Resources–tasks imbalance: Experiences of nurses from factors influencing workload to increase

Mojgan Khademi, Easa Mohammadi, Zohreh Vanaki

ABSTRACT

Background: While nursing workload is a worldwide challenge, less attention has been given to the determining factors. Understanding these factors is important and could help nursing managers to provide suitable working environment and to manage the adverse outcomes of nursing workload. The aim of this study was to discover nurses’ experiences of determinant factors of their workload.

Materials and Methods: In this qualitative study, the participants included 15 nurses working in two hospitals in Tehran, Iran. The data were collected through 26 unstructured interviews and were analyzed using conventional content analysis. The rigor has been guaranteed with prolonged engagement, maximum variance sampling, member check, and audit trail.

Results: Resource–task imbalance was the main theme of nurses’ experiences. It means that there was an imbalance between necessary elements to meet patients’ needs in comparison with expectation and responsibility. Resource–task imbalance included lack of resource, assignment without preparation, assigning non-care tasks, and patients’ and families’ needs/expectations.

Conclusions: A deep and comprehensive imbalance between resources and tasks and expectations has been perceived by the participants to be the main source of work overload. Paying more attention to resource allocation, education of quality workforce, and job description by managers is necessary.

Key words: Content analysis, in-service education, lack of resources, nursing education, nursing turnover, patient acuity, workload

INTRODUCTION

Nursing workload is a major challenge of health systems and an important theme in many nursing studies. As a keyword of medical terms in Mesh database, workload is defined as the volume of work an individual, a department, or other employed groups must do in a period of time. In the early 90s, nursing workload was defined as the total required nursing time, as a result of all works that should be done within a specified time period.[1] In 1997, Needham announced that definition of nursing workload is simple for nurses and includes the volume of work produced by patients during the time.[2] However, more precise assessment of this definition is much more complex. Needham defined the direct patient care, indirect tasks, and those not concerned with patients as the required nursing time and nursing workload. This definition accepts that the conducted task is, in fact, a nurse’s responsibility,[2] not merely the patient care. Myny believes that this definition is comparable with the definition by Bi and Salvendy who thought workload is a function of environmental and organizational factors.[1]

Moreover, several dimensions of nursing workload have been suggested including physical, cognitive, time pressure, emotional, quantitative, qualitative, and diversity dimensions.[3]

Despite there being lack of a general definition about nursing workload, there is a general consensus in two cases: First, nursing workload is beyond what is done close to a patient and second, nursing workload is increasing.

Increased nursing workload is one of the main challenges of national and international nursing. In 1990, it was reported that workload was far beyond the amount reasonably practical.[1] A study reported that nursing workload has
Increased nursing workload is associated with extended consequences for nurse, patient, and organization. Workload and time pressure have been recognized as the most important stressors. High workload is an important dimension of nurses’ role; such a stress can influence their mental and psychological health and increase the economical costs for a society. Stress, job dissatisfaction and burnout, increased nursing turnover and professional employees’ withdrawal, impaired physical security, increased risk of desecration and nuisance to nurses, and also complaints of patients’ families have been reported as the major consequences of nursing workload.

Furthermore, the rate of workload influences patient’s condition. Nursing workload is an important determinant of quality of care and patients’ safety. Increased nosocomial infections, delayed analgesic administration, lack of patient education, increased hospitalization, delayed ventilator disconnection, increased iatrogenic complications, medication errors, and mortality are the important outcomes of increased nursing workload for a patient. Moreover, lack of opportunity to think about required interactive manner with a certain patient and impaired nurse–patient interaction are the other major outcomes of increased nursing workload.

Harmful outcomes of increased nursing workload have been studied in many researches; in most of them, the general consensus about the role of nurse shortage and effects of imbalance in the number of patients–nurses has been reviewed. However, a few studies reviewed the factors influencing the nursing workload. Carayon introduced four levels of unit, job, patient, and situation as measurement models of workload. At the unit level, the most common workload index is the patient–nurse ratio. At the job level, the workload depends upon the type of job or specialty of nurse. The main determinant of nursing workload at the patient level is the clinical situation of a patient. Situation level explains the factors such as physical working environment, lack of appropriate and adequate provision of resources and facilities, diversity of family needs, and ineffective communications between members of a multidisciplinary team, which can all increase the situational workload. Moreover, each of these levels alone has limitations and may not be able to explain workload sources in nurses.

Other studies in this field reviewed some individual factors such as nursing labor shortage and patient’s situation. Another study merely studied the impact of factors indirectly influence the nursing workload. Findings of the above-mentioned studies indicated that there is no general theme of factors influencing nursing workload. Myny reported that despite much interest shown on the impact of workers supplying level on the quality of care, there is less attention paid toward the factors influencing nursing workload. Given the nursing shortage and complexity, better understanding of the factors influencing nursing workload is an important issue. Identifying these factors might help the nursing manager to provide a suitable workload for the labor force and accordingly help them to manage many harmful consequences of increased workload.

Despite reports concerning heavy nursing workload in Iran, no study has ever been done specifically on the factors influencing nursing workload in Iran. According to the literature, naturalism paradigm and qualitative research methods see the reality based on the background facts, and accept multi-reality and numerous constructs of an event. Thus, they are useful for lesser well-known study areas. Therefore, this study was conducted with a qualitative approach to detect experiences Iranian nurses’ experiences of factors influencing workload to increase.

**Materials and Methods**

Given the complexity of the concept for workload and also limitations of studies specifically addressing this issue, the study design selected was a qualitative approach through conventional content analysis method. According to Elo and Kyngäs, qualitative content analysis is a reliable research method to create reproducible and reliable inferences which might help to get a rich and comprehensive description of the phenomenon under study. This method is beyond a simple technique for describing data. Content analysis is extremely sensitive toward the content and can be applied to understand relationships and identify key processes.

**Study design and participants**

Based on the report of Polit et al., in order to maintain the natural environment, the study was conducted where the phenomenon occurred, i.e. in general surgical, orthopedic, oncology, and intensive care unit (ICU) wards of two university hospitals in Tehran, Iran. The participants were objectively selected from among clinical nurses and nursing managers. Based on Holloway and Wheeler, the general
Inclusion criteria were knowledge of the phenomenon under study, willingness and ability to transfer experiences, and some more specific criteria included having at least 6 months of working experience.

Data saturation ended with 15 subjects including 14 women and 1 man, aged 24–50 years, with BSc degree in nursing. They were 2 nursing supervisors, 1 matron, 1 staff, 10 clinical nurses, and 1 MSc in biochemistry with BSc in nursing who had changed her course of study due to bad working condition and had rich experiences in this case. They also had from 8 months to 20 years of experience in various working shifts in bone marrow transplantation (BMT), pediatric, neonatal, dialysis, neurology, internal, and emergency wards.

Data collection
Data collection was carried out through conducting unstructured interviews from July 2009 to August 2010. Following completion of each interview and initial analysis, interviews were conducted again in case of ambiguity to detect more in-depth data. Thus, 26 interviews with participation of 15 subjects were conducted. Interviews took 15–80 min, except one which took 2 h. General questions with open answers were used in the interviews, e.g. “When did you feel the workload?” and then, in order to achieve more in-depth and richer data, exploratory questions were used, e.g. “Can you explain the situation with a real example so that I understand it?”, “Please explain more,” etc. The interviews were continued until “unidentified data” or “new category” was obtained, according to the study of Strubert and Speziale.

Analysis
According to Elo and Kyngäs, for analysis in the preparation stage, the whole interview might be an appropriate background for deriving the units of meaning which were selected as the most appropriate units of analysis. Each interview was read repeatedly to reach was read repeatedly for immersion in data. In the organizing stage, open encoding was conducted with a review of interviews and recording notes and some titles and subjects in their margin. Thereafter, the titles were recorded in encoding sheets. Grouping started after conducting a few interviews. By repeating the above-mentioned procedure for each new interview, some titles were added and complete categories emerged. Comparing and merging the categories related to a group reduced the primary categories. Subcategories were divided and groups with similar events were categorized as one class. Each class or category was named with terms indicating its content. The process of abstraction continued until formation of the main content. Moreover, the reminder interpretations concerning the association between the concepts were recorded during the analysis.

The strength of the study
Prolonged engagement in field and sufficient time to communicate and collect data helped to boost participants’ trust and interaction and to collect in-depth data. Furthermore, maximum variance in the distribution of samples according to age, work experience, position, and so forth was used in this study. In order to make sure that the analyses accurately reflected experiences of the participants, member check was done within data analysis and collection, and necessary changes were applied in interpretations to enhance study credibility according to the comment of the subjects, if necessary. For providing dependability and confirmability, a part of crude data was audited by experts, including interviews and analyzed outputs (primary codes and categories obtained).

Ethical considerations
The study was started after obtaining permission from the Ethics Committee of University of Tarbait Modares and hospitals. In addition, sufficient explanations were given to the participants about the importance, objectives, and the study method, particularly the interview record, content process, confidentiality in all stages of the study, and mutual decision-making concerning the time and place of the interview. In addition, an introduction of the interviewer and the way that the participants could access the study findings were provided to the study subjects.

Results
Following data analysis, “imbalanced facilities and tasks” appeared as the main theme which indicated factors influencing increase in nursing workload. “Imbalanced facilities and tasks” means disproportion between the necessary elements for responding to the patients’ needs with defined expectations and responsibilities for nurses. “Imbalanced facilities and tasks” had four dimensions: “Insufficient resources,” “assignment with no preparation,” “assigning non-medical and non-care tasks,” and “needs/expectations of patients and families,” which caused increased nursing workload based on the experiences and perceptions of participants. These aspects will be discussed further in the following text.

Insufficient resources
This means shortage of the required resources for patient care and task implementing. These elements were diverse and divided into two categories:

- Worker shortage, i.e. disproportion between the number of nurses and services labor compared to the number of patients and their expectations and needs. This was a chronic issue and concern, but was experienced acutely in some circumstances such as
work pressure is pretty high now and nurses
When you do the venipuncture for adults, you can
When a new graduated nurse came here, he/she went
Workload is extremely high where you get shortage
• Shortage of facilities and equipment was one of the
main experiences of nurses, including many sources
such as financial aid and the necessary equipments
for advanced care. Lack of equipment per se could
directly increase the workload, and also, waste time,
slow work, and increase the complexity of the situation.
For instance, as a consequence of shortage of beds,
ICU patients were hospitalized more in general wards,
which increased the workload and working pressure.
This merely was not due to increased workload caused
by the nature of disease and the type of required care
for a special patient, but was due to the fact that care
for intensive patients in general wards took more energy
and time than care for patients in the ICU owing to lack
of adequate facilities and equipment. Participant No. 4
said:
“Workload is extremely high where you get shortage
of equipment. There is only one laryngoscope for
cardiopulmonary resuscitation (CPR); at the same
time, you have to go for another CPR in another
ward quickly. When a resident needs gloves and we
don’t have it, we must go and take a pair
from the other ward. These all are tasks, means
time, the simplest case is bed. When ICU has no bed,
intensive patient stays out with a ventilator.
Devices raise alarm, then nurse must go and check
the device every ten minutes and pass this long
corridor to check the patient and come back. It
makes a difference when a nurse can directly
observe patients in ICU; the path should not be
that long; then, it takes much more time to do the
job.”

Assignment with no preparation
Experiences of nurses showed that one of the main sources
for workload was lack of professional preparedness and
assigning responsibility without the required scientific
competencies for playing the role and tasks. The
experiences of nurses showed that deficiency in educating in
terms of necessary scientific and professional competencies
start from the university level, and not only has not been
compensated during their employment, but also has
continued and also intensified due to lack of adequate
in-service training. Eliminating novice nursing orientation
courses, lack of financial support from the training
department, and inappropriate quality and insufficient
development and in-service training programs were the
most important experiences of the participants. This issue
caus ed more problems for in scheduling for nurses with
inadequate experience. An educational supervisor (No. 15)
sated that in-service training and orientation programs used
to be in such a way that nurses had a relative familiarity
with ICU in addition to the information related to their
own particular ward; however, nowadays nursing training
programs are not enough and their programs have been
eliminated. Participant No. 15 said:
“When a new graduated nurse came here, he/she went
for a nursing orientation program for two weeks in ICU
and also two weeks in their own ward. But now it is
a human force shortage, and it is impossible to do it
again.”

The experiences of nurses showed that the outcome of
deficiency in teaching professional competencies was
the deficiency of knowledge and inability to take up the
assigned responsibilities. Lack of necessary knowledge and
competency for taking responsibilities caused nurses to try
various ways to do a task. This means rework, fatigue, and
wasting time. One of the nurses (No. 14) said:
“When you do the venipuncture for adults, you can
see the veins by your eyes, but for infants it should
be done by anatomical science. We tried to do the
venipuncture for an hour and half. Experience is
essential, but in-service training is more important.
Where have we learned to do the venipuncture for
infants? Do you know how much energy and time was
taken by us? When there is no training, you need to try
different things over and over and spend a lot of time
and energy. No one taught us about infant’s nasogastric
tube (NGT); we tried it many times with the same adult
method; well, it did not work and it increased our task.”

In view of some of the participants, “assignment with no
preparation” had similar effects to “insufficient resources;”
assignment with no preparation was a type of qualitative
shortage of workers that increased the workload of other
nurses. An experienced nurse (No. 5) stated the following
about lack of competency in some novice nurses and
tiredness caused by the workload:
“One new nurse has recently been added and no one
knows how she works! Patient is suffering from phlebitis;
from night to morning, she does washing the line over
and over with this phlebitis. The patient must call a million
times more and say, ‘I have pain;’ finally, the head nurse
VIP patients expect to do everything in the best way, a patient who was not able to see was admitted, and families, as one of the main sources of workload. Finding showed that the more complicated the patient condition was, the higher was the workload. An experienced nurse in BMT ward pointed out that the patients admitted in these wards are very weak and vulnerable and are not able to have self-care; therefore, they need an accurate care results in high workload for nurses. This participant (No. 5) said: “Suppose you were working nonstop at morning; you had to wash the line repeatedly, blood samples had to be taken every day. Some patients did not have medicine, besides you had to wait for them to go to bathroom and take a shower, and clean their bed by yourself (such patients were not able to do anything).”

Another nurse (No. 14) stated: “A patient who was not able to see was admitted due to exploded firecracker in his eyes in new year celebrations. He insisted to open his eyes; his hands were tied not to open his bandages. He used to say, ‘There is itching, I have pain.’ His brothers and sisters also came by visiting me and asked repeated questions: ‘Why did you tie his hands?’ How much we must ask them not to cry near him and do not tell him that has been blinded; you know these tasks are beyond normal expectations; it takes a lot of energy.”

In their experiences, in addition to urgent and real needs, the unrealistic expectations also intensified the imbalance between workload and time and increased work pressure of nurses. Participant No. 5 stated: “VIP patients expect to do everything in the best way, they expect to disconnect their serum when finished; sometimes it takes some time to reach them from another room when they page you. Perhaps, there is something more urgent and should do it with the first priority, but they expect to do their job as soon as they call you, whether the patient or their relatives.”

**Discussion**

The findings of the study showed that “imbalanced facilities and tasks” was the main theme of the nurses’ experiences on the factors influencing increase in nursing workload. “Imbalanced facilities and tasks” indicates the inappropriateness between what nurses have and what others expect them to do, and also indicates lack or deficiency of elements such as workers, financial resources, facilities and equipment, knowledge, and required competency for implementing tasks. The other side of this imbalance is encountering the expectations and demands of the system, patients, and families. In addition to being in a situation with shortcomings and limitations, nurses have to do other irrelevant and non-care tasks, and fulfill the needs and expectations of patients and families. These findings are not confined to Iran. Evidence indicates that job/workload demands are higher than nurses’ abilities.23
Insufficiency of working resources and the high-demand tasks have already been reported as concerns of nurses. In the present study, insufficient resources indicate shortage of workers, facilities, and equipments for care and nursing duties. Shortage of professional and non-professional nurses and its impact on increased workload is one of the main themes in many studies. Shortage of nurse is a worldwide concern, causes limitation in worker supply and increased nursing workload, and has negative impacts on health care. In a study in Iran, nurses faced with low worker supply and shortage of nonprofessional labor, which led to high workload, forced labor hours, time limitation, and excessive tiredness.

Studies have shown that reasons for shortage of nurses are multidimensional. Increased need changes in demographic population and increased demand due to aging and elderly population, demographic changes in nurses workforce, nursing workforce profile, valued experience, and quality of nursing staff which can transfer them to other industries have major role to play in shortage of nurses. Stressful, insecure, and unacceptable working places have negative impacts on the nursing workforce. Other factors influencing nursing workers’ shortage are organizational structure and inappropriate management practices and strategies for manpower supply, decreased manpower supply due to the pressure of costs and accordingly implementing forced overtime which increases the workload and decrease nurses’ control on their program and can influence the decision on whether to stay or withdraw from this profession.

In the present study, shortage of financial resources, facilities, and equipment was one of the other dimensions of “insufficiency of resources.” Current era is called the era of cost-limit policy, which means highly extended limitations. Inadequate logistics, such as lack of medical equipment and computer and beds in ICUs, is an important factor that increases nursing workload. Other studies reported that physical working environment, inappropriate supply of resources and facilities, and factors related to the technology, tools, and equipments cause increased nursing workload. For instance, parallel with the technological advancement, the nursing working hours is increased for managing the advanced technology. Blay et al. also reported that bed shortage increases nursing workload and has negative outcome for patients. This type of workload is one of the reasons for nurses withdrawing from the profession.

“Assignment with no preparation” indicates shortage in education is one of the other resource–task imbalances emphasizing on lack of competency. Besides, findings indicated that assignment with no preparation not only increases workload of non-competent and unqualified nurses, but also increases the working pressure of other nurses. Findings suggested that this issue has a direct association with insufficiency of academic and in-service education. Unlike the findings of the present study, there was a satisfied level of competency in new nurses who graduated from public and governmental universities of Jordan. Lack of effective preparedness and low educational level have also been reported. A literature review reported that education as a nurse’s feature is one of the factors influencing the workload. Furthermore, these studies showed that when experienced nurses take the responsibility of supporting and educating inexperienced nurses, they could experience workload.

“Assigning non-medical tasks” was one of the sources of nursing workload. In a study, regardless of workload, nurses were found to mostly spend their time on indirect care. Aein et al. also reported that nursing managers did not believe in job description; therefore, nurses had to do some tasks they were not supposed to do and this increased their workload. In a study, nurses of five counties reported that they had to do so many irrelevant affairs. Needham quoted from Barratt (1994) and reported that as a profession, nurses need to be clear regarding their role and uniqueness of their knowledge and skills that a nurse is able to do. Needham also stated that there are many ambiguities concerning the role of nurses both inside the system and in the society. A study regarding the duties of nurses showed that nurses do some affairs at different times, such as cleaner, nutritionist, carrier, office worker, clerk, receptionist, and physician, and it seems that all these professions lead to increased workload for nurses.

“Patients’ and families’ expectations and needs” was the other major source of workload. Literatures indicate that acuity of patient includes the amount of nurse’s standard workload that is derived from the dependency of the patient and the amount of direct care that the patient receives. If a nurse spends more time due to patient’s dependency and the population of that ward comprises many dependent patients, then higher workload would be expected. According to the workload model, patient is an important determinant for the main nursing workload for clinical set. According to the local level model, diverse needs of families can increase the workload. Moreover, reports illustrate that most of the time, patients expect more direct care than what is really needed; therefore, it leads to patient–nurse dissatisfaction.

**Limitations and strengths**

Emerged patterns and structures in qualitative studies are
context-dependent; this restricts the applicability of the findings. However, the maximum variation in the sampling from different parts was one of the strengths of this study, which increases the application of the findings.

**Conclusions**

Findings of this study show that there is a deep and widespread imbalance between resources and ability and competencies of nurses on one hand and tasks and expectations on the other. This imbalance is the main cause of increased nursing workload. Findings of this study indicate that educational and clinical managers must necessarily consider allocating resources and also adopt approaches for supplying resources and educating qualified nurses. Clarification of nursing job description should also be done. Furthermore, the findings of the study can be the basis for the development of tools to measure nursing workload. Given the ambiguity of the workload concept despite multiple texts, further analysis of this concept is proposed.

**Acknowledgments**

This paper was derived from a PhD thesis on research carried out with the financial aid of School of Medical Sciences in University of Tarbiat Modares. Many thanks go to the officials, authorities, participants, and all those who helped in conducting this research.

**References**

1. Myny D, Van Goubergen D, Gobert M, Vanderwee K, Van Hecke A, Defloor T. Non-direct patient care factors influencing nursing workload: A review of the literature. J Adv Nurs 2011;67:2109-29.
2. Needham J. Accuracy in workload measurement: A fact or fallacy? J Nurs Manag 1997;5:83-7.
3. De Cordova PB, Lucero RJ, Hyun S, Quinlan P, Price K, Stone PW. Using the nursing interventions classification as a potential measure of nurse workload. J Nurs Care Qual 2010;25:39-45.
4. Jakob SM, Rothen HU. Intensive care 1980-1995: Change in patient characteristics, nursing workload and outcome. Intensive Care Med 1997;23:1165-70.
5. Janiszewski Goodin H. The nursing shortage in the United States of America: An integrative review of the literature. J Adv Nurs 2003;43:335-43.
6. Liang YW, Tsay SF, Chen WY. Effects of Nurse Staffing Ratios on Patient Mortality in Taiwan Acute Care Hospitals: A Longitudinal Study. J Nurs Res 2012;20:1-7.
7. Baraz Pordanjani S, Shariati A, Alijani H, Moein Mosavi B. Assessing barriers of Nurse-patient's effective communication in educational hospitals of Ahwaz. Iran J Nurs Res 2010;5:45-52.
8. Aein F, Alhani F, Mohammadi E, Kazemnejad A. Struggling to create new boundaries: A grounded theory study of collaboration between nurses and parents in the care process in Iran. J Adv Nurs 2011;67:841-53.
9. Demerouti E, Bakker AB, Nachreiner F, Schaufeli WB. A model of burnout and life satisfaction amongst nurses. J Adv Nurs 2000;32:454-64.
10. Chang EM, Hancock KM, Johnson A, Daly J, Jackson D. Role stress in nurses: Review of related factors and strategies for moving forward. Nurs Health Sci 2005;7:57-65.
11. Al-Kandari F, Thomas D. Adverse nurse outcomes: Correlation to nurses’ workload, staffing, and shift rotation in Kuwaiti hospitals. Appl Nurs Res 2008;21:139-46.
12. Carayon P, Gürses AP. A human factors engineering conceptual framework of nursing workload and patient safety in intensive care units. Intensive Crit Care Nurs 2005;21:284-301.
13. Cimiottti JP. Staffing level: A determinant of late-onset ventilator-associated pneumonia. Crit Care 2007;11:154.
14. Tarnow-Mordi W, Hau C, Warden A, Shearer A. Hospital mortality in relation to staff workload: A 4-year study in an adult intensive-care unit. Lancet 2000;356:185-9.
15. Hugnonet S, Uçkay I, Pittet D. Staffing level: A determinant of late-onset ventilator-associated pneumonia. Crit Care 2007;11:R80.
16. Wilkins K, Shields M. Correlates of medication error in hospitals. Health Rep 2008;19:7-18.
17. Carayon P, Gurses AP. Nursing workload and patient safety—A Human factors engineering perspective. An evidence-based handbook for nurses. Rockville, MD: Agency for Healthcare Research and Quality; 2008.
18. Myny D, Van Hecke A, De Bacquer D, Verhaeghe S, Gobert M, Defloor T, et al. Determining a set of measurable and relevant factors affecting nursing workload in the acute care hospital setting: A cross-sectional study. Int J Nurs Stud 2012;49:427-36.
19. Polit DF, Tatano C. Essentials of nursing research, methods, appraisal, and utilization. 6th ed. Philadelphia: Wolters Kluwer Health/Lippincott Williams and Wilkins; 2006.
20. Speziale HS, Carpenter D. Qualitative research in nursing, advancing the humanistic imperative. 4th ed. Philadelphia: Lippincott williams and wilkins; 2007.
21. Elo S, Kyngäs H. The qualitative content analysis process. J Adv Nurs 2008;62:107-15.
22. Holloway I, Wheeler S. Qualitative research for nurses. Australia: Wiley-Blackwell; 1996.
23. Duffield C, O'Brien-Pallas L. The causes and consequences of nursing shortages: A helicopter view of the research. Aust Health Rev 2003;26:186-93.
24. Antigoni F, Pediaditaki O, Theofanidis D. Nursing staff under heavy stress: Focus on Greece A critical review. Int J Caring Sci 2011;4:11-20.
25. Buerhaus PI, Donelan K, Ulrich BT, Norman L, DesRoches C, Dittus R. Impact of the nurse shortage on hospital patient care: Comparative perspectives. Health Affair 2007;26:853-62.
26. Keenan P. The nursing workforce shortage: Causes, consequences, proposed solutions. Issue Brief (Commonw Fund) 2003;619:1-8.
27. Gurses AP, Carayon P, Wall M. Impact of performance obstacles on intensive care nurses’ workload, perceived quality and safety of care, and quality of working life. Health Serv Res 2009:44:422-43.
28. Seago JA, Spetz J, Mitchell S. Nurse staffing and hospital ownership in California. J Nurs Adm 2004;34:228.
29. Blay N, Duffield CM, Gallagher R. Patient transfers in Australia: Implications for nursing workload and patient outcomes. J Nurs Manag 2012;20:302-10.
30. Safadi R, Jaradeh M, Bandak A, Froelicher E. Competence assessment of nursing graduates of Jordanian universities. Nurs Health Sci 2010;12:147-54.
31. Cheraghi MA, Salasli M, Ahmadi F. Factors influencing the clinical preparation of BS nursing student interns in Iran. Int J Nurs Pract 2008;14:26-33.
32. Alverson JF. The lived experience of precepting a new graduate registered nurse. Reno, Nevada, USA: University of Nevada; 2007.
33. Hobgood C, Villani J, Quattlebaum R. Impact of emergency department volume on registered nurse time at the bedside. Ann Emerg Med 2005;46:481-9.
34. Aiken LH, Clarke SP, Sloane DM, Sochalski JA, Busse R, Clarke H, et al. Nurses’ reports on hospital care in five countries. Health Affair 2001;20:43-53.
35. Hurst K. Relationships between patient dependency, nursing workload and quality. Int J Nurs Stud 2005;42:75-84.

How to cite: Khademi M, Mohammadi E, Vanaki Z. Resources–tasks imbalance: Experiences of nurses from factors influencing workload to increase. Iranian J Nursing Midwifery Res 2015;20:476-83.

Source of Support: This article is from the thesis sponsored by School of Medical Sciences, Tarbiat Modarres University,
Conflict of Interest: None declared.