# Nursing Staff Shortage: How About Retention Rate?

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## Abstract

*Background:* The main task of health managers is to select and hire efficient personnel and to retain them.

*Objectives:* It is therefore necessary for managers to be aware of the status of their staffs. Due to the lack of access to information about nurses' retention rate in Iran, the researchers intended to design this study and perform it in public and private hospitals in Isfahan.

*Methods:* This is a retrospective study based on information available in the past five years. In this study, in coordination with the competent authorities by completing a pre-prepared form, the necessary information was collected to measure the retention rate of nurses in public and private hospitals and the retention rate of nurses were calculated and reported.

*Results***:** The study showed that during the five years in 15 hospitals, in Isfahan form 2013-2017 totally 902 nurses had left their work in five years (89% women and 11% men), the majority of nurses were female (89%), the highest leaving was in 2013 (229 individuals) and the lowest leaving was in 2017 (125 individuals). Most of the departures in public hospitals were related to Completion of national academic obligations (58%), retirement (23.4%), sickness absenteeism and maternity leave (20.2%), resignation (16.4%). and extrusion (3%). Most of the departures in private hospitals were due to resignation (31.2%), sickness absenteeism and maternity leave (15.4%), retirement (8.2%), and extrusion (0.4%). Also, the maximum retention in public centers was (95.8%) and the minimum was in private hospitals (76%). Nurses' retention rate was increased from 2013 to 2017.

*Conclusion:* Overall, the results of this study showed the large number of resignations in non-governmental centers indicate that nursing managers in these centers need to pay more attention to increasing job satisfaction and safety of nurses.

*Keywords: retention, human resource management, nursing administration, leaving work*

## Introduction

Leaving the job in various forms of displacement, absenteeism, transfers and dismissal has been observed in all organizations and its negative effects are discussed. Displacement not only leads to a loss of employee revenue, but organizations also face a decline in productivity. Obviously, there is a relationship between patients' satisfaction, which is mainly borne by nurses, with the quality of their care. Therefore, the presence of capable nurses interested in their work and with desire to stay in this difficult and responsible profession is one of the secrets of the success of medical centers [1].

In Iran, 150,000 nurses work in hospitals and medical centers and currently the national average nurse/bed ratio is 0.73 but the world standard is 1.8 and 2 to 6 thousand more nurses is needed [2]. There are several reasons for this shortage of staff, one of which is the early leaving the health

care system [3]. The shortage of nurses and the high rate of abandonment in many countries has become a worrying challenge, and abandonment often results in the loss and lack of human capital of nursing [4]. as a result health care policy makers are often concerned about the shortage of staff in nursing.

For this purpose and to measure the number of nurses coming in and out of medical centers, the proportion of individuals who remained in the organization during a given period of time to total number of individuals who worked in the organization during that period was considered as the retention rate of nurses [5].

Although there is no accurate data on the retention rate and budget lost due to the exit of nurses in, Iran the evidence and experience of researcher show that many nurses leave their jobs each year. Statistics obtained from related research have shown that in the United States, the cost of moving and leaving nurses is about 22,000$ to 64,000$ [6,8]. Some studies have shown that the cost of leaving nurses is 1.3 fold of the salaries of nurses who left the system. Of course, the cost depends on many organizational or environmental factors such as urban or rural hospitals [9].

Numerous studies have investigated the rate of leave of nurses in different communities that this rate was in the range of 18% to 40% [10].

However, some researchers point out the benefits of leaving nurses such as less pay and overtime pay to new nurses comparing to previous nurses, entering nurses with new and creative ideas comparing to previous nurses, eliminating nurses with weak performance, but most studies have shown that staying nurses in their jobs can increase patient safety, reduce errors, increase nurses safety and satisfaction, reduce employment-related costs such as advertising and job interviews, reduce training and familiarization costs for newcomers [9]. Therefore, various strategies have been used to increase nursing retention. For example, changing the workplace of nurses through creating a supportive atmosphere by senior managers, involving nurses in clinical decision making related to providing services to clients, redesigning nurses' workplaces to create a favorable environment and reducing physical stress on them, creating a safe environment for nurses, providing flexible work plans, creating job opportunities; and increasing nurses' salaries [8,10,11].

Studies have also shown that work stress and work-related problems are inversely correlated with nurses' retention in their jobs. In addition, organizational and human resources have a direct relationship with the retention rate of nurses [12]. Organizations spend a great deal of money on recruiting, training and maintaining specialized human resources, but when they are unable to provide the conditions for their work, they will face the challenge of leaving the organization and these valuable forces will hardly and unhappily leave their organization and then, organization recruits well-trained and skilled workforces with little change in environmental conditions. The fact is that money is not all for keeping specialized human resource that managers think that if they pay money, workforces will stay [13].

Many studies have shown that increasing the number of nurses leaving their profession can lead to lots of economic losses and high costs [7,14,15]. This indicates that the effort and planning for nursing retention is important. Numerous measures have been taken in relation to the retention of nurses, part of which is related to how to increase retention [16].

Continuing or leaving job and its consequences have been considered by researchers in most countries of the world [16,17,18]. In 2009, Perin found that one of the important factors in prediction of relocation and leaving job by nurses was their job satisfaction. His studies also showed that job burnout is another important factor affecting nursing staff to leave the profession. Other factors such as the amount of nurses' salaries, gender (men are more likely to leave their job), marital status, number of children, and work experience can increase the willingness of nurses to leave their job and move [19]. Another study conducted in Australia in 2004 showed that professional factors such as independence in decision making, ability to use professional skills fully, influencing the improvement of organizational policies, and choosing the desired work plan influence the tendency to stay in the profession [20].

In addition, a large combined study was conducted in Belgium showing that nearly 30% of nurses intend to leave their job within the next year due to job dissatisfaction. A tendency to retain related to some of the characteristics of the nurses' workplace. For example, there was a lower tendency to stay in nurses of larger hospitals. Nurses 'workplace quality (such as support of nursing managers, good relationship between nurse and physician, and nurses' participation in decision making about the care provided) was also related to their willingness to stay [21].

Other studies have also confirmed that the tendency to stay in the profession is related to the age of the nurses. Older nurses usually have more stable workgroups and more job satisfaction than inexperienced nurses [22]. Older nurses are more likely to stay because they have spent more time to reach their current position or have previously tried other jobs. In contrast, younger nurses seek multiple experiences and may leave their careers [23].

A review of the studies conducted in Iran showed that there is no statistical evidence of nurses' willingness to stay and leave the profession in our country. In addition, most studies have focused on some of the factors affecting retention that are often cited in existing sources from other countries, and indigenous factors that are related to the status of nurses in our country have not been addressed. Therefore, we decided to conduct a multi-stage study to evaluate the retention rate of nursing in Iran and compare it with previous years based on statistics and figures available in health centers. Then, by doing another combination research (qualitative and quantitative study), the factors affecting retention are investigated.

The purpose of this study is to identify deeply and accurately retention rate of nurses in Isfahan city as one of the most important centers of the country and its results can provide information to inform about retention rate and design of executive interventions to reduce nursing leave. It is hoped that designing and implementing these interventions will be an effective step in reducing the costs associated with this important issue.

**Methods**

This study is a retrospective descriptive study that collected data on nurses' retention during the years 2013 to 2017 from relevant documentation. Samples in this study were 15 private and, public, hospitals in Isfahan and the enroll criteria was contribution with the researcher. Some centers were excluded due to lack of statistics in the desired years or lack of cooperation.

Sampling was done through census in all public and private health care centers in Isfahan. Data collection was done by completing a check list for each health center. The main data was obtained using the propotion of nurses' retention rate in different health centers[5,24].

$$\frac{\text{Number of nurses at the beginning of the year - Number of nurses who left the hospital}}{\text{Number of nurses at the beginning of the year}} = \text{the anual retention rate of nurses}$$

In this cross-sectional study, a letter from the Nursing Research Center was prepared and referred to the centers after contacting the Isfahan Province Deputy of Treatment and determining the number of treatment centers in the city. The researcher, with the help of project colleagues, collected the required information based on a form after coordinating with the centers and obtaining their consent. The form preapared base on information which should be collected for retention rate calculation and some important demographic information. The mountly plan of all wards in the hospital was reviewed, the total number of nurses in different months of the year was assessed and the required information was gathered and charted inthe form. The number of nurses at the beginning and at the end of each year, and the persons who left the organization and their reasons for leaving, which are indicated in the form (completion of internship, retirement, dismissal, etc.), were used in analyzing the results. Data were analyzed by SPSS software and reported.

SPSS software version 18 was used to analyze the results. Descriptive statistics (frequency and maen) were used to compare retention rates in different centers.

## Results

Findings of the study were obtained by examining 15 hospitals that collaborated and gave their statistics. The results showed that totally 902 nurses leaved theses hospitals in five years (89% women and 11% men).the highest leaving was in 2013 (229 individuals) and the lowest one was in 2017 (125 individuals). The most leave ratio were amoung nurses who was in early work experiences (1-10 years' work experience)

The results of this study also showed that the highest percentage of leaving the organization because of the retirement was in 2013 (31%) in public hospitals. Accordingly, the highest percentage of leaving the organization because of the finished commitment was also in public hospitals in 2013(57%). The highest percentage of leaving the organization was in private hospitals (75%) in 2014. Other issues such as sickness absenteeism and maternity leave are less important and most of them are in public hospitals in 2014. The number of fired cases is much lower than the rest of the cases over these years with the highest rate of 3% in public hospitals in 2016 (table 1).

*Table 1: Nurses Who Left Isfahan Hospitals in Five Years (2013-2017)*

| | Public hospitals | | | | | | | | | | | | Privet hospitals | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2013 | | 2014 | | 2015 | | 2016 | | 2017 | | Mean | | 2013 | | 2014 | | 2015 | | 2016 | | 2017 | | Mean | |
| | Frequency | Percent | Frequency | Percent | Frequency | Percent | Frequency | Percent | Frequency | Percent | Frequency | Percent | Frequency | Percent | Frequency | Percent | Frequency | Percent | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| Retired | 41 | %31 | 45 | %28 | 24 | %15 | 27 | %30 | 11 | %13 | 148 | % 23.4 | 8 | %12 | 3 | %4 | 2 | %4 | 12 | %23 | 16 | %38 | 41 | %8.2 |
| Finished commitment | 75 | %57 | 63 | %40 | 66 | %41 | 35 | %39 | 51 | %62 | 290 | %58 | 0 | %0 | 0 | %0 | 0 | %0 | 0 | %0 | 0 | 0% | 0 | 0% |
| Resignation | 7 | %5 | 30 | %19 | 24 | %15 | 15 | %16 | 6 | %7 | 82 | %16.4 | 36 | %58 | 53 | %75 | 21 | %45 | 29 | %49 | 17 | %40 | 156 | %31.2 |
| extrusion | 0 | %0 | 0 | 0 | 0 | %0 | 3 | %3 | 0 | %0 | 3 | %3 | 0 | %0 | 1 | %1 | 0 | %0 | 1 | %2 | 0 | %0 | 2 | %0.4 |
| sickness absenteeism and maternity leave | 8 | %7 | 21 | %13 | 46 | %29 | 11 | %12 | 15 | %18 | 101 | %20.2 | 18 | %30 | 13 | %18 | 24 | %51 | 13 | %22 | 9 | %22 | 77 | %15.4 |
| Total | 131 | %100 | 159 | %100 | 160 | %100 | 91 | %100 | 83 | %100 | 624 | %100 | 62 | %100 | 70 | %100 | 47 | %100 | 57 | %100 | 42 | %100 | 276 | %100 |

The survey of the number of shifts of nurses who left public and non-public centers in these years also showed that they were often required shifts except in 2013 and 2014, where 45% of nurses who left their job were part-time staff.

In addition, the findings of this study showed that nurses who left public and privet hospitals had rotation shifts in almost all years studied.

The findings showed that the overall retention rate of nurses in the hospitals was increasing almost from 2013 to 2017. Overall, the retention rate in privet centers over the past few years has been significantly lower than in public centers (Table 2).

*Table 2:* **Nurse's Retention Rate in Isfahan Hospitals (2013-2017)**

| Hospitals | 2013 | 2014 | 2015 | 2016 | 2017 | Total |
|-----------|------|------|------|------|------|-------|
| **Public** | %89 | %93.44 | %92.62 | %95.8 | %95 | %93.65 |
| **Privet** | %85.5 | %76 | %85 | %89.8 | %92.4 | 81.6% |
| **Total** | %87.25 | %84.8 | %88.8 | %92.8 | %93.7 | 87.6% |

## Discussion

Overall, the results of this study showed that the majority of nurses who left Isfahan hospitals were female (89%), the highest leaving was in 2013 (229 individuals) and the lowest leaving was in 2017 (125 individuals). As in most previous studies, the ratio of female to male nurses is about 4 to 7 [25, 26], so the retention rate in males was almost more than females that can be attributed to the fact that males are responsible for providing family's expenses and often have to endure unwanted conditions. However, other studies show that men are less likely to leave the organization due to the possibility of continuing education and obtaining managerial positions [25, 26].

In addition, the findings of this study showed that many nurses left public hospitals by the completion of internship every year. However, the largest number of leaving from non-public hospitals annually during these years has been resignations.

This study showed that the highest level of retirement among nurses was in public centers during the years 2013-2015. However, in 2017, the highest level of retirement was observed in non-public centers. In general, these results can be attributed to the fact that in public centers, most nurses are employed in private centers after retirement, and in fact, private centers employ contract labor force more than formal labor force.

In addition, the results showed that during the years 2013 to 2017, the highest rate of leaving the organization in the public centers was completion of internship of the human resources, which indicates the widespread deployment of internship forces in the public centers. On the other hand, highest leaving from the organization was in the form of resignations in non-public centers.

Contrary to some studies that claim that nurses have more job satisfaction in private health care centers [28], the results of this study showed that in the research population, a large number of nurses resign from private hospitals annually, which can be attributed to job insecurity and dissatisfaction with the amount of salary received.

In addition, during the years 2013 to 2017, the majority of nurses who left both public and private health centers worked as shift personnel with rotation shift. Contrary to the results of other studies, this suggests that nurses working overtime shifts are likely to be dissatisfied and less likely to stay in hospital. In this study, those who left the organization often worked as a shift personnel. These results may be because most of the leaving are related to internship staffs who often work as a shift personnel in centers [29, 30].

The results also showed that during the years 2013 to 2017, other cases such as sickness absenteeism and maternity leave were more prevalent in non-public centers, which can be expected considering that most of the nurses were employed in private centers or retired personnel of other centers or work overtime for other public centers in these centers.

On the other hand, the results of this study show that the number of dismissals is very rare in both types of hospitals. Perhaps this is due to the severe shortage of nursing staff that causes a great limitation for managers. On the other hand, dismissals impose huge costs on the organization that managers often refuse to do [31].

The results of this study also showed that during these years the least retention, or in other words, the highest number of leaving the organization occurred in non-public centers. Table 2 also shows that the retention rate of nurses in research

centers has increased from 2013 to 2017. Therefore, in contrast to other studies and statistics in other societies that most of which reported a retention of 50% to 75% for nurses [32, 33], the study population of nurses has an acceptable retention.

Despite the hard conditions of nursing jobs, high volume of their work and the lack of financial and organizational support for nurses, nurses' retention has increased compared to previous years that may be related to changes in social factors such as rising unemployment rates in recent years. Researchers experience has shown that many nurses nowadays have entered the nursing profession not because of their interest in the nursing profession but because of the increased likelihood of finding a job. The increases in students in other medical sciences who want continue their study in nursing could be evidence to this claim.

The results of this study led to increasing the knowledge and information of nursing managers about the retention and leaving status of public and non-public health centers. Organizations need to provide conditions that internship nurses can and have desire to continue their job at the same center after completing their internship. However, the annual leaving of this volume of internship forces indicates that either the centers are not able to hire them or working conditions are not favorable enough for individuals to continue their work in the same center after completing their internship.

On the other hand, the large number of resignations in non-governmental centers indicate that nursing managers in these centers need to pay more attention to increasing job satisfaction and safety of nurses. Leaving the organization by a large number of trained and experienced personnel annually will not only impose hidden costs on the organization, but may also negatively impact the perceptions of other nurses working in those centers [34].

Therefore, today that many nursing students have applied for jobs in other countries and working conditions of public and non-public centers are not accepted by them, it is necessary that nursing managers look for ways to attract and increase nursing graduates to don not face with shortage of staff in the future.

Overall, the results of this study showed that nursing managers not only need to rethink about the way of recruitment and use of nursing staff, but also must look for strategies that nurses do not consider the motivation to stay in the profession only for material purposes and work in this profession with more interest and commitment.

The lack of accurate information about nurses at the beginning and the end of the year and the lack of a comprehensive and systematic system for recording nurses' entry and exit data wasted a great deal of time and energy on researchers, so that in some cases, several times were referred and presenting data was postponed the next day.

Failure to cooperate with some centers led to take time to do this investigation and report its results. During the two years, the introduction letter was again received from the Isfahan Nursing and Midwifery Research Care Center and we referred to the centers again, but some centers still did not present information despite changes in the management system.

There was no uniform system for providing this information. In some centers, the recruitment unit and in some centers, the nursing office was responsible for providing this information. This disrupted and prolonged the process of collecting information. In some cases, part of the information was extracted from the nursing unit and others from the recruitment unit.

## Conclusion

Women undergo a series of postpartum changes in their sexual function and satisfaction with body image. Women's understanding of their body image serves as effective factor in their sexual function. It seems that women's education of weight changes in the post-childbirth period, compatibility and acceptance with appearance changes relating to delivery and childbirth, recommendations on weight loss can serve as important strategies, helping change in body image and better sexual function. Change in sexual function of people has important role in marital relationship. Therefore, women in this period need receiving breastfeeding and nutritional as well as psychological support in connection with their body image. As a strategy, the health caretakers are suggested to go on with routine checkups after delivery and pay more attention to people's mental and sexual issues

## Conflict of interest

In this study no conflict of interest is at work.

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