Review Article

Social Health and Related Factors in Nurses: A Systematic Review and Meta-Analysis

Khadijeh Sharifi[1], Zahra Sooki[2], Zahra Tagharrobi[1], Leila Ghanbari-Afra[3]

[1]PhD of Nursing, Trauma Nursing Research Centre, Faculty of Nursing and Midwifery, Kashan University of Medical Sciences, Kashan, IR Iran, [2]PhD of Reproductive Health, Trauma Nursing Research Centre, Faculty of Nursing and Midwifery, Kashan University of Medical Sciences, Kashan, IR Iran, [3]PhD Condidate, Trauma Nursing Research Centre, Faculty of Nursing and Midwifery, Kashan University of Medical Sciences, Kashan, IR Iran

Abstract

Background: The present study was conducted to evaluate the level of social health and related factors in nurses. **Materials and Methods:** This systematic review and meta-analysis were done based on searching English and Persian articles published in PubMed, Scopus, Web of Science, Science Direct databases, Google Scholar, Scientific Information Database, Iranmedex, and Magiran from inception to January 2022. The mean (SD) of nurses' social health scores, their various dimensions, and related factors were extracted from the retrieved articles. Data analysis was performed using Review Manager software, and $p < 0.05$ was considered significant. **Results:** A total of 36 studies were reviewed for systematic review and 34 studies for meta-analysis. The total mean (SD) of social health in 9281 nurses was 57.13 (6.82) (on a scale of 0–100) with a 95% confidence interval of 50.31–63.95. Social health of nurses showed a statistically significant relationship with some demographic–personal factors and occupational–organizational factors. **Conclusions:** The level of nurses' social health was moderate which needs to be improved. To improve the performance of professional roles and the nursing care quality, it is necessary for healthcare system managers, especially nursing managers, to consider individual and organizational factors affecting nurses' social health in planning and decision making and try to increase nurses' social health. Some of the limitations of this study were that only reviewing quantitative cross-sectional studies and couldn't combine words when searching in Iranian databases.

Keywords: *Meta-analysis, nurse, quality of life, social health, systematic review*

Introduction

Health is a coherent, complex, and multidimensional concept.[1] The social dimension of health is the most complex and controversial aspect of health due to the ambiguity in concept,[2] and experts have paid less attention to it.[3] Belloc and Breslow first coined the term social health in 1972. They believed that social health is a part of a person's health that indicates satisfaction or dissatisfaction with life and the social environment.[4] Park (2020) defines social health as social welfare, i.e., the integration of interpersonal and intrapersonal relationships in the societies in which the individual lives, and emphasizes the individual's commitment to society.[5] Some experts consider social health as social skills and performance or the ability to recognize each person as a member of the family and/or a society and pay attention to the social, economic, and general wellbeing of the individual in social organizations[6]

Researchers suggested multiple dimensions for the concept of social health. Keiys (1998) proposed the dimensions of social integration, social contribution, social coherence, social actualization, and social acceptance for social health.[7] The findings of Rafiei (2017) also showed that social health has the dimensions of "social interaction," "social responsibility," "conscientiousness," "attitude towards society," "empathy," "family relationship," and "social participation."[3] Larson (1996) refers to the two main dimensions of social adjustment (satisfaction with relationships and problems, playing social roles, and environmental adjustment) and social support (the degree of social relationships and satisfaction with these relationships).[8]

Social health is one of the important factors affecting the efficiency of human resources and the success of any organization.[9] Employees' social health has been shown to be influenced by job characteristics (such

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Address for correspondence:
Dr. Leila Ghanbari-Afra, Trauma Nursing Research Centre, Faculty of Nursing and Midwifery, Kashan University of Medical Sciences, Kashan, IR Iran.
E-mail: ghanbari.afra91@yahoo.com

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as communication, participation in the organization, commitment, loyalty, organization credibility, resource utilization, performance evaluation) and environments (such as social, cultural structure).[10] The hospital is one of the most challenging work environments, and nurses comprise the largest group of hospital occupational group.[11] Nurses' lack of social health is associated with many consequences, including fatigue, reduction of work-energy level, absence from work, use of nonprofessional employees to fill the existing gaps, increasing the nursing workload, increase of stress and anxiety,[12] job dissatisfaction,[12,13] reduction of the quality of life,[14] and self-efficacy,[15] preventing professionalization, and reducing quantity and quality of healthcare services provided to patients.[16]

Nurses seem to be exposed to physical, psychological, and social stressors more than other occupations[17] Various factors make nurses' health vulnerable, especially their social health, including constant direct contact with patients' suffering, staff shortage, poor working conditions,[18] multiple tasks, heavy workload, insufficient involvement and support,[19] rotational work shifts and the resulting sleep disorders, physical problems, the complexity of nursing services,[14,20] the conflict between work and family life and lifestyle disorders[20]; these factors can make their health, especially social health, vulnerable. Studies have reported different and contradictory results. According to the research of Lewko (2019)[21] in Poland, the lowest general health score of nurses is related to their social health dimension, but in Hui-Ling's study (2016)[22] in Taiwan, nurses' social health was reported to be better than their mental health. Also, Kim Jeong-Hee (2010)[23] in Korea showed that 3.6% of nurses had favorable social health; 54.6% were potentially prone to social health disorders, and 41.7% were members of the high-risk group. However, the social health of nurses had been reported moderate in studies of Farahaninia (2019)[14] and Javadi (2017) in Iran,[24] Zeng (2020) in China,[25] and it had been reported good in the studies of Palhares (2014) in Brazil[26] and Yusefi *et al*. (2015) in Iran (2015).[27] Vulnerability studies have also reported different dimensions of nurses' social health. Findings of Farahaninia (2019)[14] have shown the dimension of acceptance, Yusefi (2018)[11] showed the social flourishing (realization) dimension, and Javadi (2017)[24] reported the social coherence dimension less than other dimensions.

The findings of studies have also reported aspects of factors affecting on factors affecting the social health of nurses. Some studies have reported a significant relationship between social health and access to environmental facilities and services, an individual's evaluation of his social class and family, marital status, employment status, place of birth, field of study,[28] gender, age, family life,[29] rotational shift work,[30] self-efficacy,[10] employment status,[26] depression,[31] job satisfaction,[8] organizational position, and job interest,[32] and some studies have not reported a statistically significant relationship between the social health of nurses and marital status, educational status of parents and spouse, the hospital where they work,[26] history of physical illness, gender,[33] spiritual intelligence,[34] place of work,[35] age, work experience,[36] spouse's job, the number of children, and income.[9]

These positive feelings enhance nurses' health, well-being, job satisfaction, motivation, and productivity and create a balance between the goals of the organization and the needs and demands of clients and nurses.[37] Considering the importance of social health in the professionalization of nursing,[38] increasing the performance and quality of nursing care,[14] inconsistencies regarding the social health status of nurses and related factors, and the lack of a systematic review and meta-analysis in this field, the present study was conducted to answer the following questions: What is the social health level of nurses? What factors are related to nurses' social health?

Materials and Methods

A systematic review–meta-analysis was conducted in the PubMed, Science Direct, Scopus databases, Google Scholar, as well as Persian databases including Scientific Information Database, Iranmedex, and Magiran were reviewed from inception to January 2022. Due to the insensitivity of Persian databases to AND and OR search operators and to maximize the comprehensiveness of searches in these databases, a simple search was done with the Persian keywords: "nurse, medical staff, or health care provider" and "social health, quality of life, or general health" and in other databases with the terms: nurse, health worker, medical worker, medicine worker, social health, quality of life, and its MeSH terms with all possible combinations (using OR and AND operators) [Box 1].

Two researchers (Z.S and L.Gh) independently identified eligible studies, and in case of disagreement, the third researcher (Kh. Sh) was contributed. In the first stage of search in the mentioned databases, the related or slightly related titles were evaluated and 21131 studies were found (searching PubMed: 3653, Scopus: 7304, Cochran: 760, ScienceDirect: 6061, SID: 15, Magiran: 3338, and IranDoc: 0); 20773 articles remained after removing duplicate studies. The articles that were related to the purpose of the research were evaluated even with low relevance. In the second stage, examining the title and abstract, 93 related studies were extracted. In the third stage, after studying the text of the articles, qualitative evaluation, and assessing the reference of retrieved

Box 1: Box showing the search strategy in PubMed

((((nurse [Title/Abstract]) OR (health worker[Title/Abstract])) OR (medical worker [Title/Abstract])) OR (medicine worker[Title/Abstract])) AND ((social health [Title/Abstract]) OR (quality of life[Title/Abstract]))

articles for inclusion criteria, 36 studies were selected for systematic review [Figure 1]. The inclusion criteria of this systematic review were: all types of quantitative, descriptive, and cross-sectional studies in Persian and English in which the social health of nurses was reported using specialized questionnaires of Keys Social Wellbeing Questionnaire, World Health Organization Quality of Life—BREF, and 36-Item Short Form Survey (SF-36) and related factors. If necessary and in case of having specific questions or ambiguity regarding the data of the retrieved articles, needed questions were asked from the authors via email or phone call from the authors. Studies that reported nurses' social health qualitatively, or were qualitative, cohort, and experimental studies methods, did not have insufficient information, or done by unconventional questionnaires were excluded from the study. Records were managed using EndNote, and the quality assessment of eligible studies was done based on STROBE modified checklist. The 13 indicators examined in the qualitative evaluation included the following items:

Clarity of the objectives/hypotheses, Explain the place of study, Explain the study time, Explain Ethical Considerations, Adequacy of the sample studied, Clear explanation of the study method, Clear explanation of the inclusion criteria, Clear explanation of the exclusion criteria, Clear explanation of sampling method, Appropriate statistical analysis, Clear explanation of the used instruments, Explanation controlling of missing, and Method of calculating the number of samples. Each assessed item was given the following qualitative scores: "Yes" (1 point), "Can't say" (0.5 points), or "No" (0 points). Based on this, the range of scores is 0–13. Therefore, higher scores indicate higher quality of the study. If the score from the checklist was more than 8, high quality was recorded, between 4 and 8 was medium quality, and if it was less than 4, low quality was recorded. Medium- and high-quality studies were included in the study [Figure 2].

Data analysis was performed using Review Manager 5, and $p < 0.05$ was considered significant. Heterogeneity was investigated using I^2 and Q-test indices.[39] To investigate the common ratio, the fixed effect model and in some cases random effect were used. Tau squared (Tau^2) was used to investigate the variance between studies,[40] and funnel plot was used to test potential publication bias across studies. The mean and standard deviation of nurses' social health scores and their various dimensions were extracted from each study. The results of the studies were combined according to the sample size, mean, and standard deviation of each study using random and fixed effects models (in some cases) in meta-analysis.

Ethical considerations

This article is the result of a research project approved by Kashan University of Medical Sciences with the code of IR.KAUMS.NUHEPM.REC.1400.046 (grant number: 400113 on 2021.11.24).

Results

Out of a total of 21131 studies, 36 studies were reviewed for systematic review and 34 studies for meta-analysis. Finally, the level of social health in 9281 nurses was obtained using a combination of data in retrieved studies conducted a without time limit until January 2022. The characteristics of included studies in the systematic review are presented in Table 1. To evaluate the publication bias, a funnel plot was used, and the evaluation results showed no publication bias across studies and were deemed good [Figure 3]. Chi-square and I^2 statistic were used to check for heterogeneity which showed heterogeneity between studies ($p < 0.05$, Chi-square = 103.07, I^2 = 68%). Therefore, a random model was used to estimate the common effect of nurses' social health, and the fixed model was applied to estimate

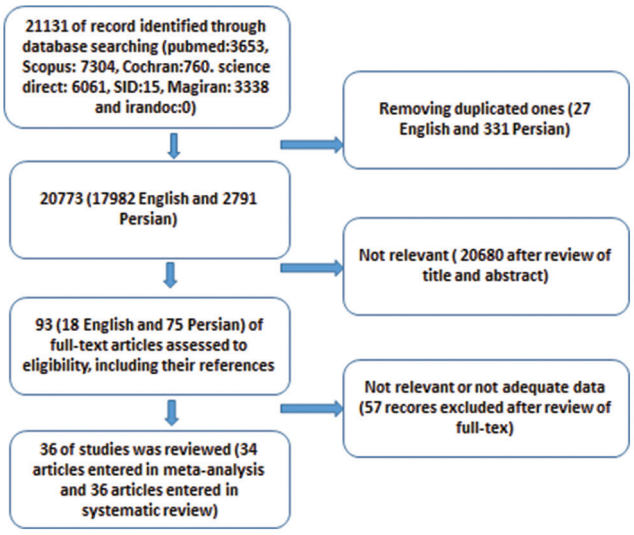

Figure 1: Flow diagram showing the articles selection process for review of meta-analysis

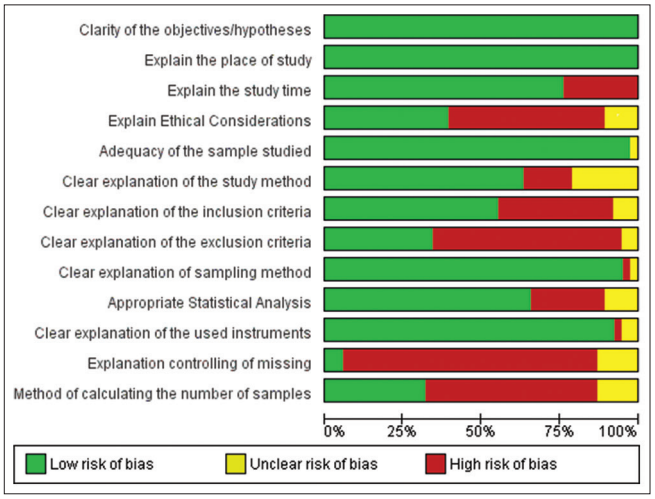

Figure 2: Total risk of publication bias

Table 1: Factors related to nurses' social health

Author name	Country/ City	Type of study	Aim of study	Number of samples/sampling/ tools	The most important findings
Abbasi.M 2016[41]	Iran/Arak	Correlation	The role of social welfare and academic vitality in predicting the academic motivation of nursing students	210 nursing students/ Available/Keys Social Welfare Questionnaire	Social wellbeing had a positive and significant correlation with academic motivation (r=0.183), Emotional Engagement subscale (r=0.103) and cognitive motivation (r=0.153). Social welfare was able to predict 0.33 of the variances of academic motivation.
Abdorazaghnejad M 2020[42]	Iran/Birjand	Cross-sectional	Investigating the relationship between spiritual intelligence and quality of life in nurses of Birjand teaching hospitals	187 Nurses/Stratified random/ Quality of Life Questionnaire sf36	Spiritual intelligence has no significant relationship with social function.
Allaf Javadi.M 2010[43]	Iran/Tehran	Cross-sectional	A comparative study of nurses' quality of life in special and internal surgery wards	250 nurses/Systematic randomization/Quality of Life Questionnaire sf36	There was no statistically significant difference between social health and the type of ward.
Asarudi.AA 2011[44]	Iran, Mashhad	Cross-sectional	Investigating the relationship between spiritual health and quality of life of nurses	93 Nurse/Convenience sampling/Quality of Life Questionnaire sf36	59.1% had a high quality of life in social functioning. Aging significantly improves the quality of life in the social dimension. The social dimension of quality of life had a positive and significant relationship with the dimensions of existential health (r=0.49), religious health (r=0.39), and spiritual health (r=0.48).
Atoof.F 2013[45]	Iran/Kashan	Cross-sectional	Survey of nurses' quality of life and determination of related factors in 2013	288 Nurses/Stratified Random Sampling/Quality of Life Questionnaire sf36	Social performance had no statistically significant relationship with age, gender, working experience, and current section of working
Azizi.M 2015[35]	Iran/ Hamedan	Descriptive-analytica	Evaluation of quality of life of nurses in hospitals affiliated to Hamadan University of Medical Sciences	300 nurses/ClassificationQuality of Life Questionnaire Brief form of the World Health Organization	The social dimension was higher in married people than the singles
Bazazan.A 2019[46]	Iran/Tehran	cross-sectional	Investigating the relationships between quality of life (QoL), mental health problems, and fatigue in hospital nurses	990 Nurses/CensusWorld Health Organization Quality of Life-BREF [WHOQOL-BREF],	Fatigue and quality of life had a significant relationship in nurses (r=−0.532)
Caliari.j 2022[47]	Brazil	cross-sectional	Quality of life of nurses during COVID-19 epidemic	572 Nurses/Available/ WHOQOL-BREF	Workload of more than 50 hours a week, using sleeping pills, increasing the number of patients, level of education, working relationships, increasing stress, and tensions were associated with a decrease in the social dimension of quality of life.
Chavoshian.SA 2015[48]	Iran/ Hamedan	Cross-sectional	Evaluating the role of social support in predicting the quality of life in nurses	187 Nurses/Census/World Health Organization Quality of Life Questionnaire	Among the items of social support, emotional support structures (r=0.16) and information (r=0.18) had a significant role in predicting the dimension of relationships in quality of life. Spiritual health and its structures were not significant in relation to the quality of life in nurses.

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Table 1: Contd...

Author Name	Country/ City	Type of study	Aim of study	Number of samples/sampling/ tools	The most important findings
Esmaeili.M 2016[49]	Iran/ Shabestar	Descriptive-correlation	Determining the relationship between job satisfaction and quality of life of nurses in Shabestar city	93 Nurse/Census/Quality of Life Questionnaire Brief form of the World Health Organization	There was a significant relationship between job satisfaction and social dimension (r=0.393)
Farahaninia.M 2019[14]	Iran/Tehran	Descriptive-correlation	The relationship between social health and quality of life in nurses	277 Nurses/Random cluster/ Research tools include Keys Social Wellbeing Questionnaire	The dimension of social participation had the highest score and the dimension of social solidarity had the lowest score. There was a significant relationship between quality of life and all dimensions of social health (r=0.415). There was no significant relationship between social health and demographic characteristics of nurses.
Halvani.Gh 2018[50]	Iran/Gonbad Kavous	Descriptive-analytica	The aim was determining the relationship between burnout and quality of life in nurses	175 Nurses/Available/World Health Organization Quality of Life Questionnaires	Nurses' social relationships were different in nurses with rotating and fixed working shifts; social relationships with emotional fatigue (r=0.267), personal performance (r=0.205), depersonalization (r=0.219), conflict (r=0.181), emotional fatigue intensity (r=0.258), and severity of depersonalization (r=0.196) have a significant relationship with the dimensions of burnout.
Jafari.S 2013[51]	Iran/Zanjan	Descriptive-analytica	Assessing the quality of life of nurses working in Zanjan University of Medical Sciences	241 Nurses/Multi-stage Stratified/Quality of Life Questionnaire sf36	Social performance was lower in women than men and decreased with reduction of social performance. The social performance of women and men was lower than the Iranian society.
Joodaki.Z 2019[52]	Iran/ Khorramabad	Descriptive-correlation	Determining the relationship between job satisfaction and quality of life of nurses working in Khorramabad teaching hospitals in 2019	200 nurses/Stratified random/ World Health Organization Quality of Life Questionnaire	Social relations had a statistically significant relationship in the dimensions of payment system (r=0.14), job position (r=0.164), organizational climate (r=0.249), and total job satisfaction (r=0.202).
Khoshnudi.M 2019[33]	Iran/Kashmir	cross-sectional	Determining the quality of life of nurses working in hospitals in Kashmar in 2018	230 Nurses/Census/Quality of Life Assessment Questionnaire Brief form of the World Health Organization	The social dimension was related to marital status.
Malekpour.F 2014[31]	Iran/Urmia	Descriptive-analytica	Investigating the relationship between quality of life and workload among nurses	120 NursesrandomQuality of Life Questionnaire sf36	High mental workload reduces quality of life in the field of social functioning (r=0.294)
Mohammadi.A 2018[15]	Iran/ Kermanshah	Descriptive-analytical correlation	Relationship between self-efficacy and social health among nurses of Taleghani Hospital in Kermanshah	100 nurses/simple accident/ Keys Social Wellbeing Questionnaire	There is a significant relationship between nurses' self-efficacy and their social health (r=0.474).

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Table 1: Contd...

Author Name	Country/ City	Type of study	Aim of study	Number of samples/sampling/ tools	The most important findings
Mohammadi.M 2016[37]	Iran/Zanjan	Descriptive-correlation	Determining the correlation between job stress and quality of life of nurses in intensive care units of medical sciences university affiliated hospitals in Zanjan	130 Nurses/Available/Quality of Life Questionnaire sf36	Social function was significantly associated with interpersonal relationships of job stress (r=205). Social function was higher in women than men.
Mohammadi.Z 2009[53]	Iran/Shiraz	Cross-sectional	Predicting the quality of life of nurses based on the perception of working difficulty	132 Nurses/World Health Organization Quality of Life Questionnaire	The dimension of satisfaction with social relations showed no significant predictive power of work difficulty variables and working years for this dimension of quality of life.
Moshtaghi.M 2020[54]	Iran, Mashhad	Descriptive-correlation	Investigating the mediating role of emotional expression in the relationship between resilience and quality of life of nurses	204 Nurses/clustered/World Health Organization Quality of Life Questionnaire	The social relations dimension had a significant positive relationship with resilience, positive emotion dimensions, and intimacy.
Mozaffari.N 2014[39]	Iran/Ardabil	Cross-sectional	Social welfare status in Iranian nurses: A cross-sectional study	281 Nurses/random/Keys Social Wellbeing Questionnaire	The social participation dimension had the highest score, and the social coherence dimension had the lowest. Social health was significantly associated with age (r=0.187), work experience (r=0.186), gender, hospital job satisfaction and income, previous familiarity with nursing, type of employment, and job position. There was no significant relationship between nurses' social health and marital status, educational status of parents and spouses, as well as the type of hospital.
Nasiry.ZGD 2016[55]	Iran/Sari	Descriptive-analytica	Evaluation the quality of life and its relationship with job stress in hospitals nurses in Sari	940 Nurses/Census/Quality of Life Questionnaire sf36	Social performance had a significant relationship with the dimensions of role (r=0.074), relationship (r=0.214), peer support (r=0.186), demand (r=0.298), and changes (r=0.195) of job stress. Social performance was not significantly associated with determination coefficient of job stress.
NouriSamarin.Sh 2017[56]	Iran/Ahvaz	Descriptive-correlation	Evaluation of quality of life dimensions with spiritual intelligence and its components in female nurses working in Ahvaz hospitals	200 nurses/Stratified random/ World Health Organization Quality of Life Questionnaire	Social relations had a significant relationship with the personal semantic component of spiritual intelligence (r=0.15). The semantic component can predict social relations at β=0.228.
Palhares.VDC 2014[26]	Brazil/ Botokato	Cross-sectional	Investigating the relationship between sleep quality and quality of life in nursing professionals working in rotational shifts	264 Nurses/Sampling not mentionedWHOQOL-bref	There was a relationship between the working hours of professionals and the social field (r=-0. 12)

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Table 1: Contd...

Author Name	Country/ City	Type of study	Aim of study	Number of samples/sampling/ tools	The most important findings
Parooi.M 2018[57]	Iran/Tehran	Descriptive-correlation	Predicting marital satisfaction based on attachment styles, defense mechanisms, and quality of life in married nurses in Tehran	250 Nurses/Available/Quality of Life Questionnaire sf36	The social performance dimension, along with other dimensions of quality of life, predicts 48% of the variance of marital satisfaction.
Rashidi.M 2017[58]	Iran/Tehran	Descriptive-analytica	Determining the relationship between quality of life of retired nurses and some demographic factors	150 nurses/Purpose-based/ Quality of Life Questionnaire sf36	History of physical illness and gender had no significant relationship with social functioning.
Rios.KA 2010[59]	Brazil/Sao Paulo	Cross-sectional	Assessing quality of life and depression in nursing technicians and nursing assistants	266 nurses/Sampling is not mentionedWHOQOL-BREF	There was a negative significant relationship between social relations and depression (r=-0.5).
Seyedoshohadaee.M 2020[60]	Iran/Qom	Descriptive-correlation	Determining the correlation between demographic variables and quality of life in nursing students	194 Nursing students/Census/ World Health Organization Quality of Life Questionnaire	The mean scores of social relations were higher in married people.
Shoorvazi.M 2016[13]	Iran/ Hamedan	Cross-sectional	The relationship between social health and job satisfaction in nurses	300 nurses/Available/Keys Social Wellbeing Questionnaire	Social health of 48.4% of nurses was at a good level. Social health had a significant relationship with nurses' job satisfaction (r=0.37).
Tohidi.Sh 2017[61]	Iran/ Hamedan	Cross-sectional	Investigating the relationship between the status of the nursing profession and social health	200 nurses/Available/Keys Social Wellbeing Questionnaire brief form	Social health was reported intermediate in 63% of the nurses. There was a statistically significant relationship between occupational prestige, job position, job satisfaction, job interest, and social health of nurses.
Yusefi.AR 2018[27]	Iran/Shiraz	Cross-sectional	Study of social factors affecting the social health of nurses in teaching hospitals of Shiraz University of Medical Sciences in 2018	340 Nurses/simple random/Keys Social Wellbeing Questionnaire	The social cohesion score had the highest score, and the actualization dimension had the lowest score. There was a significant relationship between social health level with education level (F=2.28) and type of employment (F=1.4), gender (F=1.16), and marital status (t=1.21).

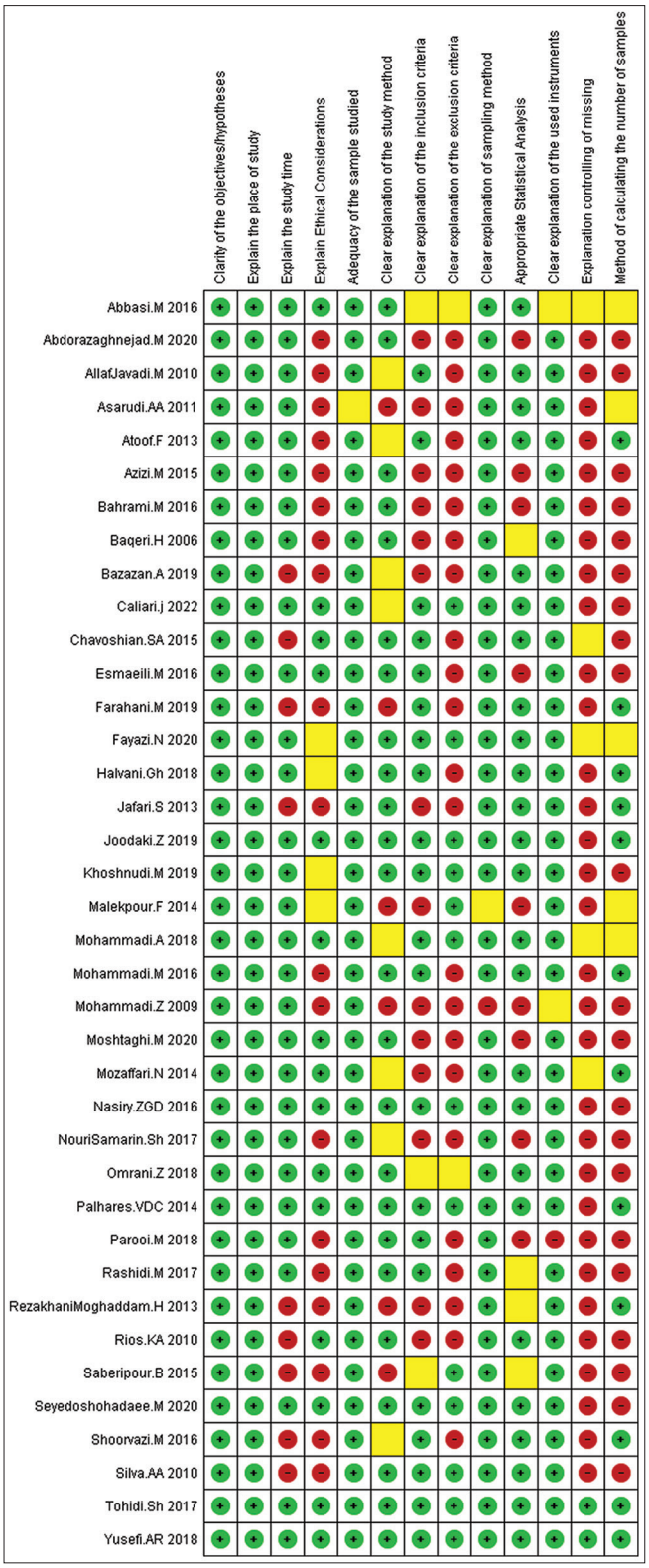

Figure 3: Risk-of-bias summary indicating the review authors' judgment about each risk-of-bias item for each included study. Green color, low-risk bias; red color, high-risk bias; yellow color, unknown bias

its dimensions (due to homogeneity). Figures 4-6 show the forest plot based on these models. These figures demonstrate the mean, confidence interval, and weight of each study.

The mean (SD) of age in the retrieved studies was estimated to be 31.51 (1.96) years. The results of various factors related to social health show that these factors can be divided into two categories of demographic–personal and occupational–organizational factors. Table 1 shows that social health has a statistically significant relationship with demographic–personal factors like age,[37] gender,[27,31,37,61] marital status,[11,34,35,60] level of education,[27] quality of life,[14] spiritual intelligence,[56] spiritual health,[44,48] academic motivation,[41] self-efficacy,[15] and depression[59] and also occupational–organizational factors like work experience,[37,51] mental workload,[33] work hours,[26] work shift,[50] satisfaction with hospital work, income, familiarity with nursing before employment,[26] occupational prestige, job position, interest in nursing,[61] job satisfaction,[13,49,52,61] job stress,[31,55] job burnout,[50] and employment status.[11]

In our pooled data, the overall mean (SD) of social health in 9281 nurses was 57.13 (6.82) with 95% confidence interval 50.31–63.95 [Figure 4]. Also, the mean (SD) of social health of nurses in social contribution was 14.71 (0.29), in social acceptance 12.36 (0.34), social coherence 11.18 (0.29), social integration 11.66 (0.30), and in social actualization 14.39 (0.31) [Figure 5]. The lowest and highest mean scores of total social health of nurses were observed, respectively, in the study of Esmaeili *et al.* (2016) with a mean value of 22.47 (95% confidence interval 13.59–31.35) and Parooi *et al*. (2018) with a mean of 73.4 with 95% confidence interval 66.97–79.83 [Figure 6].[49,57] As Figure 7 shows, the level of social health of non-Iranian nurses was higher than Iranian nurses, but it was not significant (63.52 vs. 56.68).

Discussion

This study aimed to evaluate the level of nurses' social health and its related factors. A total of 36 related articles were reviewed. According to the findings, the social health level of nurses was moderate which are in line with the findings of Zeng *et al*. (2020)[25] in line with the present study. However, Pourebrahimi *et al*. (2018)[62] reported the level of social performance of nurses to be low. Lewko's study in Poland (2019) also identified the correlation between lowest general health score of nurses with social health dimension.[21] Probably, this discrepancy between the study of Pour Ebrahimi and Lewko with the present study maybe due to the different scales. The Goldberg General Health Questionnaire was used in those studies. The general health questionnaire addresses the symptoms in the field of mental problems, and seven questions of the questionnaire are related to social functioning. However, these seven questions are related to life satisfaction and having positive feelings about oneself and do not cover different dimensions of social health. Also, it seems that the difference in received support, emotional and mental status, economic status, professional position and authority, a feeling of security, and encouragement to work can cause a difference in the social health of nurses.[1]

In the present study, the social contribution had the highest score, and the social coherence had the lowest score. Javadi (2017) reported the highest score for social coherence.[24] It seems that the difference in the results of the two studies is due to differences in the study population. The sample of present study was consisted of nurses and nursing students, but in Javadi's study, all disciplines of medical science were studied.

Based on the findings, social health has a statistically significant relationship with demographic–personal factors (age, gender, marital status, education level, academic motivation, quality of life, self-efficacy, spiritual intelligence, spiritual health, and depression). In Javadi's study (2017) and the study of Jafari Roudbandi (2016), age was also reported as a related factor.[24,63] As the age increases, the communication network expands, and so does the likelihood of having managerial positions that expand communication and promote other dimensions of social health. Similarly, studies by Fathi (2013),[64] Abdollah Tabar (2008),[65] and Javadi[24] revealed that social health has a statistically significant correlation with gender. Men experience lower social restrictions than women do in most societies, especially in the East, which makes men to be present in various fields without worries; as a result, they consider themselves important members of society and its promotion. Consistently, Nikvarz and Yazdanpanah (2015) reported a statistically significant relationship between social health and marital status.[66] Married life can strengthen a person's commitment to social affairs and increase social health by strengthening the spirit of commitment and creating a sustainable network of relationships. The findings of the Zaki study (2013) are consistent with the results of the present study, which revealed a statistically significant relationship between social health and education level.[67] It seems that with the higher level of education and academic motivation, the possibility of enjoying better economic and employment conditions, psychological and social support, and healthy lifestyles increase, which can improve the level of social health.[68]

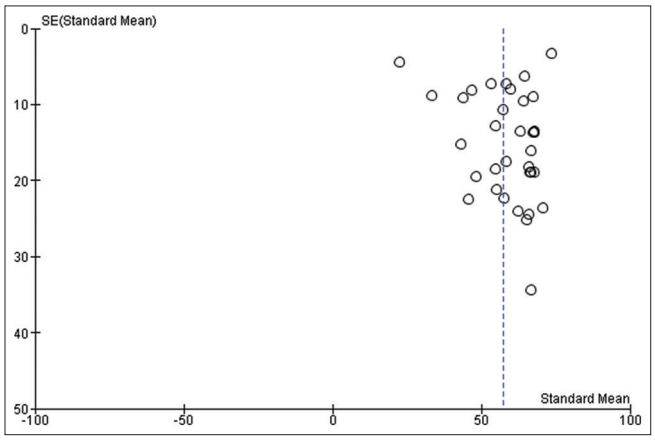

Figure 4: Funnel diagram of publication bias

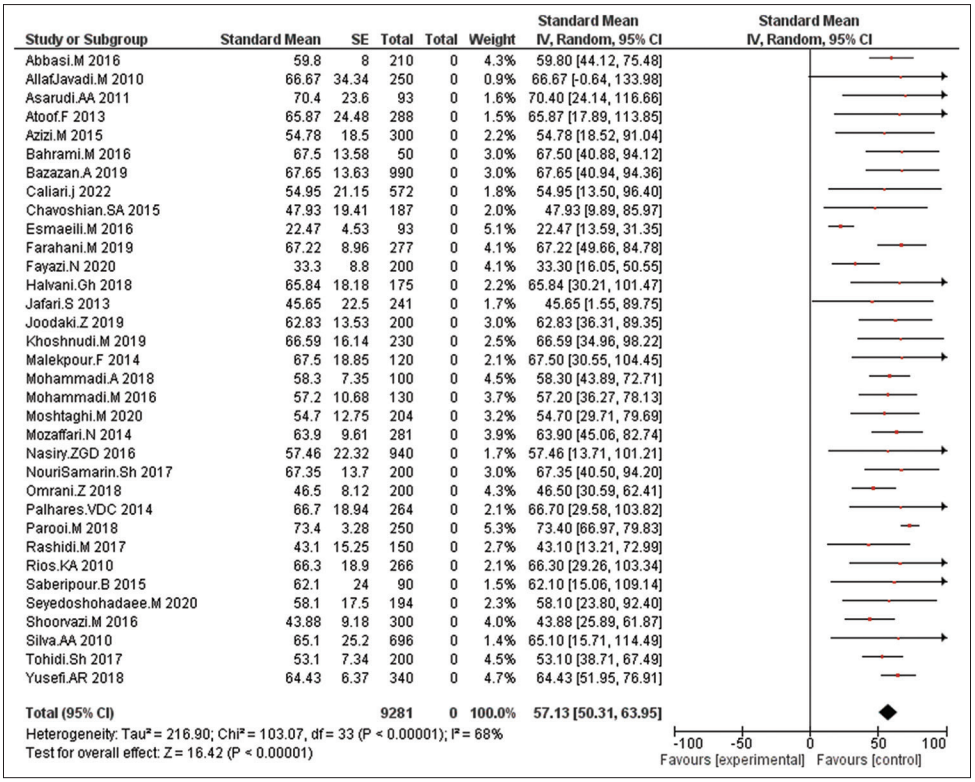

Figure 5: Mean score of nurses' social health and 95% confidence interval according to the author's name and publication year

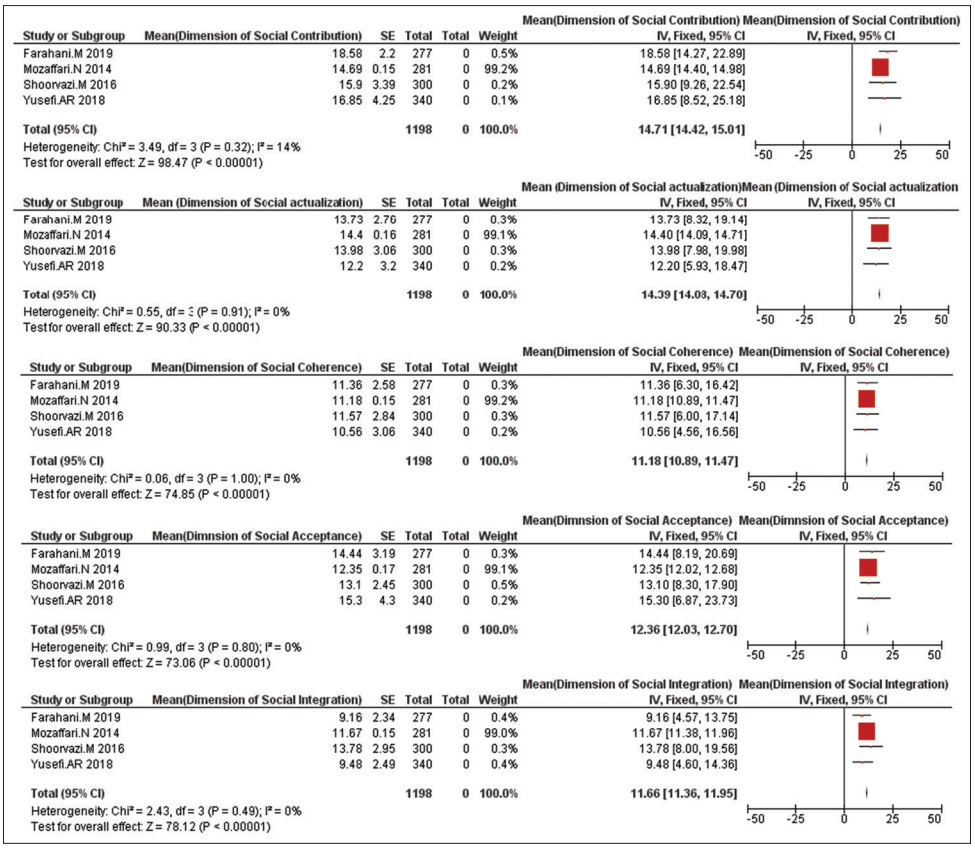

Figure 6: Mean score of nurses' social health dimensions and 95% confidence interval according to the author's name and publication year

In this study, social health was related to the quality of life. Najafi *et al*. (2018)[69] and Asaroudi *et al*. (2011)[44] also reported a significant relationship between the quality of life and the social dimension of health.

In the present study, nurses' social health showed a statistically significant relationship with self-efficacy. Solhi *et al*. (2012)[70] also found a significant relationship between general health and self-efficacy. Nurses with higher self-efficacy can perform better in the five dimensions of social health because they believe in their abilities and capacities.

In this study, social health had a statistically significant relationship with spiritual health. Consistently, Mehdad (2015) showed that spiritual health modulates stress and increases social health.[71] It seems that nurses with spiritual health and intelligence can act better and achieve social health in their occupational, social functions, interaction and cooperation with others, role-playing, and decision making using their religious and spiritual beliefs.

The findings showed a significant relationship between the social health and depression in nurses. Depression can affect social health and lead to job dissatisfaction, burnout, and early retirement through boredom, apathy, and vulnerability.[72,73]

The results also showed a statistically significant relationship between nurses' social health and occupational–organizational factors (job satisfaction, satisfaction with working in a hospital, job stress, mental workload, occupational prestige, job position, income, work experience, job burnout, work hours, work shifts, familiarity with nursing before entering the job, interest in nursing, and employment status).

Social health was also associated with job satisfaction. Fallahee (2007) reported that the social dimension of health had a significant relationship with job satisfaction and feeling satisfied with work in the ward. Job is an important source of achieving social status. Job satisfaction reduces psychological and social stress and promotes social and mental health.[74]

Moreover, social health was associated with job stress and mental workload, which was in line with the findings of Parsai *et al.* (2019).[75] Stressful work environments consume a lot of employees' energy and endanger their health in a long time, especially in nurses who suffer a lot of job stress due to the nature of their job.[71]

The findings of Fuji-Shiro (2010) are consistent with the current findings, showing a statistically significant relationship between social health and job status.[76] Occupational prestige is determined by social status, which includes education, work hardship, occupational responsibility, and job position[77] and is related to income and work experience and which can promote confidence,

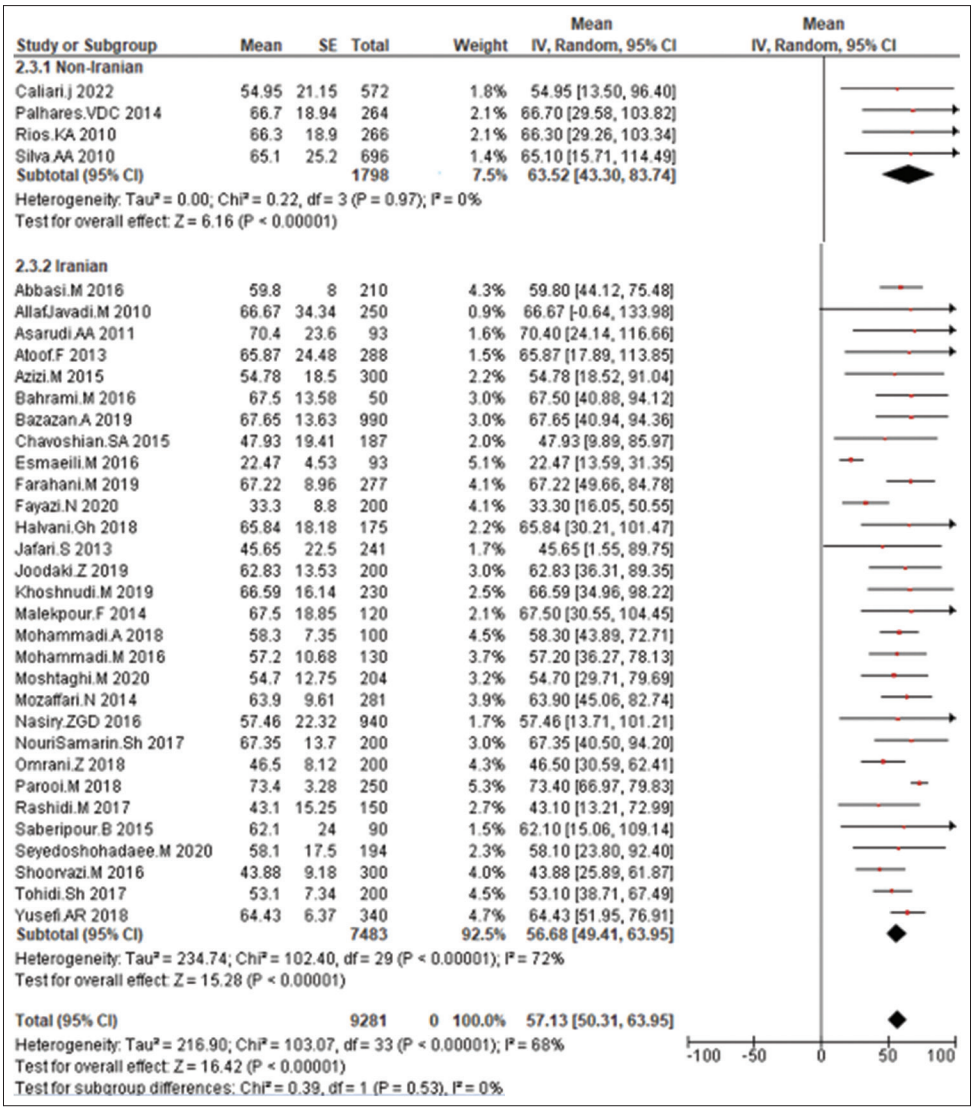

Figure 7: Comparison of social health score mean and 95% confidence interval according to the author's name and publication year in two groups of Iranian and non-Iranian nurses

communication, and social health and its dimensions. There was a significant relationship between social health and job burnout. Babaei Amiri *et al*. (2016)[78] found a significant relationship between mental health and job burnout. Job burnout a state of physical, emotional, and mental fatigue results from long-term exposure to a grueling job that can affect various aspects of health.

Findings showed a statistically significant relationship between work shifts and working hours and social health. In some studies, work shifts and mental workload are significantly related,[79] which causes and exacerbates stress. Also, work shifts can affect physical and mental health by disrupting the 24-hour rhythm and leading to reduced efficiency. Voluntary or forced long work hours also lead to job burnout, which reduces efficiency and absenteeism and ultimately reduces social health.[80-82]

Familiarity with nursing before entering the work and interest in nursing were other factors affecting social health. Applicants find it easier to overcome the challenges of nursing when they are more aware of nursing before entering the job. Having a positive outlook on the job and interest can lead to job satisfaction and affect various aspects of social health.[44,83]

Social health also showed a statistically significant relationship with employment status, nurses with permanent employment status experience more social health. Probably, with permanent employment status, the feeling of belonging to the organization and job security increase in this situation; therefore, stress and job burnout decrease, and social health improves.[84]

One of the limitations of this study was that only quantitative cross-sectional studies were included, so the impact of various factors on nurses' social health

could not be evaluated separately based on empirical studies. Moreover, it was not possible to combine words when searching in Iranian databases. As a strength of the study, articles that had only used valid and international questionnaires to assess the social health of nurses were included.

Conclusion

This systematic review and meta-analysis revealed that the mean score of social health of nurses and its various dimensions was moderate and significantly related to demographic–personal factors (age, gender, marital status, level of education, academic motivation, quality of life, self-efficacy, income, spiritual intelligence, spiritual health, and depression) and occupational–organizational factors (job satisfaction, satisfaction with working in a hospital, job stress, mental workload, occupational prestige, job position, income, work experience, job burnout, working hours, working shifts, familiarity with nursing before employment, interest in nursing, and employment status). Given that the social health of nurses affects the quantity and quality of nursing care and also patient satisfaction, it is recommended that healthcare managers and nursing officials consider factors affecting the social health level in their planning and policies to promote the social health of nurses.

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Conflicts of interest

Nothing to declare.

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