

# Determining job satisfaction of nurses working in hospitals of Iran: A systematic review and meta-analysis

Mohammadreza Amiresmaili<sup>1</sup>, Mahmood Moosazadeh<sup>2</sup>

## ABSTRACT

**Background:** Employees feeling and attitude to their job has a significant role on their performance. Present study sought to investigate documents related to nurses job satisfaction, using systematic review and meta-analysis to estimate nurses job satisfaction in Iran.

**Materials and Methods:** Papers on nurses job satisfaction were identified by searching different data bases using appropriate key words. Seventeen studies were extracted using inclusion criteria. Data were analyzed using Meta-analysis command in STATA 11.

**Results:** Considerable heterogeneity is apparent in results of nurses job satisfaction studies. Although, according to random effect model, nurses total job satisfaction was estimated at 46.3 (CI: 32.1-60.4), this was estimated at 51.9 (CI = 51.1-52.8) using fixed effect model. Additionally, a reverse relationship was observed between nurses overall job satisfaction and their age.

**Conclusion:** Nurses' job satisfaction in Iran is at a good level compared with other countries. The more satisfied the nurses are with their working conditions, the less is their intention to leave their job. Dissatisfaction is associated with higher resignation and turnover, paying deep attention to efficient factors on nurses dissatisfaction and trying to overcome them is important to improve nurses' working conditions.

**Key words:** Iran, job satisfaction, meta-analysis, nurse, systematic review

## INTRODUCTION

Manpower is the most important and the most valuable asset of any organization and success or failure of every organization strongly depends on the performance of manpower.<sup>[1-3]</sup> Hospitals, as organizations that play an important role in health of people in society, are not only excluded from this issue, but they also rely more on manpower than other organizations because they are labor intensive in nature.<sup>[4]</sup> Having various medical personnel including nurses, different technicians, and administrative and logistics personnel, every hospital provides services for patients; among the personnel mentioned above, nurses are of great importance as the biggest hospital employees.<sup>[5-7]</sup> A nurse is an important member in a health team and has various roles such as caring, supporting, treating, coordinating, advising, managing, educating, and doing

research. That is, a nurse is in charge of taking care of and supporting patients, coordinating among patients and physicians and patients and their families, transferring patients or care-providers' requests and needs (ward managing task), prioritizing patients visits, making timely decisions about emergency patients, teaching patients and health team including interns, residents, etc., doing researches about care methods and about reducing patient's average length of stay.<sup>[8]</sup>

Nurses cannot help organizations succeed well unless they both achieve necessary skills and specialties and work enthusiastically.<sup>[9]</sup> Job satisfaction, as an emotional condition, which results from evaluation of individual's occupational experiences, is one of the main important signs of job enthusiasm.<sup>[10]</sup> Studies show that nurses' job satisfaction affect the quality of services, nurses — patient relations,<sup>[5,11,12]</sup> quality of nurses' lives,<sup>[13]</sup> nurses' morale,<sup>[14]</sup> reduction of job burnout,<sup>[15]</sup> and reduction of staff absentee rate.<sup>[16]</sup> Correlations between job satisfaction and each of these factors vary from study to study, and results from individual studies appear to conflict with each other. Furthermore, job satisfaction is a complicated and multidimensional concept,<sup>[17,18]</sup> which includes employees' feeling about various elements inside and outside the job.<sup>[11]</sup> Since some of the above-mentioned conflicts in the literature are the case in the context of Iran,<sup>[5,11,14,17]</sup> we decided to review all

<sup>1</sup>Medical informatics research center, Institute of futures studies in health, Kerman University of Medical Sciences, Kerman, Iran,

<sup>2</sup>Research center for modeling in health, Institute of futures studies in health, Kerman University of Medical Sciences, Kerman, Iran.

**Address for correspondence:** Mr. Mahmood Moosazadeh, The Student Research Committee, Department of Statistics and Epidemiology, Faculty of Health, Kerman University of Medical Sciences, Kerman, Iran.

E-mail: mmoosazadeh1351@gmail.com

available studies and to combine qualified ones (according to predefined qualification score) in order to determine nurses' job satisfaction and its determinants as one of the main elements of service provision and finally to provide suitable documents for policy making in this field, as meta-analysis is a statistical procedure that permits the synthesis of quantitative research findings to advance theory and knowledge development, guide patient care, and develop policy.<sup>[19]</sup>

## MATERIALS AND METHODS

The present study is a systematic review (reviewing documents) to determine job satisfaction of nurses working in Iran's hospitals.

### Research question

Since several studies have been carried out regarding job satisfaction of nurses working in hospitals, the question is: how much is their general job satisfaction?

### Search strategy

To retrieve studies published electronically between 21/03/2001 and 09/02/2012, articles published in foreign and domestic journals, dissertations available from Persian information databases of SID (Scientific Information Database), Irandoc, Iranmedex, Magiran, Medlib, and English databases of ISI (Institute for Scientific Information), Pubmed and Google scholar, and WHO (World Health Organization) site were searched. For this search, we used Persian and English keywords or a probable combination of important, main and critical words. We searched the Persian keywords of "job satisfaction or job happiness, nurses and hospital" and English keywords of "hospital, nurse/nursing, job satisfaction, Iran/Iranian"; we also used name of provinces along with the conjunctions "and, or". Search was carried out between 15/03/2012 and 20/03/2012. Reference of the published studies was also checked to increase sensitivity and to choose more studies. The search was evaluated randomly by one of the researchers to ensure no study has been excluded. In order to avoid publication bias, we used Egger regression test, which did not show publication bias ( $P = 0.2$ )

### Study selection

Full text or abstract of all articles, documents, and reports were extracted. After excluding all repeated cases, full texts of the remaining articles were carefully studied and the related articles were selected.

### Quality evaluation

The objective, methodology, sample size, sampling method, data collection tools, variables assessment status, studied target group, and analysis status were examined using a

12 question checklist with one score for every question. Minimum acceptable score was 8 and, articles that achieved the minimum (or higher) score were selected, their related information was extracted and entered analysis trend.

### Data extraction

Data on article title, corresponding author, year of the study, sample size, study methodology, study place, and nurses' job satisfaction index were extracted and entered to a Microsoft Excel sheet.

### Studies inclusion criteria

All English and Persian studies that determined nurses' job satisfaction generally or in terms of physical environment, salary and benefits, supervision, coworkers, job promotion, work nature, work growth, and progress between 21/03/2001 and 09/02/2012 were included.

### Studies exclusion criteria

After studying and reviewing articles or abstracts, studies with the following features were excluded:

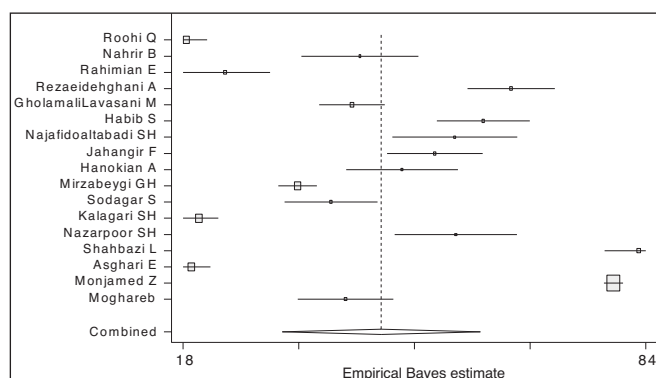
1. Studies whose target groups were not nurses
2. Studies that reported job satisfaction of all personnel and did not mention nurses' job satisfaction separately
3. Studies that were carried out qualitatively
4. Studies that exclusively evaluated the relationship between nurses' job satisfaction and all factors and did not mention job satisfaction separately
5. Studies that (in terms of sample size) did not represent the population or that did not use random method to determine samples
6. Articles that did not obtain the minimum score (8) of the checklist
7. Articles, documents, and reports that were published before 2001

### Analysis

Data was analyzed using STATA 11 (Manufactured by Stata Corp, Texas, USA). For every study, standard deviation of job satisfaction was calculated according to binomial distribution formula. Finally, heterogeneity index was determined using Q test. Random effect model was used to evaluate total job satisfaction. In addition, to minimize random dispersion between studies point estimation, findings of all studies were adjusted using Bayesian analysis. Finally, meta-regression method was used to examine effects of variables, which were determined as probable sources of heterogeneity (meta-regression command in STATA ver. 11). Point estimation of nurses' job satisfaction was calculated in forest plots (confidence interval of 95%); in which, square size represents weight of every study and lines in both sides of this square represent confidence interval of 95% [Figure 1].

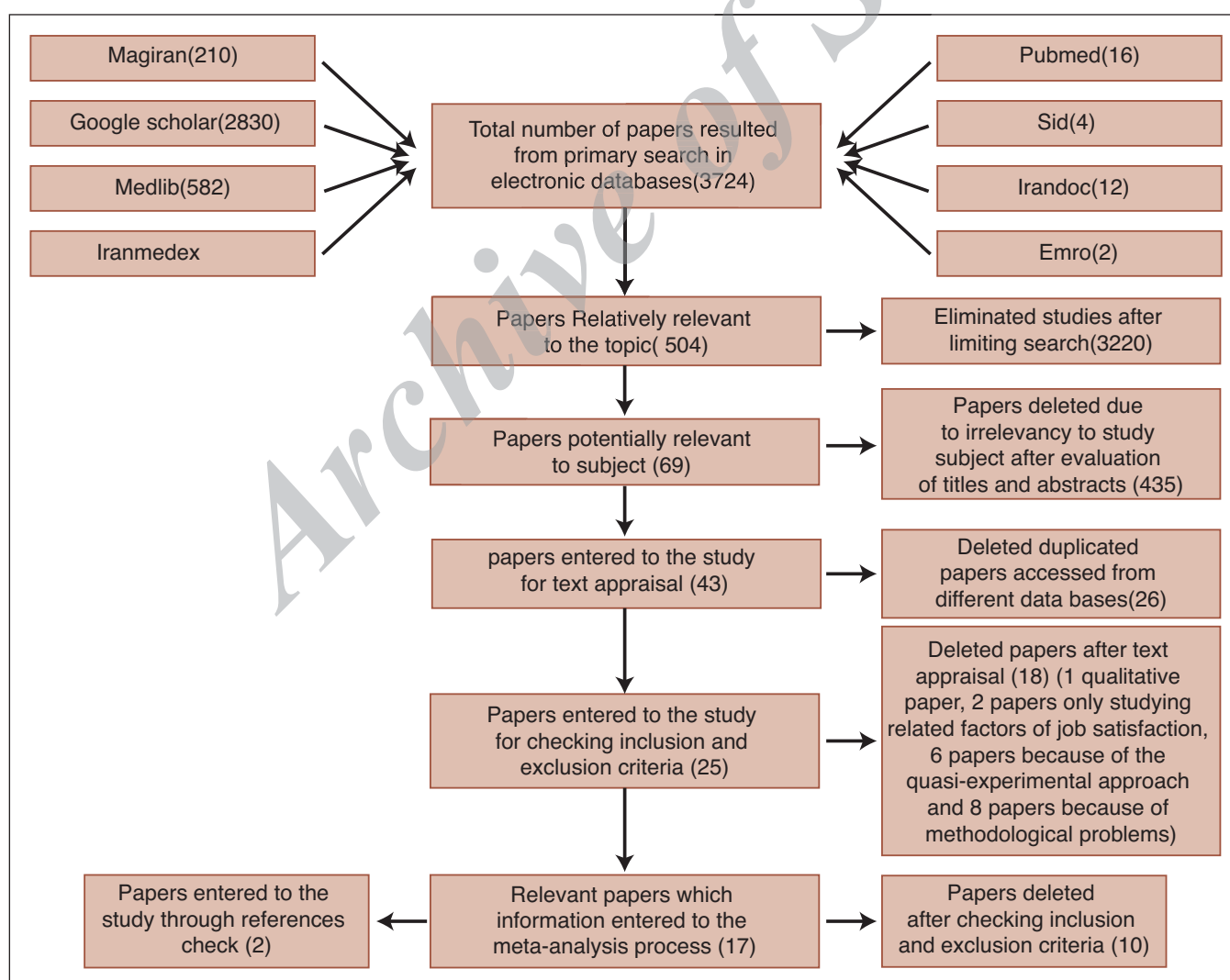
## RESULTS

A total of 17 qualified articles were selected after searching the mentioned sites [Flowchart 1 and Table 1],



**Figure 1:** Forest plot of nurses satisfaction of working in hospitals of Iran (Based on bayes analysis)

representing a total of 8545 people in all the 17 articles; 4 of which, reported sample size generally without distinguishing male and female; remaining ones, which specified gender, 3857 were female and 1132 were male. However, in most studies, nurses' job satisfaction was not reported according to their gender. Of them, 16 studies were carried out descriptively and 1 analytically. Whole population was studied in seven studies on a census base, while other studies used random sampling (simple or systematic). The highest weight was given to a study carried out by Monjamed *et al.*<sup>[20]</sup> This study was carried out on a sample of 3029 nurses at a national level, the strength of this study is its sample size and the fact that it has considered all nurses around the country in its study population, but the fact that 25% of the nurses did not participate in the study overshadows the results. In contrast, the lowest weight was given to the Nehrir *et al.* study,<sup>[2]</sup> which has studied nurses job satisfaction in two hospitals of Tehran. Randomized sampling method was



**Flowchart 1:** Papers search and review process

**Table 1: Job satisfaction percent of the nurses working in Iranian hospitals according to studies entered to meta-analysis and overall satisfaction**

Id	First author	Location of study	Year of publication	Quality appraisal score	Satisfaction level	Sample size		
						Male	Female	Total
1	Roohi	Gorgan	2008	10	18.4	172	459	631
2	Nehrir	Tehran	2002	8	43.2	33	99	132
3	Rahimian	Isfahan	2005	9	23.7	65	95	160
4	Rezaei Dehghani	Isfahan	2006	9	65	47	156	203
5	Gholamali Lavasani	Tehran	2009	10	42.1	79	318	397
6	Habib	Tehran	2002	10	61	48	252	300
7	Najafidolatabadi	Yasooj	2004	8	57	52	63	115
8	Jahangir	Tehran	2006	10	54	—	—	198
9	Manokian	Tehran	2006	9	49.3	—	144	144
10	Mirzabeygi	National	2006	11	34.3	278	780	1058
11	Sodagar	Hormozgan	2002	8	39	—	—	200
12	Kalagari	Gorgan	2006	11	20.2	185	535	720
13	Nazarpoor	Ahvaz	2006	8	57.14	—	—	120
14	Shahbazi	Yazd	2005	9	83.3	98	123	221
15	Asghari	Rasht	2010	10	19.1	39	680	719
16	Monjamed	National	2004	11	79.4	—	—	3029
17	Moghareb	Birjand	2005	10	41.1	36	153	189
	Met analysis (random effect model)	—	—	—	46.3 (32.1-60.4)	1132	3857	8545
Total	Heterogeneity test	—	—	—	Q=3564.2 (P=0.0001)	—	—	—

taken in one hospital, and the census method in the other hospital and no criterion for sample size is mentioned.

Among the studies entered in this research, the highest level of nurses' satisfaction was related to a study carried out by Shahbazi *et al.*<sup>[21]</sup> in 2004 on 221 people in which nurses' satisfaction was 83% with confidence interval of 78.1-87.9; however, when apprising the study it becomes evident that the method of data collection had faced some deficits. In addition, the lowest satisfaction was found in a study by Roohi in 2008 on 631 nurses; their satisfaction in this study was 18.5% with confidence interval of 15.5-21.4, this study received a good score according the quality appraisal [Table 2].

Heterogeneity analysis showed heterogeneity among these studies ( $P = 0.0001$ ,  $Q = 3564/3$ ); according to random effect model, average nurses' satisfaction was 46.3% with confidence interval of 32.1-60.4 ( $P = 0.0001$ ). However, according to constant effect model, average nurses' satisfaction was 51.9% with confidence interval of 52.8-51.1 ( $P = 0.0001$ ).

To review heterogeneity factors, susceptible variables were entered in the meta-regression model; as a result,

**Table 2: Adjusted results of effective factors in heterogeneity of studies (Meta regression model)**

Predictors	Coefficient	SE	t	P-value
Nurses mean age	-3.67	1.44	-2.55	0.03
Year of publication	1.57	2.5	0.6	0.5
Sample size	0.06	0.02	-2.9	0.02

sample size and nurses' average age were identified as heterogeneity sources.

## DISCUSSION

Nursing is one of the jobs that has a lot of ups and downs from the education time to retirement due to its difficulties. Long shift works, working more than one shift, and overtime are some of the factors that affect nurses' job satisfaction.<sup>[22]</sup> Besides, they spend a considerable proportion of their waking hours at work. If their work is failing to provide adequate personal satisfaction or even causing actual dissatisfaction, they are likely to be feeling unhappy or unfulfilled for long periods of each working day.

We aimed to evaluate the percentage of nurses' job satisfaction by reviewing the existing studies (8445



examined nurses). This meta-analysis revealed that satisfaction percentage of nurses working in Iran's hospitals is 46.2% considering heterogeneity of studies and according to random model. Although nurses' satisfaction level in fixed model is more than that in this figure, report of this index based on random model is confirmed due to studies heterogeneity. Present study indicated that as average age of nurses increases by one year, their satisfaction level decreases by 3.7% ( $P = 0.03$ ), that is, younger nurses have more energy and motive to work but working conditions along with other factors gradually reduce nurses' satisfaction as they become older; it should be taken into careful consideration by nursing authorities. These findings match the findings of a research by Moghareb *et al.*<sup>[23]</sup> Furthermore, a meta-analysis on nurses job satisfaction revealed job satisfaction was most strongly correlated with job stress, followed by nurse — physician collaboration, and autonomy.<sup>[24]</sup>

In addition, as sample size increases by one unit, nurses' satisfaction level has a meaningful decrease of 0.06% ( $P = 0.02$ ). This might be because of the fact that in studies with higher sample size, which report lower job satisfaction, more nurses take part in the study and the studies can represent the society better; in contrast, in studies with smaller samples, however, mainly young nurses with more motives participate.

Concerning year of the study, nurses' job satisfaction has had a positive increase of 1.6 for every year; however, this change was not statistically significant. This positive change can be as a result of nurses' increased salaries in recent years because most studies, which have been carried out in the field of job satisfaction generally and nurses' job satisfaction specifically, have shown that dissatisfaction with salary and wages is the most important factor of job dissatisfaction in nurses. However, the previous studies suggested the effect of time varies across dimensions of satisfaction and it has not the same performance across all dimensions.<sup>[25]</sup>

Shahbazi,<sup>[21]</sup> Monjamed,<sup>[20]</sup> Rezaei Dehghan,<sup>[26]</sup> and Habib<sup>[27]</sup> reported nurses' satisfaction 83.26%, 79.4%, 65%, and 61%, respectively, 80.2%, 79.4%, 65%, and 61% more than the present meta-analysis. Among all studies, the lowest nurses' job satisfaction is related to a study by Roohi (18.4%), which is 60.17% less than the total satisfaction level.<sup>[6]</sup> Nurses job satisfaction has also been evaluated in other countries, the highest job satisfaction is related to United States (41%), Scotland (38%), England (36%), and Canada (25%), respectively.<sup>[28]</sup> Rambrand *et al.*<sup>[29]</sup> reported that nurses' job dissatisfaction in Germany was 17%. It shows the fact that nurses' job satisfaction in this country is desirable compared with other studied

countries. The higher job satisfaction is, the less absentee rate will be, and the higher the dissatisfaction is, the more absentee rate and resignation will be;<sup>[30]</sup> thus, considering dissatisfaction factors deeply and trying to remove them in order to improve working conditions is of great importance.

## CONCLUSION

In recent years, several studies have been carried out in the field of job satisfaction of nurses as one of the most important member of service provision team. Present meta-analysis tried to provide a clear image of nurses' job satisfaction in Iran by systematically reviewing and collecting the studies carried out in the current decade. Although results of different studies in this field are not consistent and show huge dispersion (the reason can be due to various instruments used), which can be attributable to differences in sample size. Furthermore, this study showed that despite of all efforts and costs incurred studying nurses' job satisfaction, but the results are not translated to policies improving nurses job condition. The implication of the present study for whom who decide to investigate nurses job satisfaction is using a standardized instrument for this purpose, along paying attention to methodological issues regarding sampling. This study has both good and bad news for nursing authorities, the good news is that we are at a satisfactory level of nurses job satisfaction with a progressive trend in recent years, the bad news is that we might waste our limited research resources doing satisfaction measurement researches without a unified direction and instruments.

## Limitations

This meta-analysis included only published studies. Given the increased time and cost in identifying and retrieving gray literature, the decision was made to include only published studies in this review, however, most meta-analyses are characterized by this limitation. Additionally, the fact that reviewed studies did not apply similar instruments for data collection and that we could not control this difference, can be regarded as another limitation of the present study.

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