria. The researchers did not intervene in the process of article selection.

Results

In the initial search, 1813 related articles were identified in scientific databases. In the second phase, after removing duplicate and unrelated titles, 1426 article titles were reviewed and 673 studies were reviewed based on the abstract. As a result of reviewing the abstracts, 453 articles were excluded from the study due to a lack of inclusion criteria (220 studies were selected). Finally, by reviewing the full text of the remaining studies, 19 studies were eligible for inclusion [Figure 1]. General information about these studies can be found in the attached table [Table 3]. Selected articles were from 11 countries, half of which were from Canada (5 articles) and the United States (4 articles). Other articles were from China, India, Iran, Indonesia, Spain, Taiwan, Australia, Egypt, and Laos.

The results showed that although there are two general methods for hiring full-time and part-time nurses, there are different classifications in different countries. In Canada, there are three groups: full-time, part-time, and occasional. Indonesian nurses fall into three categories: Permanent Government Employees, Central Government Contracts, and Local Contracts.^[25] In China, nurses are divided into two groups, (the so-called bianzhi) lifelong employment guaranteed by the government and (bianwai)

jobs are contract based.^[27] In Iran, nurses are employed in four ways: Committed to service, under a contract with a company (Corporate contract), under the contract with Government (contractual), and Permanent Government Employees (formal).^[27] In the United States, greater partnership working between education institutions and clinical practice areas has been tried. There are three groups of employment/working conditions for nurses: permanent, temporary, and informal.

There are multiple different types of placements: Per Diem or Pro Re Nata (Per diem, meaning “per day,” is same as a nurse being on-call, with contracts fluctuating from one day to multiple weeks), Travel Nursing (Travelers typically work on a short-term contract fluctuating anywhere from 4 to 6 weeks, and sometimes longer. These contracts are typically done on a case-by-case basis depending on the requirements of the facility), and Temp-to-Perm or Permanent Placement Contracts (The best way for RNS to bridge the gap between employment to detect if they like a geographic location, with the purpose to go full-time after a predetermined period of time).

The ebb and flow of the market assigns what kinds of nurses are most hotly recruited and these are the 12 types of nursing roles: RNs (registered nurses), licensed professional nurses, licensed vocational nurses, Travel nurses...^[28] In Egypt, hospitals use both short-term daily (per diem) nurses and longer term (traveling)

Table 3: Appendix 1. A summary of the features of selected studies

Source (Year)	Design/ Methods	Country	Scope/ Setting	Aim of study
Drebit <i>et al.</i> (2010) ^[51]	survey	Canada	acute care in British Columbia	Examine the regular and overtime working hours of RNs in acute care and their associated costs by employment status (full-time, part-time, casual) and department over a 4-year period.
Zeytinoglu <i>et al.</i> (2011) ^[38]	survey	Canada	three teaching hospitals in Southern Ontario	Examine the association between flexible employment and nurses' intention to leave the profession.
Heywood <i>et al.</i> (2011) ^[35]	survey	Indonesia	three districts	Report changes between 2006 and 2008 in numbers and employment status of health staff in three districts following the central government decision.
Chu and Hsu (2011) ^[48]	survey	Taiwan	public hospital	Investigate the work status of contract versus full-time nurses at a public hospital in Taiwan and to examine the impact of such on work-related attitudes, organizational citizenship behavior, and job performance.
Malette (2011) ^[49]	cross-sectional survey	Canada	Ontario	Examine the proposed relationships among employment patterns, volition, social exchange theory, and the individual, organizational, and professional outcomes.
Daniels <i>et al.</i> (2012) ^[25]	longitudinal	Canada	College of Nurses of Ontario database,	To evaluate the effectiveness of a nurse retention strategy, the "70% Full-Time Commitment," in retaining part-time and casual nurses in Ontario's nurse profession.
Kenny <i>et al.</i> (2012) ^[33]	Action research	Australia	-	Consider explicit nursing student paid employment and develop recommendations that could be used to guide policy and planning.
Seo and Spetz (2013) ^[39]	cross-sectional	United States	hospital-level data from California's Office of State-wide Health Planning and Development	Examine the problem empirically using hospital-level data regarding the number of temporary nursing staff, combined with organizational and market characteristics from multiple years.
Burke and Fiksenbaum (2014) ^[41]	online survey cross-sectional design	Spain	Catalunya and Gipuzkoa.	Examine the reasons given by nurses for working part-time; compare the work experiences, satisfactions, and psychological well-being of nursing staff working full-time vs part-time; and identify possible antecedents and sources of leverage to encourage part-time nurses to work full-time.
Shang <i>et al.</i> (2014) ^[52]	cross-sectional	China	181 hospitals in six provinces, two municipalities, and one autonomous region	Examined current rates of contract-based nurse employment and the effects of the new nurse contract employment strategy on nurse and patient outcomes in Chinese hospitals.
Zeytinoglu <i>et al.</i> (2015) ^[44]	survey	Canada	Ontario	Examines associations between home care workers' health, and nonstandard hours and insecurity.
Singh and Senthil (2016) ^[43]	cross-sectional survey	India	state of Tamil Nadu	Investigate the type of job (part-time/full-time) influence in the utilization of various Information Technology activities.
Hockenberry and Backer (2016) ^[45]	cross-sectional	United States	California hospitals	Evaluate the role of the nurse staffing mix on hospital patient satisfaction.
Naderi <i>et al.</i> (2018) ^[40]	descriptive cross-sectional	Iran	Besat and Tohid Hospitals in Sanandaj	achieve the factors affecting the implementation of evidence-based nursing care and its related factors
Oppel and Young (2018) ^[50]	observational	United States	U.S. general hospitals	To examine the relationship between nurses staffing patterns and patients' experience of care in hospitals with a particular focus on staffing flexibility.
Mohamed (2018) ^[53]	Descriptive comparative	Egypt	nine intensive care units at New El-kasr El-Aini teaching hospital and five intensive care units at El-Manial University Hospital	The present study conducted to examine supplemental versus permanent nursing staffing in relation to organizational commitment in selected nursing care units.
Galbany-Estragués <i>et al.</i> (2019) ^[54]	Single embedded case study.	Spain	-	Analyze the relationship between Spanish nurses' intention to migrate and job security.
Ferguson <i>et al.</i> (2020) ^[24]	cross-sectional	United States	-	To explore the relationship between use of contract nurses and two key nurse-sensitive outcomes, Hospital-acquired pressure injuries (HAPIs) and falls.
Qian <i>et al.</i> (2016) ^[34]	exploratory and descriptive qualitative	Lao People's Democratic Republic	-	Identify, explore, and better understand the key challenges for strengthening the Laotian health workforce.

nurses employed by temporary employment agencies to accommodating staffing needs. They do this in two ways: Supplemental Nursing Staff (professional nurses who belong to the same workplace, do not have a fixed allocation unit and rotate throughout the various hospital units depending on the organization of work) and Permanent Employee (a worker who is employed and paid directly by the employer). Other studies have a different general category: full-time and part-time. In Australia, the employment of nursing students on a temporary basis to address the problem of shortage of nurses has been mentioned.^[33] Laos has two different top-down (health staff who were sent from the Ministry of Health (MOH) to health facilities) and bottom-up (from within the health facilities) approaches to employing nurses.^[34] In the selected studies, some of its strengths and weaknesses were discussed, which are shown in Table 4. The findings from the studies illustrated a total of 13 advantages and 20 disadvantages for the part-time pattern and 6 advantages and 4 disadvantages were extracted for the full-time pattern of studies.

Discussion

According to the reviewed studies, the employment status of nurses can also be broadly divided into two—full-time and part-time. Full-time nurse means working a certain number of hours, the payment of which is guaranteed by the employer. But part-time nurses, despite having a specific work schedule, work fewer hours than full-time staff. Occasionally, nurses in Canada are nurses who do not have a clear, long-term contract, and their minimum working hours may differ.^[35]

The average working hours of full-time nurses in Canada are 7.2 h per day, 36 h per week, or 144 h per 4 weeks, while part-time nurses work approximately 14.4 h per week. Occasionally nurses do not have specific working hours and are used in full or partial shifts in situations such as illness, vacation, maternity leave, absenteeism, temporary workload, and etc.^[36,37] A nationwide study by Zeytinoglu et al.^[38] (2011) of Canadian Home Care Nurses found that 50% of them are part-time, 17% are occasional,

Table 4: Advantages and disadvantages of full-time and part-time models in employing nurses

pattern	Disadvantages	benefits
Part-time	Non-standard working hours predispose to diseases and skeletal disorders (13) Less job independence (14) More job stress (14) Lack of support from colleagues, supervisors and unions (14) Facing unplanned new responsibilities (14) Worse pattern of gender equality for them in the organization (14) organizational culture (15) Fewer opportunities for career advancement (14,16) Dissatisfaction with their salaries and benefits compared to full-time nurses (14,16) Lack of familiarity with protocols and Increase operating costs for the organization (16) Lower levels of commitment and participation than full time (17) Lower social interactions in the hospital (17) Less central positions in hospital social networks than full time (17) Lower job resources such as independence and development opportunity (17) Patient dissatisfaction (23) Lower wage rates and benefits (14,23) Being on the side-lines with bad conditions (24) Job insecurity (14,16,20,24) Increasing the workload of full-time nurses due to the addition of their supervisory and support duties. (25) Impairment of coordination and continuity of patient care (32)	More career options (14) More flexibility for organizations and managers (16) Hospital Compatibility Demand Fluctuations (16) Higher hourly wage (16) More flexible working conditions (14,16) Less interference between working and non-working life and higher quality of life (16,23) Reduce overhead hospital costs (25) Non-payment for unnecessary working hours (25) Superiority over cost pressures and patient fluctuations (25) Creating a better and more dynamic work environment (32) More opportunities for educational and research activities (35) A way to deal with stress and burnout (32) Less stress and pressure to coordinate work, social and family activities (16,32)
Full-time	Hospital incompatibility with demand fluctuations (16) High burnout (32) Less opportunities for educational and research activities (35) High stress and pressure to coordinate work, social and family activities (16,35)	More job security (14) More job dynamics (14) More opportunities for career advancement (14,16) Higher levels of job resources, a positive attitude towards work, access to and use of more medicine (17) Fixed income and broad benefits including housing, health insurance and retirement (23) More access and opportunity to use information technology (35)

and 33% are full-time. In Canada, part-time employment began in the mid-1990s.^[37] A case study by Naderi *et al.* showed that in Iran about 70% of the participating nurses were temporary-to-permanent, contractual and conscription and only 30% were formal (permanent).^[40] The results of the Seo and Spetz study in the United States showed that the demand for part-time nurses is increasing and these personnel are provided through nursing agencies.^[39] Part-time work has become a momentous source of labor for organizations as well as for young people, the elderly, and women.

Our research shows that there are several reasons for choosing a part-time model from both the employer and the nurses. On the part of hospitals as employers, part-time employment is a way to make up for the shortage of nurses, reduce costs and increase flexibility.^[25] Zeytinoglu *et al.*^[38] (2011) point out that flexible (part-time) employment is demand-driven and in line with the goals of hospitals and managers. The results of Seo and Spetz's study show that as the number of hospitalization days increases, patient demand fluctuates and the cost of ancillary benefits increases, the demand for part-time nurse's increases. A 10% increase in ancillary benefits is accompanied by a 20% increase in demand for temporary nursing hours.^[39]

Some argue that even if the hourly rate for temporary staff is higher than the base salary for permanent staff, it may still be cost-effective due to reduced overhead benefits and non-payment for non-essential hours.^[39] But Seo and Spetz disagree with this hypothesis, arguing that while the utilization of part-time and temporary nurses is effective in diminishing overhead costs and contending with fluctuations in patient demand, it is not necessarily cost-effective.^[39] Nurses' reasons for choosing the part-time model can be divided into two categories: voluntary reasons such as going to university and involuntary reasons such as not having a full-time job. Burke *et al.*^[41] named 15 reasons for part-time work: caring for relatives, personal health, losing a job, staying active in a career, looking for a new job, an opportunity to use your expertise and skills in another job, earning extra money, geographical area, lack of access to full-time jobs, transfer to retirement, opportunity to get a full-time job in the organization, going to university, change of full-time to part-time job by the employer, less responsibility than the previous job, and rarity full-time jobs for this type of work. Brewer *et al.*^[42] considered factors such as level of pay, age, presence of children, educational status of children, having other income, and previous work experiences to be effective in choosing full-time or part-time.

Our studies show that relatively few studies have been conducted comparing full-time and part-time

employees. According to the studies, none of the models has advantages over the other and each has its strengths and weaknesses. According to Daniels *et al.*,^[25] part-time (conditional) nurses in the US, UK, and Australia have chosen it because of their higher hourly wages, flexibility, and independence in their work schedule. But part-time (flexible) employment is associated with little job security.^[37] The study by Singh *et al.*^[43] in India, which examined the impact of nurses' employment patterns on the use of information technology, found that full-time nurses were more likely than part-time nurses to use computers, process information, and communicate tasks. The use of computers to maintain patient information, management and planning activities, and administrative and financial tasks was also increased among full-time nurses. This may be due to more access and opportunity to use the computer, more experience in using information technology, and more loyalty to the organization. But part-time nurses were more likely to use computers for teaching and research purposes, probably because they had more time for teaching and research activities.

The results of Naderi *et al.* study showed that there is a statistically significant relationship between the type of nurses' employment (permanent/temporary-to-permanent/contractual/conscription) and taking part in workshops with their views on the factors affecting the implementation of evidence-based care. So that permanent and temporary-to-permanent (contract) employees had a better view of evidence-based care than the project, contract, and duty staff.^[40] The study by Burke *et al.* also found that full-time nurses had higher levels of job resources, a more positive attitude toward work, greater access to and use of medication, and a greater tendency to quit.^[41] Also, due to the lack of familiarity of temporary nurses with the policy and procedures of the hospital, some researchers have raised concerns about patient safety. The study by Zeytinoglu *et al.* (2015) also showed that the relationship between the level of temporary workforce employment and job insecurity is positive and significantly associated with stress symptoms.^[44]

However, another study found a negative relationship between the use of complementary (temporary) nurses and the quality of care. Training and keeping the level of nursing staff high is the reason for this issue. In addition, working hours threaten the part-time model for nurses' health. Due to the increased stress on nurses, part-time and occasional working hours are associated with skeletal disorders. Researchers believe that non-standard hours and job insecurity have detrimental effects on employees' health and will have consequences for employers, human resource managers, and government policymakers.^[36]

Ferguson *et al.* also found in their study that the use of contract nurses was associated with a higher prevalence of “hospital-acquired pressure injuries.” They suggest that either the employment of contract nurses be minimized or that they be given extensive training in the recruitment process.^[24]

Therefore, it can be concluded that although there is a possibility of reducing the quality of care, patient safety, and staff health by employing temporary nurses, with proper management, training of temporary nurses, and continuous monitoring, its negative consequences can be reduced. Some studies have also highlighted the importance of the ratio of full-time to part-time nurses. The results of a study by Hockenberry *et al.* in California (2016) showed that the ratio of full-time (full-time) to contract (part-time) nurses is an important factor in patient satisfaction.^[45] A higher proportion of RNs increases overall patient satisfaction but in hospitals with a higher proportion of nursing hours offered by contract nurses, they had significantly lower levels of patient satisfaction and nurse-patient communication.^[46]

Seo and Spetz also acknowledge that increasing the number of temporary nurses may increase the workload of full-time nurses. That’s because, in addition to their duties, they must supervise and assist part-time nurses.^[39] In Australia, the use of nursing students as part-time staff is on the rise. The benefits of this model include increasing self-confidence, developing students’ skills and knowledge, a positive impact on employment, and improving patient care.^[33] These models reduce the shock of reality in students. However, disadvantages such as the inequality of all students to experience it, the unrealistic expectations of new graduates, the lack of transparency in student plans and responsibilities in these models, the possibility of student abuse, and jeopardize of student learning for these models. Therefore, the formation of a transparent relationship between all stakeholders is necessary to balance the demands of the hospital and the universities. These models are also growing in the United States and Canada.^[44]

According to researchers, part-time nursing does not necessarily mean intending to leave work in the future,^[46] so it is an opportunity for the hospital. In this regard, the results of Chu and Hsu study showed that although the replacement rate of contract nurses was 5–8 times higher than full-time nurses, in terms of organizational commitment, job satisfaction, organizational behavior, self-report job performance, there was no difference between full-time and contract nurses.^[47] Therefore, hospital managers should not abandon them out of prejudice and look at them as second-class employees. Mallette’s study did not show

any statistically significant findings on the effect of nurses “employment patterns (full-time/part-time) on nurses” job satisfaction and retirement.^[48] Therefore, it can be said that the pattern of employing nurses does not in itself lead to job dissatisfaction or leaving the job, but the type of contracts and the existence of differences and discrimination between the two groups provide the basis for the dissatisfaction of contract nurses. The results of this study showed that health systems use full-time and part-time nurses simultaneously. According to the results, this issue has caused some differences, dissatisfaction, and negative consequences. Overall, the results showed that despite the benefits that part-time nurses have for hospitals, they also had many disadvantages and negative consequences. This is almost undeniable because like in any other work environment, nurses make comparisons and decisions that will lead to their behavior and performance. In general, regardless of industry, sector, and size, there is a direct relationship between temporary labor and negative conditions, nurses are no exception to this rule.^[24]

According to our studies, neither model is superior to the other. Vafae *et al.*^[16] also point out that the findings are sometimes reported in favor of full-time and sometimes part-time employees, and sometimes similar results. It can be said that the use of full-time or part-time nurse models by health systems and hospitals depends on the internal and external environment of the organization such as financial resources, long-term organizational policies, labor availability, organizational culture, and so on. Each model has its strengths and weaknesses, and with proper planning and management, their weaknesses can be minimized and their advantages can be maximized. Training part-time nurses to maintain and improve their level is a key point in reducing the disadvantages of this model. According to Burke *et al.*,^[41] increasing Nurses’ participation in decision-making, enhancing Nurses’ empowerment, enhancing support and respect for Nurses’ participation reducing workplace violence, and promoting teamwork among nurses can help improve part-time Nurses’ satisfaction and productivity.

Conclusion

The findings of this review study are limited by the databases searched, the time, and the language of publication. There may be some studies, especially in the old literature or in other languages that are not included in this analysis. Our studies show that relatively few scientific studies have been performed for comparing full-time and part-time employees.

According to studies, none of the employment statuses is superior to the other. Despite their strengths and

weaknesses, each full-time or part-time model is useful in its own right. It can be said that the use of full-time or part-time nurse models by health systems and hospitals depends on the internal and external environment of the organization such as financial resources, long-term organizational policies, labor availability, and organizational culture, etc. With proper management and planning, their weaknesses can be minimized and their benefits can be maximized. Training part-time nurses to maintain and improve their level is a key point in reducing the disadvantages of this model.

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Conflicts of interest

There are no conflicts of interest.

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