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# Prevalence, levels and related factors of burnout in nurse managers: A multi-centre cross-sectional study

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## Abstract

**Aims:** The aims of this study are to analyse the prevalence and levels of burnout syndrome in nurse managers and to evaluate the relationship between burnout and related sociodemographic, occupational and psychological factors.

**Background:** Burnout syndrome, defined as an emotional response to chronic stress, is a major problem among nurse managers.

**Methods:** The study was conducted using a cross-sectional survey design and data collected by the Maslach Burnout Inventory, the revised NEO Five Factor Inventory and the Educational-Clinical Questionnaire for Anxiety and Depression. The sample population consisted of 86 nurse managers from different hospitals from the Public Health Service of Andalusia, Spain.

**Results:** A total of 22.4% of the participants presented high levels of emotional exhaustion, 21% experienced depersonalisation and 57.6% had little sense of personal accomplishment. Working long shifts was related to burnout. Emotional exhaustion and depersonalization were predicted by depression, while personal accomplishment was predicted by conscientiousness, agreeableness and openness.

**Conclusions:** A total of 34.1% of the participants presented high levels of burnout, manifested by feelings of low personal accomplishment. Psychological and occupational factors play an important role in the development of this syndrome.

**Implications for Nursing Management:** Nurse managers should seek to detect burnout among staff and colleagues matching the risk profile for this condition and promote interventions to prevent it.

KEYWORDS
burnout, nursing management, occupational health, predictors, prevalence

## 1 | BACKGROUND

Consolidating earlier studies, the concept of burnout syndrome was firmly established by Maslach and Jackson (1981). They defined it as an emotional response to work, characterized by the following dimensions: emotional exhaustion (EE), or the feeling of inability to provide a service to others; depersonalisation (D), reflected as animosity or cynical behaviour towards others; and low feelings of personal accomplishment (PA), evidenced by decreased self-confidence, intolerance to frustration and impaired job performance.

Burnout is becoming increasingly prevalent among workers in many professional fields, but especially those exposed to chronic environmental stressors. One of the areas most affected is that of healthcare, within which nurses are considered the most vulnerable group (Molina-Praena et al., 2018). In this profession, daily work relies on teamwork and direct care for patients, a responsibility that generates close bonds and emotional involvement (de Oliveira et al., 2019).

The consequences of the high prevalence of burnout in nurses are directly reflected in the health institution where they are employed: increased absenteeism, abandonment of the profession, an impoverished working environment and worsened personal relations (Adriaenssens et al., 2017). These outcomes all impact directly on the quality of care and hence on the users of health services (de la Fuente-Solana et al., 2021). Personal repercussions suffered by nurses and nurse managers include physical and mental fatigue, difficulty in concentrating, poor organization of work, an increased number of errors, lack of energy, somatic symptoms, insomnia, anxiety and frustration (Velando-Soriano et al., 2020).

Within the public healthcare system, a vital role is played by the nurses responsible for the administration of its resources. The new approaches in this matter are framed in the democratic public ethics values, in which a governance model is proposed that responds to the uniqueness of the system and the organizational goals set for health care and public health. In this model, an essential element is the role of management positions and intermediate positions as key agents in achieving the goals of the organization, in the processes of transparency and accountability, in achieving health results and in the sustainability of the system (Royal Collegue of Nursing, 2018).

The tasks performed by nurse managers have evolved over time but are always based on the scientific evidence available and prioritize the patients' interests (Heeb & Haberey-Knuessi, 2014). Their aim is to facilitate the provision of high-quality care that is both effective and efficient and to maintain continuity between the different levels of care (Warshawsky, 2018). In addition to care management (Phillips et al., 2018), these nurses also provide a vital link between policymakers and the human and material resources employed (Furukawa & Kashiwagi, 2021). To successfully perform these tasks, nurse managers must identify and resolve problems arising in clinical care and organize the activities and priorities of the nurses they are responsible for (Cañadas-De la Fuente et al., 2016).

Plus, long workdays, nurse managers are constantly exposed to major stressors such as time pressure, demanding obligations, high levels of and the need to consider ethical dilemmas responsibility (Bjerregård Madsen et al., 2016). Moreover, they must sometimes mediate in conflicts within the work environment and respond to significant work overload, which can impair the work-life balance (Warshawsky, 2018) and increase job dissatisfaction (Ogbolu et al., 2018). If these persist, it can lead to the appearance of burnout (Gómez-Urquiza et al., 2017). Among their professional obligations, managers must employ a leadership style fostering staff motivation, safety, respectful communication, teamwork and the acquisition of knowledge and skills (Silva et al., 2017). As well as being role models for the nursing staff, in relations with patients and co-workers (Furukawa & Kashiwagi, 2021), nurse managers must help their staff prevent and/or manage the appearance of symptoms of the 'occupational phenomenon' of burnout (Cao & Naruse, 2019).

In this study of the above problems to occupational health, our aim is to (a) study the prevalence and levels of burnout suffered by nurses who perform health administration and management; (b) analyse the relationship between burnout syndrome and sociodemographic, work-related and personality characteristics and (c) describe the phases of burnout following the model proposed by Golembiewski (1–8).

## 2 | METHODS

### 2.1 | Study design

This multicentre cross-sectional study was carried out from August to October 2021 in hospitals and primary health care districts within the Public Health Service of Andalusia (SAS) in southern Spain.

### 2.2 | Sample

The sample consisted of 86 SAS nurse managers. Convenience sampling was performed among professionals, selected from 13 hospitals and 18 primary health care districts.

### 2.3 | Data collection

After informing the centres, the authors contacted the nurses working in the administration and management of health services to inform them about the study and the estimated time needed to complete the survey (40–45 min). Those who gave verbal consent to participate in the study were then given a battery of questionnaires to be completed. In every case, participation was voluntary, individual and anonymous. The questionnaires were administered in person only.

Approximately a sample of 1,064 people are working in the Public Health System of Andalusia as an intermediate position and dedicated to the administration and management of personnel, as well as their coordination within the Clinical Management Units. From them, we

have achieved to get the participation in our study a total of 122 nurse managers. One-hundred questionnaires were returned, of which 86 had been fully completed (response rate: 70%).

## 2.4 | Outcome measures

The questionnaires included the following questions regarding sociodemographic characteristics: age, sex, marital status and number of children. The work-related variables included the type of work shift (fixed or rotating. In our country, almost all nursing managers have fixed morning shifts but some of them can have rotating and on-call shifts), on-call obligations and seniority (both as a nurse manager and in the nursing profession). The following questionnaires were distributed.

The first questionnaire was the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981), Spanish version, validated by Seisdedos (1997). This instrument is a self-administered questionnaire consisting of 22 items, scored on a 7-point Likert scale and involving of three subscales corresponding to the respective dimensions of burnout: emotional exhaustion (EE) (nine items), depersonalisation (D) (five items) and personal accomplishment (PA) (eight items). A high level of burnout is defined according to the following scores for each dimension: $EE > 24$, $D > 9$ and $PA < 33$. This version of the MBI has a Cronbach's alpha reliability coefficient of 0.89 for *EE*, 0.68 for *D* and 0.83 for *PA*. A meta-analysis has verified that these reliability data can be generalized (Aguayo et al., 2011).

The revised NEO Five Factor Inventory (NEO-FFI) (Costa & McCrae, 1992) was used, which characterizes the 'big five' personality traits: *neuroticism*, or emotional instability; *extraversion*, or the openness to interpersonal relationships; *responsibility*, or the ability to regulate and control impulses, the possession and application of a sense of duty and the ability to achieve the personal objectives proposed; *agreeableness*, or respect and tolerance towards others, and *openness*, or the disposition to seek out and enjoy new personal experiences. The version of the NEO-FFI used in our study, validated for a Spanish-speaking population, consists of 60 items, 12 for each dimension, scored on a 5-point Likert scale (Costa & McCrae, 2002). It presents the following Cronbach's alpha reliability coefficients: 0.76 for neuroticism, 0.79 for extraversion, 0.82 for responsibility, 0.73 for agreeableness and 0.70 for openness.

The Educational-Clinical questionnaire (CECAD) (Lozano et al., 2007) was used to evaluate emotional disorders such as anxiety and depression, which consists of 45 items, of which 19 pertain to anxiety and 26 to depression. It is scored on a 5-point Likert scale, from 1 to 5. The Cronbach's alpha coefficient of reliability is 0.88 for anxiety and 0.92 for depression.

Finally, the participants were characterized according to the eight-phase model proposed by Golembiewski and Munzenrider (1988). This model classifies burnout as high or low, according to the score obtained for each dimension of the MBI questionnaire. Subjects are then further classified into different phases, according to the evolution of the burnout syndrome presented. Phases 1 and 2 correspond to a low level of burnout; phases 3–5 are moderate and phases 6–8 are high.

## 2.5 | Ethical considerations

This study was approved by the local Research Ethics Committee (1961-N-21) and always complied with the ethical guidelines of the Declaration of Helsinki (2013).

## 2.6 | Statistical analysis

Descriptive statistical analysis of the numerical variables was performed to obtain the means, standard deviations and maximum and minimum values of the data collected. For the categorical variables, percentages and frequencies were calculated.

Student's *t* test was used to compare the numerical variables for *EE*, *D* and low *PA*, as a function of the independent variables. Pearson's correlation coefficient was used to estimate the linear relationships between the quantitative variables. Finally, a multiple linear regression was applied for each dimension of the MBI questionnaire. All analyses were performed using SPSS 25.0 statistical software (IBM, Armonk, NY, USA).

# 3 | RESULTS

## 3.1 | Demographic profile

The study sample was composed of 86 nurses specialized in hospital administration and management. A total of 58.1% were female, 82.6% were married or in a relationship and 88.4% had children. A total of 80.2% of the nurses worked a fixed morning shift and 48.8% worked on-call duties (Table 1). The mean age of the nurses was 46.65 years. The mean duration of their current position was $128.24 \pm 114.41$ months, and in the profession, it was $281.67 \pm 90.192$ months (Table 2). The mean scores for the three MBI dimensions, for the five personality dimensions and for the CECAD dimensions, are shown in Table 2.

## 3.2 | Levels and estimated prevalence of burnout

The levels of burnout were determined according to the cut-off points proposed by Ortega-Campos et al. (2019) in their Spanish-language adaptation of the MBI questionnaire, categorizing the score obtained as low, medium or high for each dimension (Table 3). The results obtained showed that for *EE*, 22.4% of the participating nurses presented a high level, 21% presented a high level of *D* and a 57.6% presented a low level of *PA*.

**TABLE 1** Descriptive data for the categorical study variables

| Variable | % (*n*) | Variable | % (*n*) |
|---|---|---|---|
| Sex | | Marital status | |
| Male | 41.9 (46) | Single | 11.6 (10) |
| Female | 58.1 (50) | Married/in a relationship | 82.6 (71) |
| Work shift | | Divorced | 1.2 (1) |
| Rotating | 17.4 (15) | Separated | 4.7 (4) |
| Fixed-morning | 80.2 (69) | Widowed | 0 |
| Fixed-afternoon/evening | 2.3 (2) | Children | |
| Fixed-night | 0 | None | 11.6 (10) |
| On-call | | One | 18.6 (16) |
| Yes | 48.8 (42) | Two | 53.5 (46) |
| No | 48.8 (42) | Three or more | 16.3 (14) |

**TABLE 2** Descriptive data for the numerical study variables

| Variable | Mean (SD) | Min-max | Q1–Q2–Q3 |
|---|---|---|---|
| **Age, years (*n* = 86)** | 46.65 (7.16) | 32–63 | 41.75–45.50–51.25 |
| **Seniority: Workplace (*n* = 86)** | 128.24 (114.41) | 1–432 | 48.00–84.00–195.00 |
| **Seniority: Profession (*n* = 86)** | 281.67 (90.192) | 72–504 | 216.00–276.00–348.00 |
| **NEO-FFI** | | | |
| **Neuroticism (*n* = 86)** | 26.08 (6.045) | 12–41 | |
| **Extraversion (*n* = 85)** | 44.71 (6.665) | 31–58 | |
| **Openness (*n* = 86)** | 38.86 (6.349) | 21–52 | |
| **Agreeableness (*n* = 83)** | 47.04 (4.738) | 35–58 | |
| **Conscientiousness (*n* = 84)** | 48.76 (5.091) | 37–59 | |
| **CECAD** | | | |
| **Anxiety (*n* = 85)** | 32.93 (9.675) | 19–66 | |
| **Depression (*n* = 85)** | 44.07 (12.946) | 26–92 | |
| **MBI** | | | |
| **EE (*n* = 85)** | 16.94 (11.225) | 0–46 | |
| **D (*n* = 86)** | 5.64 (5.22) | 0–25 | |
| **PA (*n* = 85)** | 39.80 (6.914) | 11–48 | |

Abbreviations: CECAD, Educational-Clinical Questionnaire on Anxiety and Depression; MBI, Maslach Burnout Inventory; NEO-FFI, Revised NEO Five Factor Inventory; Q1, first quartile; Q2, second quartile (median); Q3, third quartile; SD, standard deviation; Seniority, presented in months.

**TABLE 3** Categorization of levels of burnout by domain

| Burnout level | EE % (*n*) | D % (*n*) | PA % (*n*) |
|---|---|---|---|
| Low | 47.1 (40) | 43 (37) | 57.6 (49) |
| Medium | 30.6 (26) | 36 (31) | 28.2 (24) |
| High | 22.4 (19) | 21 (18) | 14.1 (12) |

Abbreviations: D, depersonalisation; EE, emotional exhaustion; PA, personal accomplishment.

## 3.3 | Phases of burnout syndrome

The Golembiewski model (Golembiewski & Munzenrider, 1988) was used to classify the participants into phases according to the level of burnout presented. A total of 34.1% of the nurses who participated in our study had high levels of burnout (Table 4).

## 3.4 | Correlations between burnout and sociodemographic and occupational factors

The mean values of the MBI dimensions were compared according to the following sociodemographic and labour variables: gender, marital status, work shift and on-call duties. Significant differences were found between the last of these variables and the PA dimension: $PA_{(68)}$ ($t = 2.21$; $p = 0.031$ $d = 3.331$). In other words, the nurse managers who performed on-call duties tended to have higher levels of PA.

**TABLE 4** Prevalence of burnout according to the phases of the Golembiewski model

| Phase | I | II | III | IV | V | VI | VII | VIII |
|---|---|---|---|---|---|---|---|---|
| EE | L | L | L | L | H | H | H | H |
| D | L | H | L | H | L | H | L | H |
| PA | L | L | H | H | L | L | H | H |
| *n* | 10 | 5 | 18 | 13 | 10 | 10 | 12 | 7 |
| (%) | 11.8 | 5.9 | 21.2 | 15.3 | 11.8 | 11.8 | 14.1 | 8.2 |

Abbreviations: D, depersonalisation; EE, emotional exhaustion; H, high; L, low; PA, personal accomplishment.

**TABLE 5** Correlation coefficients between psychological variables and burnout

| Psychological variables | | EE | D | PA |
|---|---|---|---|---|
| NEO-FFI | Neuroticism | 0.566* | 0.368* | −0.325* |
| | Extraversion | −0.311* | −0.381* | 0.484* |
| | Conscientiousness | −0.389* | −0.264** | 0.424* |
| | Agreeableness | −0.283* | −0.371* | 0.376* |
| | Openness | −0.078 | 0.025 | 0.231** |
| CECAD | Depression | 0.645* | 0.495* | −0.507* |
| | Anxiety | 0.611* | 0.420* | −0.392* |

Abbreviations: CECAD, Educational-Clinical Questionnaire on Anxiety and Depression; D, depersonalisation; EE, emotional exhaustion; NEO-FFI, Revised NEO Five Factor Inventory; PA, personal accomplishment.
*$p < 0.05$. **$p < 0.01$.

### 3.5 | Correlations between burnout and psychological factors: Explanatory models

A linear correlation was calculated between the MBI dimensions and the psychological variables, analysed using the NEO-FFI subscales and the CECAD scores for anxiety and depression. All the variables presented statistically significant correlations with the MBI dimensions of burnout except *Openness* in the NEO-FFI scale, which was significantly correlated with *PA* (0.231**) but not with *EE* or *D* (Table 5).

Multiple linear regression models were estimated for each dimension of the MBI questionnaire (Table 6). For *EE*, the variables *Depression* ($B = 0.023$, $p = 0.002$) and *Neuroticism* ($B = 0.040$, $p = 0.011$) were statistically significant predictors. The model presented a goodness of fit of $r^2 = 0.376$, with $p = 0.11$. For *D*, the variable *Depression* ($B = 0.020$, $p = 0.003$) is again a predictor of the model. A total of 10.1% of the variance of this dimension was explained by the model ($r^2 = 0.101$). For PA, *Responsibility* ($B = -0.038$, $p = 0.024$), *Openness* ($B = -0.027$, $p = 0.025$) and *Agreeableness* ($B = -0.032$, $p = 0.058$) are predictors, with *Responsibility* and *Openness* both significant at 5%. These predictors explain 20.19% of the variability of this dimension of burnout, $p = 0.058$.

## 4 | DISCUSSION

Among the managers who participated in this study, 22.4% presented high EE and 21%, high *D*. These values are in line with those reported by de la Fuente-Solana et al. (2017, 2021) in comparable studies, of nurses working in paediatric services and in oncology services. In contrast, our findings differed with respect to the prevalence of professionals with low levels of PA, which was considerably higher in our study (57.6%) than in previous research (de la Fuente-Solana et al., 2021). This discrepancy could be explained by the type of work performed by nurse managers, since in addition to helping the nurses perform patient care (Cao & Naruse, 2019), they must manage the department's resources, resolve labour disputes, create a healthy work environment (Ceravolo & Raines, 2019), ensure patient safety and mediate with superiors and other managers (de Carvalho et al., 2018). Other studies of nurse managers have also reported conflicting results, with a lower prevalence of high levels of *EE* and *D* and a lower level of *PA* (Heeb & Haberey-Knuessi, 2014). On the other hand, some researchers have obtained results closer to our own. Membrive-Jiménez et al. (2020) reported that 29% of the subjects in their study presented a high degree of EE. This considerable diversity in research findings might be due to differences in health system organization between countries and in the resources allocated to management. Such imbalances may lead to the nurse managers concerned perceiving a lack of professional development, a deficiency that could impact on their emotional health. Thus, Głębocka (2017) commented that professional dehumanization may be experienced in areas where fewer resources are allocated to health system management.

To address the second of our study goals, we analysed the influence of the independent variables on each dimension of the MBI questionnaire. For the sociodemographic variables, no significant differences were obtained with the MBI dimensions, a finding that contrasts with previous analyses (Heeb & Haberey-Knuessi, 2014; Karsavuran & Kaya, 2017).

Among the labour variables, the only statistically significant correlation observed was that of a positive association between PA and the "on-call" variable. However, our findings in this respect do not support the conclusions obtained in previous investigations, according to which *PA* is lower and *D* higher among respondents who work significant hours of overtime (Heeb & Haberey-Knuessi, 2014) and work regular full-time shifts (Membrive-Jiménez et al., 2020). The latter results may be since on-call duties, when they are well organized and structured on a rotating basis, allow nurse managers to exercise greater control of their staff and of the work environment, to establish relationships with professionals working in other areas (Knupp et al., 2018) and to obtain greater financial rewards. In short, this responsibility may foster empowerment in the workplace, promote leadership and provide greater job satisfaction, attitudes all of which have a direct impact on PA (Adriaenssens et al., 2017).

As regards the psychological variables studied, we found that EE was positively correlated with neuroticism (Ang et al., 2016) and with the CECAD variables of depression and anxiety (Favrod et al., 2018), but negatively correlated with the personality variables of extraversion, responsibility and agreeableness, as also indicated in previous

**TABLE 6** Multiple linear regression

| | B | Std. error | *t* | *p* | 95%CI | |
|---|---|---|---|---|---|---|
| | | | | | Inf | Sup |
| **EE** | | | | | | |
| **Depression** | 0.023 | 0.007 | 3.279 | 0.002 | 0.009 | 0.037 |
| **Neuroticism** | 0.040 | 0.015 | 2.614 | 0.011 | 0.009 | 0.070 |
| $R^2 = 0.376; F_{1,75} = 6.836; p = 0.11$ | | | | | | |
| **D** | | | | | | |
| **Depression** | 0.020 | 0.006 | 3.123 | 0.003 | 0.007 | 0.033 |
| $R^2 = 0.101; F_{1,77} = 9.752; p = 0.003$ | | | | | | |
| **PA** | | | | | | |
| **Conscientiousness** | −0.038 | 0.017 | −2.312 | 0.024 | 0.071 | 0.005 |
| **Openness** | −0.027 | 0.012 | −2.288 | 0.025 | 0.050 | 0.003 |
| **Agreeableness** | −0.032 | 0.017 | −1.928 | 0.058 | 0.065 | 0.001 |
| $R^2 = 0.2019; F_{1,74} = 3.719; p = 0.058$ | | | | | | |

Abbreviations: B, estimated parameter; D, depersonalisation; EE, emotional exhaustion; PA, personal accomplishment; *t*, Student's *t* test value.

work (de la Fuente-Solana et al., 2021). Moreover, these variables seem to protect against stress chronification (Grigorescu et al., 2018). According to various studies, the stress and neuroticism often associated with the nursing profession (Gómez-Urquiza et al., 2017; Ortega-Campos et al., 2019) can strengthen nurse managers' ideas of quitting and diminish their self-confidence (Hewko et al., 2015). Similarly, possible problems of communication and socialization and/or the need to uphold a certain social reputation with their subordinates (Karsavuran & Kaya, 2017) can mediate the appearance of EE in nurse managers, sometimes provoking anxiety and depression (Favrod et al., 2018; Ramirez-Baena et al., 2019).

Among our participants, the *D* dimension was associated with higher levels of neuroticism, depression and anxiety (de la Fuente-Solana et al., 2020). This dimension of burnout is a consequence of the nurse manager's attempt to adapt to the stressful situation and to alleviate the tension experienced in the workplace (Ramirez-Baena et al., 2019), although it can sometimes be perceived by others as a lack of leadership (Guo et al., 2018) and authority (Adriaenssens et al., 2017).

In contrast to the above, *D* was inversely related to extraversion, responsibility and agreeableness (Cañadas-De la Fuente et al., 2016). This observation underlines the importance of closely observing the mental health of managerial staff and helping prevent *D*, in such a way as to promote self-efficacy and active engagement (Heeb & Haberey-Knuessi, 2014), while recognizing the value of their work as intellectual stimulation. Other studies have suggested that the wish to leave the profession and/or a rejection of the management role (Adriaenssens et al., 2017) may also underlie the presence of high levels of *D* among nurse managers (Hewko et al., 2015).

Another finding in the present study is that *PA* is negatively affected by the presence of high levels of neuroticism, depression and anxiety (Geuens et al., 2015). This contrasts with the positive personality traits of extraversion, openness, responsibility and agreeableness, which provide emotional stability and protect against reduced *PA* (de la Fuente-Solana et al., 2020). On occasion, however, nurse managers may feel they are subjected to excessive responsibility and a heavy workload, reducing their motivation and PA (Khan et al., 2018).

Linear regression showed the psychological variables depression, responsibility and openness are significant predictors of *D* and *PA* (Ortega-Campos et al., 2019), that depression and neuroticism are significant predictors of EE and that agreeableness is a significant predictor of PA.

Finally, 34.1% of the nurse managers consulted were in phases VI–VIII of the Golembiewski model (Golembiewski & Munzenrider, 1988), corresponding to the highest levels of burnout. This result is in line with the earlier findings of Gómez-Urquiza et al. (2017) and Ramirez-Baena et al. (2019). In view of this high value, we suggest that measures to limit/prevent burnout should be established, accessible to all nurses, managers or otherwise, to promote satisfaction in the workplace and enhance social support among co-workers (Adriaenssens et al., 2017). In addition, hospitals should introduce programmes of physical activity and complementary therapies, such as mindfulness, to improve workers' physical and emotional well-being, to reduce stress and to optimize coping strategies, resilience and self-efficacy (Burton et al., 2017).

## 5 | LIMITATIONS

Due to the cross-sectional design of this study, causal relationships could not be established. A larger sample size would have enabled us to obtain a better fit for the statistical regression models. Also, the number of children, instead of the number of school-aged or dependent children was asked. The high percentage of males in the sample should be also considered. Finally, we acknowledge the existence of psychological variables other than those analysed in this

study which are closely related to burnout syndrome, such as resilience, stress tolerance, engagement and coping mechanisms. These variables could usefully be considered in future research, preferably with a longitudinal design and incorporating the measurement of biomarkers.

## 6 | CONCLUSIONS

A total of 34.1% of nurse managers working in the Andalusian Public Health Service present significant levels of burnout. Among the dimensions of this syndrome, that of low *PA* is the most apparent. The variables on-call duty, responsibility and openness are all associated with greater *PA*, while the psychological variables of depression and neuroticism most predispose these workers to suffer burnout.

## 7 | IMPLICATIONS FOR NURSING MANAGEMENT

The results obtained in this study highlight the importance of detecting nurse managers who match the risk profile for burnout syndrome in order to address the problem effectively. The inadequate management of healthcare resources, together with the job dissatisfaction and chronic stress that many managers experience, degrades the work environment for nurses and managers. It is important to implement burnout prevention programmes to enable nurse managers to detect symptoms at an early stage.

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### CONFLICT OF INTEREST

The authors declare no conflict of interest.

### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

### FUNDING INFORMATION

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### ETHICAL CONSIDERATIONS

This study was approved by the local Research Ethics Committee (1961-N-21) and always complied with the ethical guidelines of the Declaration of Helsinki (2013).

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### REFERENCES

Adriaenssens, J., Hamelink, A., & van Bogaert, P. (2017). Predictors of occupational stress and well-being in first-line nurse managers: A cross-sectional survey study. *International Journal of Nursing Studies*, *73*, 85–92. https://doi.org/10.1016/j.ijnurstu.2017.05.007

Aguayo, R., Vargas, C., de la Fuente, E. I., & Lozano, L. M. (2011). A meta-analytic reliability genralization study of the Maslach Burnout Inventory. *International Journal of Clinical and Health Psychology*, *11*, 343–361.

Ang, S. Y., Dhaliwal, S. S., Ayre, T. C., Uthaman, T., Fong, K. Y., Tien, C. E., & Della, P. (2016). Demographics and personality factors associated with burnout among nurses in a Singapore tertiary hospital. *BioMed Research International*, *2016*, 1–12. https://doi.org/10.1155/2016/6960184

Bjerregård Madsen, J., Kaila, A., Vehviläinen-Julkunen, K., & Miettinen, M. (2016). Time allocation and temporal focus in nursing management: An integrative review. *Journal of Nursing Management*, *24*(8), 983–993. https://doi.org/10.1111/jonm.12411

Burton, A., Burgess, C., Dean, S., Koutsopoulou, G. Z., & Hugh-Jones, S. (2017). How effective are mindfulness-based interventions for reducing stress among healthcare professionals? A systematic review and meta-analysis. *Stress and Health*, *33*(1), 3–13. https://doi.org/10.1002/smi.2673

Cañadas-De la Fuente, G. A., Albendín-García, L., de la Fuente Solana, E. I., San Luis Costas, C., Gómez-Urquiza, J. L., & Cañadas, G. R. (2016). Síndrome de burnout en profesionales de enfermería que realizan jornada física complementaria en servicios de cuidados críticos y urgencias. *Revista Española de Salud Pública*, *14*(90), 1–9.

Cao, X., & Naruse, T. (2019). Effect of time pressure on the burnout of home-visiting nurses: The moderating role of relational coordination with nursing managers. *Japan Journal of Nursing Science*, *16*, 221–231. https://doi.org/10.1111/jjns.12233

Ceravolo, D., & Raines, D. A. (2019). The impact of a mindfulness intervention for nurse managers. *Journal of Holistic Nursing*, *37*(1), 47–55. https://doi.org/10.1177/0898010118781620

Costa, P. T., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO personality inventory. *Psychological Assessment*, *4*(1), 5–13. https://doi.org/10.1037/1040-3590.4.1.5

Costa, P. T., & McCrae, R. R. (2002). Inventario de Personalidad NEO Revisado. In *Inventario NEO reducido de Cinco Factores (NEO-FFI)*.

de Carvalho, D. P., Rocha, L. P., Barlem, E. L. D., Barlem, E. L. D., Cecagno, D., & Dalmolin, G. D. L. (2018). Productivity versus workloads in the nursing working environment. *Revista da Escola de Enfermagem da USP*, *51*, 5. https://doi.org/10.1590/s1980-220x2017028903301

de la Fuente-Solana, E. I., Gómez-Urquiza, J. L., Cañadas, G. R., Albendín-García, L., Ortega-Campos, E., & Cañadas-De la Fuente, G. A. (2017). Burnout and its relationship with personality factors in oncology nurses. *European Journal of Oncology Nursing*, *30*, 91–96. https://doi.org/10.1016/j.ejon.2017.08.004

de la Fuente-Solana, E. I., Pradas-Hernández, L., González-Fernández, C. T., Velando-Soriano, A., Martos-Cabrera, M. B., & Gómez-Urquiza, J. L. (2021). Burnout syndrome in paediatric nurses: A multi-Centre study. *International Journal of Environmental Research and Public Health*, *18*(3), 1324. https://doi.org/10.3390/ijerph18031324

de la Fuente-Solana, E. I., Suleiman-Martos, N., Velando-Soriano, A., Cañadas-De la Fuente, G. R., Herrera-Cabrerizo, B., & Albendín-García, L. (2020). Predictors of burnout of health professionals in the departments of maternity and gynaecology, and its association with personality factors: A multicentre study. *Journal of Clinical Nursing*, *30*(1–2), 207–216. https://doi.org/10.1111/jocn.15541

de Oliveira, S. M., de Alcantara Sousa, L. V., Gadelha, M. D. S. V., & do Nascimento, V. B. (2019). Prevention actions of burnout syndrome in nurses: An integrating literature review. *Clinical Practice and*

*Epidemiology in Mental Health: CP & EMH*, *15*, 64–73. https://doi.org/10.2174/1745017901915010064

Favrod, C., Jan du Chêne, L., Martin Soelch, C., Garthus-Niegel, S., Tolsa, J. F., Legault, F., & Horsch, A. (2018). Mental health symptoms and work-related stressors in hospital midwives and NICU nurses: A mixed methods study. *Frontiers in Psychiatry*, *9*, 364. https://doi.org/10.3389/fpsyt.2018.00364

Furukawa, A., & Kashiwagi, K. (2021). The relationship between leadership behaviors of ward nurse managers and teamwork competency of nursing staff: A cross-sectional study in Japanese hospitals. *Journal of Nursing Management.*, *29*(7), 2056–2064. https://doi.org/10.1111/jonm.13382

Geuens, N., Braspenning, M., van Bogaert, P., & Franck, E. (2015). Individual vulnerability to burnout in nurses: The role of type D personality within different nursing specialty areas. *Burnout Research*, *2*(2–3), 80–86. https://doi.org/10.1016/j.burn.2015.05.003

Głębocka, A. (2017). The relationship between burnout syndrome among the medical staff and work conditions in the Polish healthcare system. *Advances in Experimental Medicine and Biology - Neuroscience and Respiration*, *30*, 61–70. https://doi.org/10.1007/5584_2016_179

Golembiewski, R. T., & Munzenrider, R. (1988). *Phases of burnout: Developments in concepts and applications*. Praeger.

Gómez-Urquiza, J. L., Monsalve-Reyes, C. S., San Luis-Costas, C., Fernández-Castillo, R., Aguayo-Estremera, R., & Cañadas-de la Fuente, G. A. (2017). Factores de riesgo y niveles de burnout en enfermeras de atención primaria: Una revisión sistemática. *Atención Primaria*, *49*(2), 77–85. https://doi.org/10.1016/j.aprim.2016.05.004

Grigorescu, S., Cazan, A. M., Grigorescu, O. D., & Rogozea, L. M. (2018). The role of the personality traits and work characteristics in the prediction of the burnout syndrome among nurses—A new approach within predictive, preventive, and personalized medicine concept. *EPMA Journal*, *9*(4), 355–365. https://doi.org/10.1007/s13167-018-0151-9

Guo, Y., Luo, Y., Lam, L., Cross, W., Plummer, V., & Zhang, J. (2018). Burnout and its association with resilience in nurses: A cross-sectional study. *Journal of Clinical Nursing*, *27*(1–2), 441–449. https://doi.org/10.1111/jocn.13952

Heeb, J. L., & Haberey-Knuessi, V. (2014). Health professionals facing burnout: What do we know about nursing managers? *Nursing Research and Practice*, *2014*, 1–7. https://doi.org/10.1155/2014/681814

Hewko, S. J., Brown, P., Fraser, K. D., Wong, C. A., & Cummings, G. (2015). Factors influencing nurse managers' intent to stay or leave: A quantitative analysis. *Journal of Nursing Management*, *23*, 1058–1066. https://doi.org/10.1111/jonm.12252

Karsavuran, S., & Kaya, S. (2017). The relationship between burnout and mobbing among hospital managers. *Nursing Ethics*, *24*(3), 337–348. https://doi.org/10.1177/0969733015602054

Khan, B. P., Quinn-Griffin, M. T., & Fitzpatrick, J. J. (2018). Staff nurses' perceptions of their nurse managers' transformational leadership behaviours and their own structural empowerment. *Journal of Nursing Administration*, *48*(12), 609–614. https://doi.org/10.1097/NNA.0000000000000690

Knupp, A. M., Patterson, E. S., Ford, J. L., Zurmehly, J., & Patrick, T. (2018). Associations among nurse fatigue, individual nurse factors, and aspects of the nursing practice environment. *The Journal of Nursing Administration*, *48*(12), 642–648. https://doi.org/10.1097/NNA.0000000000000693

Lozano, L., García-Cueto, E., & Lozano, L. M. (2007). *Cuestionario Educativo Clínico de Ansiedad y Depresión*. TEA Ediciones.

Maslach, C., & Jackson, S. E. (1981). *Maslach burnout inventory*. Consulting Psychologists Press.

Membrive-Jiménez, M. J., Pradas-Hernández, L., Suleiman-Martos, N., Vargas-Román, K., Gomez-Urquiza, J. L., la Fuente-Solana, D., & Emilia, I. (2020). Burnout in nursing managers: A systematic review and meta-analysis of related factors, levels and prevalence. *International Journal of Environmental Research and Public Health*, *17*(11), 3983. https://doi.org/10.3390/ijerph17113983

Molina-Praena, J., Ramirez-Baena, L., Gómez-Urquiza, J., Cañadas, G., de la Fuente, E., & Cañadas-De la Fuente, G. (2018). Levels of burnout and risk factors in medical area nurses: A meta-analytic study. *International Journal of Environmental Research and Public Health*, *15*(12). https://doi.org/10.3390/ijerph15122800

Ogbolu, Y., Scrandis, D. A., & Fitzpatrick, G. (2018). Barriers and facilitators of care for diverse patients: Nurse leader perspectives and nurse manager implications. *Journal of Nursing Management*, *26*(1), 3–10. https://doi.org/10.1111/jonm.12498

Ortega-Campos, E., Cañadas-De la Fuente, G. A., Albendín-García, L., Gómez-Urquiza, J. L., Monsalve-Reyes, C., & de la Fuente-Solana, E. I. (2019). A multicentre study of psychological variables and the prevalence of burnout among primary health care nurses. *International Journal of Environmental Research and Public Health*, *16*(18), 3242. https://doi.org/10.3390/ijerph16183242

Phillips, T., Evans, J. L., Tooley, S., & Shirey, M. R. (2018). Nurse manager succession planning: A cost–benefit analysis. *Journal of Nursing Management*, *26*(2), 238–243. https://doi.org/10.1111/jonm.12512

Ramirez-Baena, L., Ortega-Campos, E., Gomez-Urquiza, J. L., la Fuente-Solana, D., & Emilia, I. (2019). A multicentre study of burnout prevalence and related psychological variables in medical area hospital nurses. *Journal of Clinical Medicine*, *8*(1), 92. https://doi.org/10.3390/jcm8010092

Royal Collegue of Nursing. (2018). Improving continuing professional development: How reps can make a difference in the workplace.

Seisdedos, N. (1997). MBI Inventario Burnout de Maslach. TEA Ediciones, Madrid, España.

Silva, V. L. D. S., Camelo, S. H. H., Soares, M. I., Resck, Z. M. R., Chaves, L. D. P., Santos, F. C. D., & Leal, L. A. (2017). Leadership practices in hospital nursing: A self of manager nurses. *Revista da Escola de Enfermagem da USP*, *51*. https://doi.org/10.1590/s1980-220x2016099503206

Velando-Soriano, A., Ortega-Campos, E., Gómez-Urquiza, J. L., Ramírez-Baena, L., de la Fuente, E. I., & Cañadas-De La Fuente, G. A. (2020). Impact of social support in preventing burnout syndrome in nurses: A systematic review. *Japan Journal of Nursing Science*, *17*(1), 12269. https://doi.org/10.1111/jjns.12269

Warshawsky, N. E. (2018). Promote nurse manager job satisfaction and retention. *American Nurse Today*, *13*(8), 33–34.

**How to cite this article:** Membrive-Jiménez, M. J., Velando-Soriano, A., Pradas-Hernandez, L., Gomez-Urquiza, J. L., Romero-Béjar, J. L., Cañadas-De la Fuente, G. A., & De la Fuente-Solana, E. I. (2022). Prevalence, levels and related factors of burnout in nurse managers: A multi-centre cross-sectional study. *Journal of Nursing Management*, 1–8. https://doi.org/10.1111/jonm.13575

# 2021 Journal Performance Data for: Journal of Nursing Management

ISSN
0966-0429

EISSN
1365-2834

JCR ABBREVIATION
J NURS MANAGE

ISO ABBREVIATION
J. Nurs. Manag.

## Journal Information

EDITION
Social Sciences Citation Index (SSCI)
Science Citation Index Expanded (SCIE)

CATEGORY
NURSING - SCIE
MANAGEMENT - SSCI
NURSING - SSCI

LANGUAGES
English

REGION
ENGLAND

1ST ELECTRONIC JCR YEAR
2010

## Publisher Information

PUBLISHER
WILEY

ADDRESS
111 RIVER ST, HOBOKEN 07030-5774, NJ

PUBLICATION FREQUENCY
8 issues/year

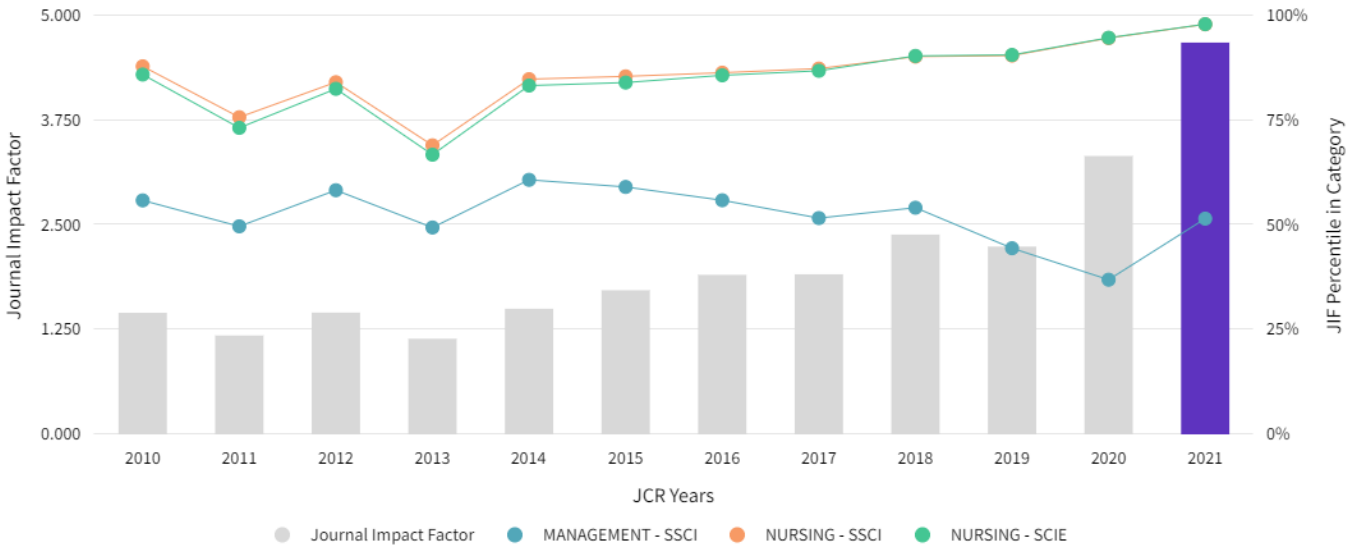
# Journal's Performance

## Journal Impact Factor

The Journal Impact Factor (JIF) is a journal-level metric calculated from data indexed in the Web of Science Core Collection. It should be used with careful attention to the many factors that influence citation rates, such as the volume of publication and citations characteristics of the subject area and type of journal. The Journal Impact Factor can complement expert opinion and informed peer review. In the case of academic evaluation for tenure, it is inappropriate to use a journal-level metric as a proxy measure for individual researchers, institutions, or articles.

| 2021 JOURNAL IMPACT FACTOR | 2021 JOURNAL IMPACT FACTOR WITHOUT SELF CITATIONS |
|---|---|
| **4.680** | 4.082 |

### Journal Impact Factor Trend 2021



Journal Impact Factor is calculated using the following metrics

| Citations in 2021 to items published in 2019 (**915**) - 2020 (**1,481**) | = | **2,396** | = | **4.680** |
|---|---|---|---|---|
| Number of citable items in 2019 (**189**) + 2020 (**323**) | | **512** | | |

Journal Impact Factor without self cites is calculated using the following metrics

| Citations in 2021 to items published in 2019 (**915**) + 2020 (**1,481**) - Self Citations in 2021 to items published in 2019 (**114**) + 2020 (**192**) | = | **2,396 - 306** | = | **4.082** |
|---|---|---|---|---|
| Number of citable items in 2019 (**189**) + 2020 (**323**) | | **512** | | |

## Journal Impact Factor Contributing Items

### Citable Items (512)

| TITLE | CITATION COUNT |
|---|---|
| Work stress among Chinese nurses to support Wuhan in fighting against COVID-19 epidemic<br>Authors: Mo, Yuanyuan;Deng, Lan;Zhang, Liyan;Lang, Qiuyan;Liao, Chunyan;Wang, Nannan;Qin, Mingqin;Huang, Huiqiao<br>Volume: 28<br>Accession number: WOS:000534253300001<br>Document Type: Article | 189 |
| COVID-19 anxiety among front-line nurses: Predictive role of organisational support, personal resilience and social support<br>Authors: Labrague, Leodoro J.;de los Santos, Janet Alexis A.<br>Volume: 28<br>Accession number: WOS:000561065100001<br>Document Type: Article | 165 |
| Fear of COVID-19, psychological distress, work satisfaction and turnover intention among frontline nurses<br>Authors: Labrague, Leodoro J.;de los Santos, Janet Alexis A.<br>Volume: 29<br>Accession number: WOS:000576656400001<br>Document Type: Article | 70 |
| Acute stress disorder, coping self-efficacy and subsequent psychological distress among nurses amid COVID-19<br>Authors: Shahrour, Ghada;Dardas, Latefa Ali<br>Volume: 28<br>Accession number: WOS:000563758700001<br>Document Type: Article | 38 |
| Factors associated with insomnia among Chinese front-line nurses fighting against COVID-19 in Wuhan: A cross-sectional survey<br>Authors: Zhan, Yuxin;Yu, Jiaohua;Liu, Yunfang;Liu, Huan;Li, Mei;Shen, Yue;Gui, Lingli;Zhang, Jun;Luo, Zhihua;Tao, Xiubin<br>Volume: 28<br>Accession number: WOS:000560695000001<br>Document Type: Article | 30 |

**Showing 1-5 rows of 512 total** (use export in the relevant section to download the full table)

## Journal Impact Factor Contributing Items

### Citing Sources (565)

| SOURCE NAME | COUNT |
|---|---|
| JOURNAL OF NURSING MANAGEMENT | 306 |
| INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH | 131 |
| JOURNAL OF CLINICAL NURSING | 86 |
| NURSING OPEN | 72 |
| FRONTIERS IN PSYCHOLOGY | 68 |
| JOURNAL OF ADVANCED NURSING | 62 |
| BMC NURSING | 52 |
| INTERNATIONAL NURSING REVIEW | 45 |
| PERSPECTIVES IN PSYCHIATRIC CARE | 40 |
| HEALTHCARE | 40 |
| JOURNAL OF NURSING SCHOLARSHIP | 34 |
| PLOS ONE | 34 |
| BMJ OPEN | 32 |
| NURSE EDUCATION TODAY | 27 |
| JOURNAL OF NURSING ADMINISTRATION | 26 |
| SUSTAINABILITY | 25 |
| INTERNATIONAL JOURNAL OF NURSING STUDIES | 22 |
| NURSING FORUM | 21 |
| BMC HEALTH SERVICES RESEARCH | 20 |
| NURSE EDUCATION IN PRACTICE | 19 |

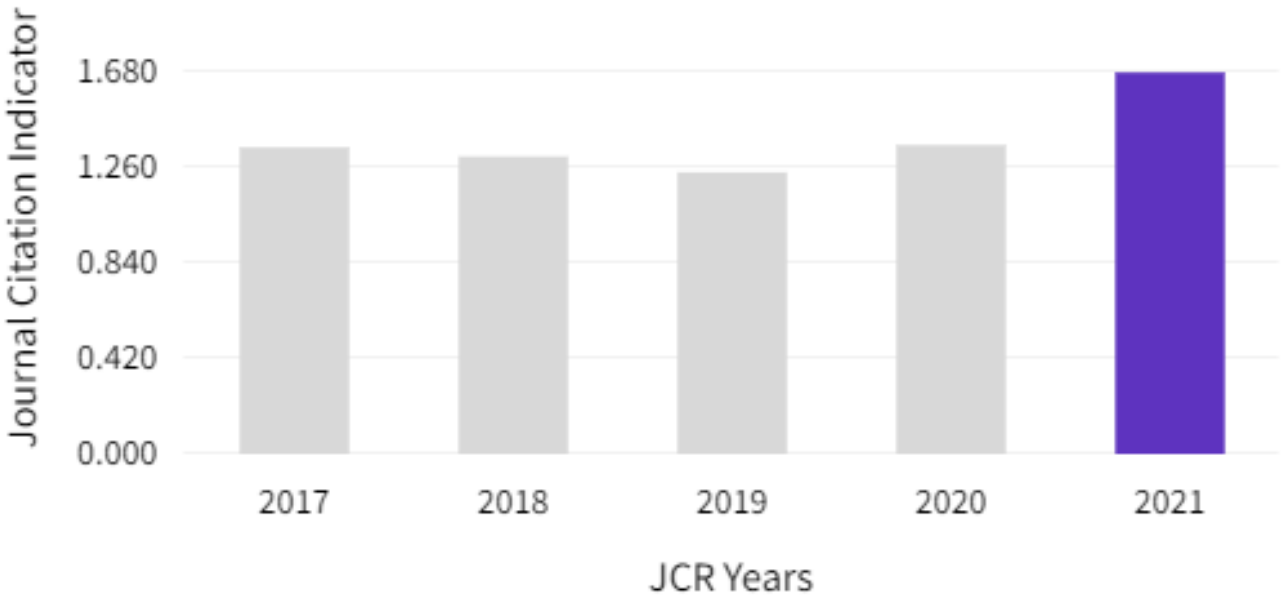
**Showing 1-20 rows of 565 total** (use export in the relevant section to download the full table)

## Journal Citation Indicator (JCI)

1.68

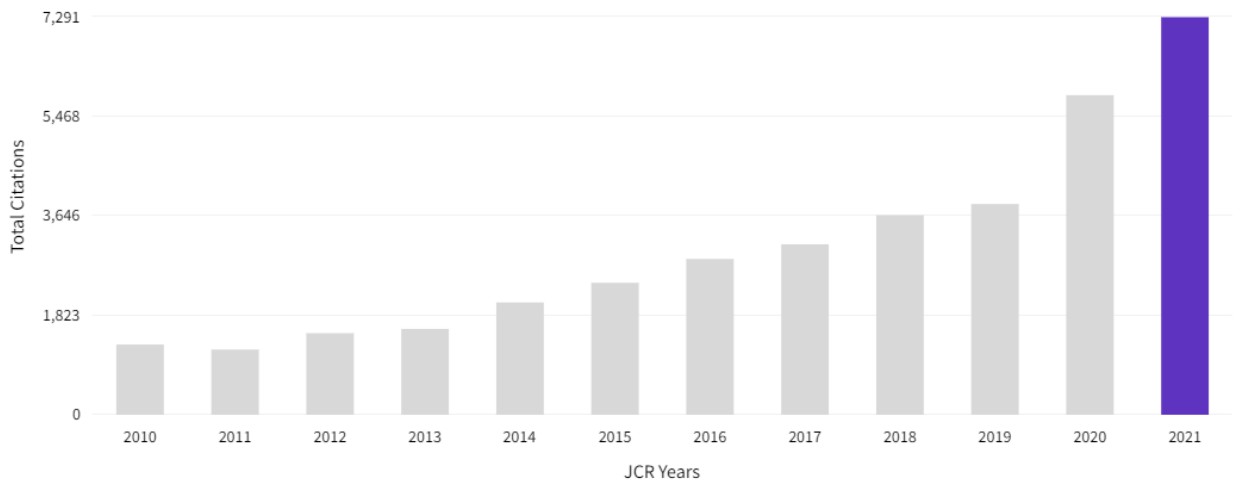
The Journal Citation Indicator (JCI) is the average Category Normalized Citation Impact (CNCI) of citable items (articles & reviews) published by a journal over a recent three year period. The average JCI in a category is 1. Journals with a JCI of 1.5 have 50% more citation impact than the average in that category. It may be used alongside other metrics to help you evaluate journals.




## Total Citations

7,291

The total number of times that a journal has been cited by all journals included in the database in the JCR year. Citations to journals listed in JCR are compiled annually from the JCR years combined database, regardless of which JCR edition lists the journal.

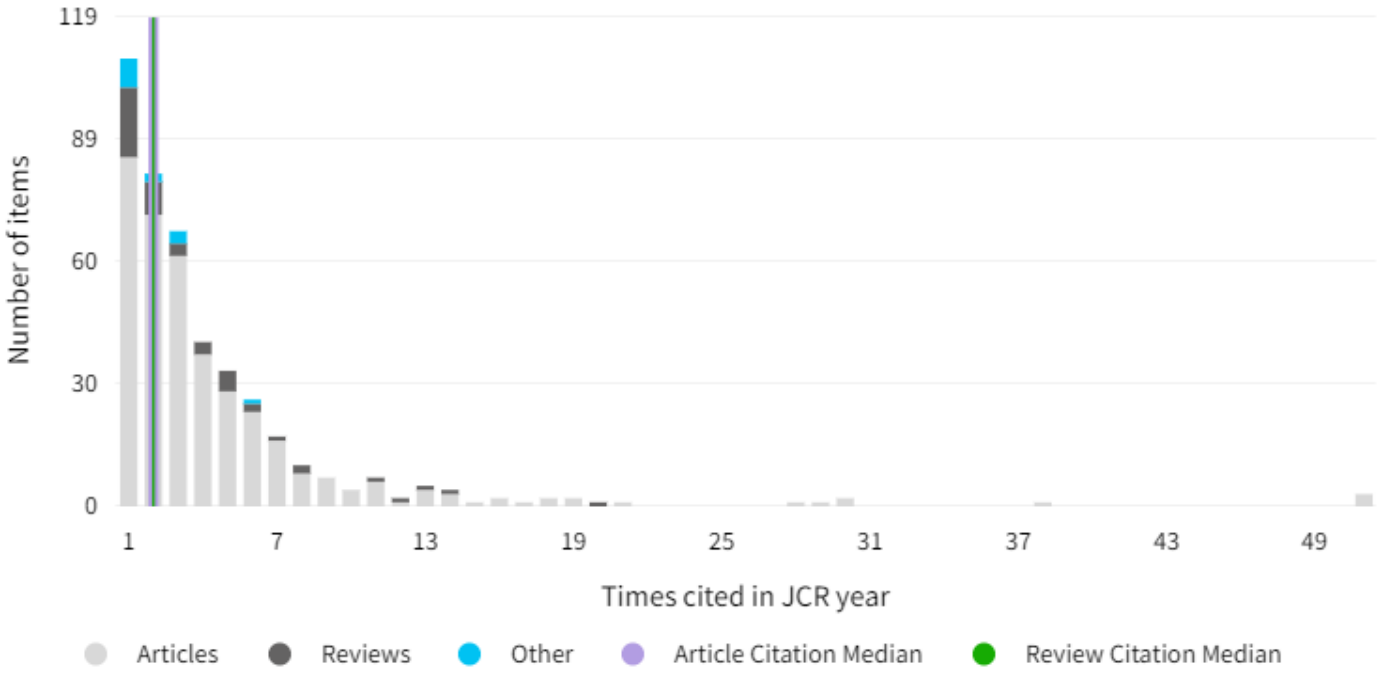


# Citation Distribution

The Citation Distribution shows the frequency with which items published in the year or two years prior were cited in the JCR data year (i.e., the component of the calculation of the JIF). The graph has similar functionality as the JIF Trend graph, including hover-over data descriptions for each data point, and an interactive legend where each data element's legend can be used as a toggle. You can view Articles, Reviews, or Non-Citable (other) items to the JIF numerator.

| ARTICLE CITATION MEDIAN | REVIEW CITATION MEDIAN | UNLINKED CITATIONS |
|---|---|---|
| 2 | 2 | 161 |




## 0 times cited

| ARTICLES | REVIEWS | OTHER |
|---|---|---|
| 91 | 4 | 8 |

# Open Access (OA)

The data included in this tile summarizes the items published in the journal in the JCR data year and in the previous two years. For example, in the 2020 JCR data, released in June 2021, the Open Access (OA) data show the publication model (Gold OA or subscription) of materials published in 2018, 2019 and 2020, and citations in 2020 to these items. This three-year set of published items is used to provide descriptive analysis of the content and community of the journal.

## Items

TOTAL CITABLE
**784**

% OF CITABLE OA
**10.33%**

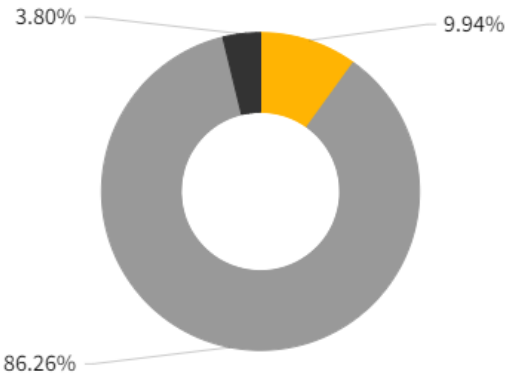
CITABLE

GOLD OPEN ACCESS
81 / 9.94%

SUBSCRIPTION OR BRONZE
703 / 86.26%

NON-CITABLE

OTHER (NON-CITABLE ITEMS)
31 / 3.80%




## Citations*

TOTAL CITABLE
**2,419**

% OF CITABLE OA
**5.21%**

CITABLE

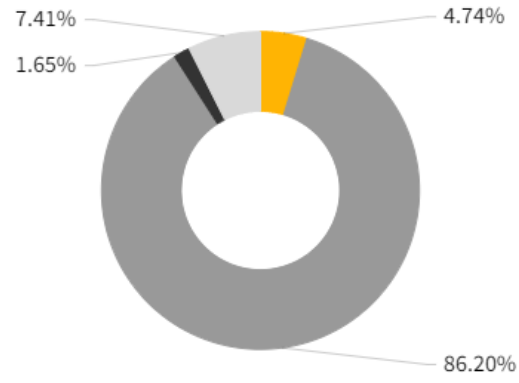
GOLD OPEN ACCESS
126 / 4.74%

SUBSCRIPTION OR BRONZE
2,293 / 86.20%

NON-CITABLE

OTHER (NON-CITABLE ITEMS)
44 / 1.65%

UNLINKED CITATIONS
197 / 7.41%




* Citations in 2021 to items published in (2019-2021)

## Rank by Journal Impact factor

Journals within a category are sorted in descending order by Journal Impact Factor (JIF) resulting in the Category Ranking below. A separate rank is shown for each category in which the journal is listed in JCR. Data for the most recent year is presented at the top of the list, with other years shown in reverse chronological order.

EDITION

Social Sciences Citation Index (SSCI)

CATEGORY

MANAGEMENT

**111/228**

| JCR YEAR | JIF RANK | QUARTILE | JIF PERCENTILE |
|---|---|---|---|
| 2021 | 111/228 | Q2 | 51.54 |
| 2020 | 143/226 | Q3 | 36.95 |
| 2019 | 126/226 | Q3 | 44.47 |
| 2018 | 100/217 | Q2 | 54.15 |
| 2017 | 102/210 | Q2 | 51.67 |
| 2016 | 86/194 | Q2 | 55.93 |
| 2015 | 79/192 | Q2 | 59.11 |
| 2014 | 73/185 | Q2 | 60.81 |
| 2013 | 88/173 | Q3 | 49.42 |
| 2012 | 73/174 | Q2 | 58.33 |
| 2011 | 85/168 | Q3 | 49.70 |
| 2010 | 64/144 | Q2 | 55.90 |

EDITION

Science Citation Index Expanded (SCIE)

CATEGORY

NURSING

**3/125**

| JCR YEAR | JIF RANK | QUARTILE | JIF PERCENTILE |
|---|---|---|---|
| 2021 | 3/125 | Q1 | 98.00 |
| 2020 | 7/124 | Q1 | 94.76 |
| 2019 | 12/123 | Q1 | 90.65 |
| 2018 | 12/120 | Q1 | 90.42 |
| 2017 | 16/118 | Q1 | 86.86 |
| 2016 | 17/116 | Q1 | 85.78 |
| 2015 | 19/116 | Q1 | 84.05 |
| 2014 | 19/111 | Q1 | 83.33 |
| 2013 | 36/107 | Q2 | 66.82 |
| 2012 | 19/106 | Q1 | 82.55 |
| 2011 | 27/99 | Q2 | 73.23 |
| 2010 | 13/89 | Q1 | 85.96 |

EDITION

Social Sciences Citation Index (SSCI)

CATEGORY

NURSING

## 3/123

| JCR YEAR | JIF RANK | QUARTILE | JIF PERCENTILE |
|---|---|---|---|
| 2021 | 3/123 | Q1 | 97.97 |
| 2020 | 7/122 | Q1 | 94.67 |
| 2019 | 12/121 | Q1 | 90.50 |
| 2018 | 12/118 | Q1 | 90.25 |
| 2017 | 15/115 | Q1 | 87.39 |
| 2016 | 16/114 | Q1 | 86.40 |
| 2015 | 17/114 | Q1 | 85.53 |
| 2014 | 17/109 | Q1 | 84.86 |
| 2013 | 33/105 | Q2 | 69.05 |
| 2012 | 17/104 | Q1 | 84.13 |
| 2011 | 24/97 | Q1 | 75.77 |
| 2010 | 11/87 | Q1 | 87.93 |

# Rank by Journal Citation Indicator (JCI)

Journals within a category are sorted in descending order by Journal Citation Indicator (JCI) resulting in the Category Ranking below. A separate rank is shown for each category in which the journal is listed in JCR. Data for the most recent year is presented at the top of the list, with other years shown in reverse chronological order.

Only journals which have a calculated JCI value are included in the JCI ranking. The total number of journals displayed in this ranking may be less than the category overall.

CATEGORY

MANAGEMENT

**54/393**

| JCR YEAR | JCI RANK | QUARTILE | JCI PERCENTILE |
|---|---|---|---|
| 2021 | 54/393 | Q1 | 86.39 |
| 2020 | 77/384 | Q1 | 80.08 |
| 2019 | 83/383 | Q1 | 78.46 |
| 2018 | 81/377 | Q1 | 78.65 |
| 2017 | 77/366 | Q1 | 79.10 |

CATEGORY

NURSING

**5/182**

| JCR YEAR | JCI RANK | QUARTILE | JCI PERCENTILE |
|---|---|---|---|
| 2021 | 5/182 | Q1 | 97.53 |
| 2020 | 17/181 | Q1 | 90.88 |
| 2019 | 24/180 | Q1 | 86.94 |
| 2018 | 18/175 | Q1 | 90.00 |
| 2017 | 15/175 | Q1 | 91.71 |

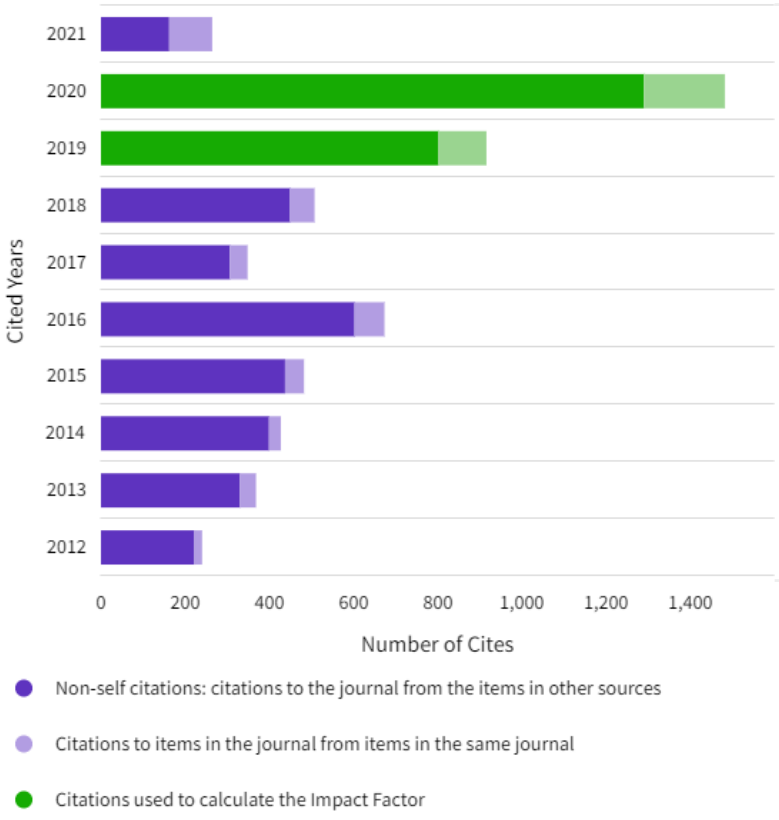
# Citation network

## Cited Half-life

### 5.2 years

The Cited Half-Life is the median age of the items in this journal that were cited in the JCR year. Half of a journal's cited items were published more recently than the cited half-life.

| TOTAL NUMBER OF CITES | NON-SELF CITATIONS | SELF CITATIONS |
|---|---|---|
| 7,291 | 6,475 | 816 |




| | # OF CITES FROM 2021 | CUMULATIVE % | # OF CITING SOURCES |
|---|---|---|---|
| | **7,291 citations** | **100.00%** | **1,230 sources** |
| 2021 | 264 citations | 3.62% | 79 sources |
| 2020 | 1,481 citations | 23.93% | 409 sources |
| 2019 | 915 citations | 36.48% | 305 sources |
| 2018 | 507 citations | 43.43% | 211 sources |
| 2017 | 348 citations | 48.20% | 180 sources |
| 2016 | 673 citations | 57.43% | 275 sources |
| 2015 | 482 citations | 64.04% | 225 sources |
| 2014 | 427 citations | 69.90% | 228 sources |
| 2013 | 368 citations | 74.95% | 171 sources |
| 2012 | 240 citations | 78.24% | 132 sources |
| Previous years: | 1,586 citations | | |

## Citing titles in all years

Journal of Nursing Management

| | SOURCE NAME | COUNT |
|---|---|---|
| | All Others | 626 |
| 1 | Journal of Nursing Management | 816 |
| 2 | International Journal of Environmental Research and Public Health | 363 |
| 3 | JOURNAL OF CLINICAL NURSING | 225 |
| 4 | Nursing Open | 204 |
| 5 | JOURNAL OF ADVANCED NURSING | 159 |
| 6 | BMC NURSING | 150 |
| 7 | Frontiers in Psychology | 131 |
| 8 | BMC HEALTH SERVICES RESEARCH | 102 |
| 9 | INTERNATIONAL JOURNAL OF NURSING STUDIES | 101 |
| 10 | PLoS One | 98 |
| 11 | Healthcare | 93 |
| 12 | BMJ Open | 83 |
| 13 | NURSE EDUCATION TODAY | 80 |
| 14 | Nurse Education in Practice | 77 |
| 15 | Collegian | 73 |
| 16 | JOURNAL OF NURSING ADMINISTRATION | 73 |
| 17 | JOURNAL OF NURSING SCHOLARSHIP | 71 |
| 18 | PERSPECTIVES IN PSYCHIATRIC CARE | 64 |
| 19 | INTERNATIONAL NURSING REVIEW | 63 |
| 20 | NURSING FORUM | 55 |

Showing 1 - 20 rows of 595 total (use export in the relevant section to download the full table)

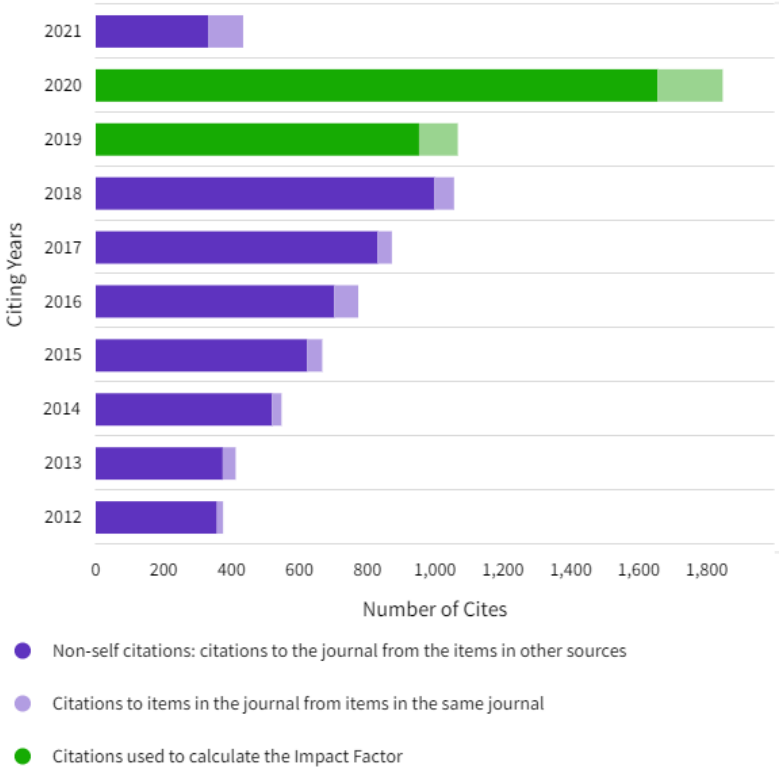
 

# Citing Half-life

## 5.2 years

The Citing Half-Life is the median age of items in other publications cited by this journal in the JCR year.

| TOTAL NUMBER OF CITES | NON-SELF CITATIONS | SELF CITATIONS |
|---|---|---|
| 10,928 | 10,112 | 816 |




| | # OF CITES FROM 2021 | CUMULATIVE % | # OF CITED SOURCES |
|---|---|---|---|
| | **10,928 citations** | **100.00%** | **3,575 sources** |
| 2021 | 434 citations | 3.97% | 226 sources |
| 2020 | 1,846 citations | 20.86% | 807 sources |
| 2019 | 1,066 citations | 30.61% | 563 sources |
| 2018 | 1,055 citations | 40.26% | 537 sources |
| 2017 | 872 citations | 48.24% | 511 sources |
| 2016 | 773 citations | 55.31% | 435 sources |
| 2015 | 667 citations | 61.41% | 404 sources |
| 2014 | 547 citations | 66.42% | 350 sources |
| 2013 | 412 citations | 70.19% | 247 sources |
| 2012 | 375 citations | 73.62% | 237 sources |
| Previous years: | 2,881 citations | | |

## Cited titles in all years

Journal of Nursing Management

| | SOURCE NAME | COUNT |
|---|---|---|
| | All Others | 2,598 |
| 1 | Journal of Nursing Management | 816 |
| 2 | JOURNAL OF ADVANCED NURSING | 315 |
| 3 | INTERNATIONAL JOURNAL OF NURSING STUDIES | 280 |
| 4 | JOURNAL OF CLINICAL NURSING | 236 |
| 5 | JOURNAL OF NURSING ADMINISTRATION | 186 |
| 6 | NURSE EDUCATION TODAY | 99 |
| 7 | INTERNATIONAL NURSING REVIEW | 93 |
| 8 | BMC HEALTH SERVICES RESEARCH | 89 |
| 9 | International Journal of Environmental Research and Public Health | 88 |
| 10 | JOURNAL OF NURSING SCHOLARSHIP | 77 |
| 11 | JOURNAL OF APPLIED PSYCHOLOGY | 73 |
| 12 | BMJ Open | 67 |
| 13 | NURSING OUTLOOK | 61 |
| 14 | International Journal of Nursing Practice | 59 |
| 15 | PLoS One | 54 |
| 16 | BMC NURSING | 53 |
| 17 | RESEARCH IN NURSING & HEALTH | 52 |
| 18 | BMJ Quality & Safety | 50 |
| 19 | JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION | 50 |
| 20 | NURSING ETHICS | 50 |

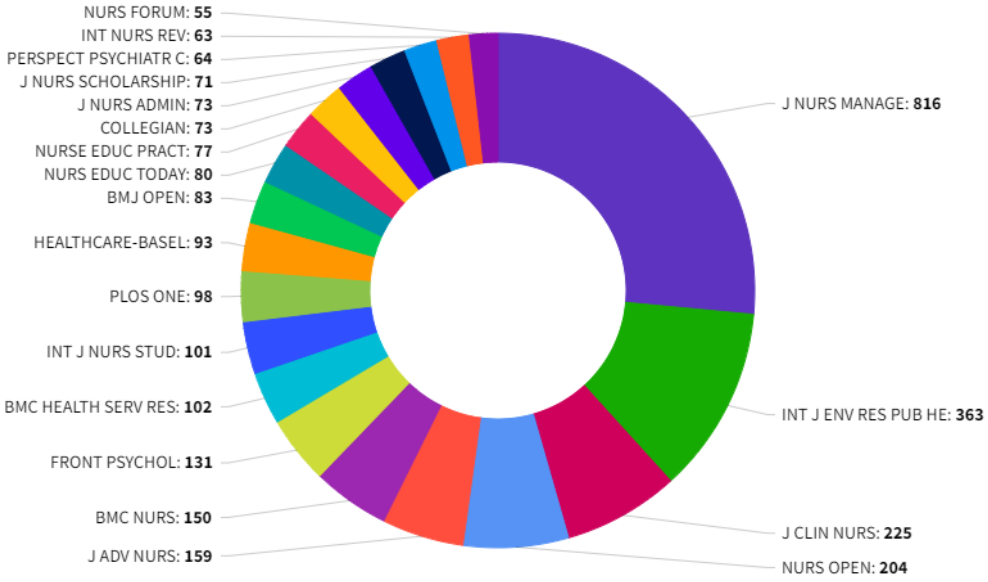
Showing 1 - 20 rows of 681 total (use export in the relevant section to download the full table)

# Journal Citation Relationships

## Cited Data

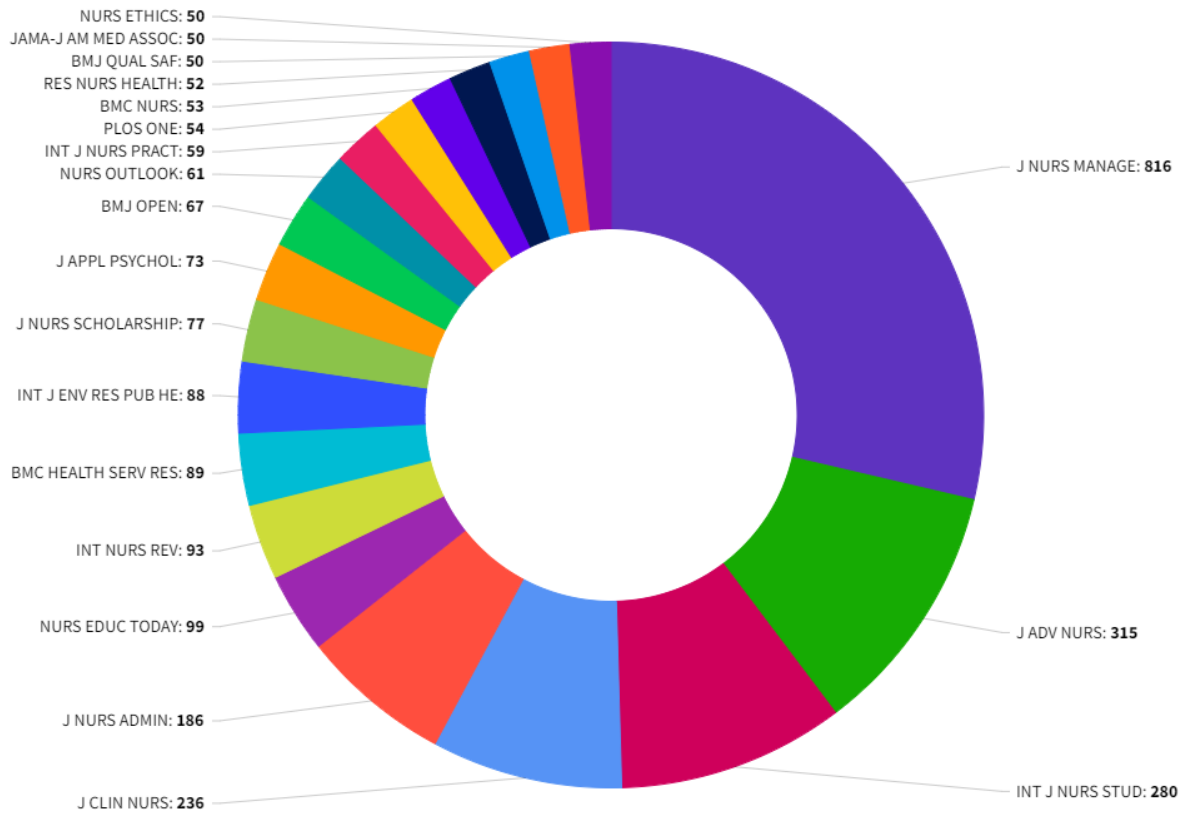
### Top 20 journals citing J NURS MANAGE by number of citations



# Citing Data

## Top 20 journals cited by J NURS MANAGE by number of citations



# Content metrics

## Source data

This tile shows the breakdown of document types published by the journal. Citable Items are Articles and Reviews. For the purposes of calculating JIF, a JCR year considers the publications of that journal in the two prior years.

### 272 total citable items

| | ARTICLES | REVIEWS | COMBINED (C) | OTHER DOCUMENT TYPES (O) | PERCENTAGE |
|---|---|---|---|---|---|
| NUMBER IN JCR YEAR 2021 (A) | 243 | 29 | 272 | 10 | 96% |
| NUMBER OF REFERENCES (B) | 9,393 | 1,405 | 10,798 | 130 | 99% |
| RATIO (B/A) | 38.7 | 48.4 | 39.7 | 13.0 | |

## Average JIF Percentile

The Average Journal Impact Factor Percentile takes the sum of the JIF Percentile rank for each category under consideration, then calculates the average of those values.

ALL CATEGORIES AVERAGE

**82.50**

EDITION

Science Citation Index Expanded

NURSING

**98.00**

EDITION

Social Sciences Citation Index

MANAGEMENT

**51.54**

NURSING

**97.97**

# Contributions by Organizations

Organizations that have contributed the most papers to the journal in the most recent three-year period.

| RANK | ORGANIZATION | COUNT |
|---|---|---|
| 1 | SULTAN QABOOS UNIVERSITY | 17 |
| - | TRINITY COLLEGE DUBLIN | 17 |
| 3 | CHUNG ANG UNIVERSITY | 14 |
| - | NATIONAL UNIVERSITY OF SINGAPORE | 14 |
| 5 | UNIVERSITY OF EASTERN FINLAND | 12 |
| - | UNIVERSITY OF HULL | 12 |
| - | UNIVERSITY OF TOKYO | 12 |
| - | UPPSALA UNIVERSITY | 12 |

**Showing 1 - 8 rows of 1127 total** (use export in the relevant section to download the full table)

# Contributions by country/region

Countries or Regions that have contributed the most papers to the journal in the most recent three-year period.

| RANK | COUNTRY/REGION | COUNT |
|---|---|---|
| 1 | CHINA MAINLAND | 138 |
| 2 | USA | 125 |
| 3 | Australia | 87 |
| 4 | Canada | 59 |
| 5 | England | 54 |
| - | Ireland | 54 |
| 7 | Turkey | 46 |
| 8 | Spain | 41 |

**Showing 1 - 8 rows of 72 total** (use export in the relevant section to download the full table)

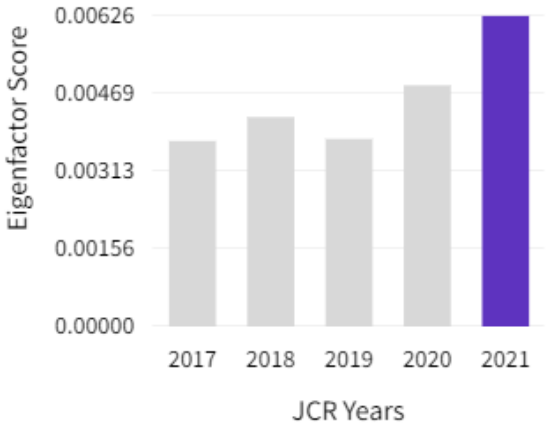
 

# Additional metrics

## Eigenfactor score

**0.00626**

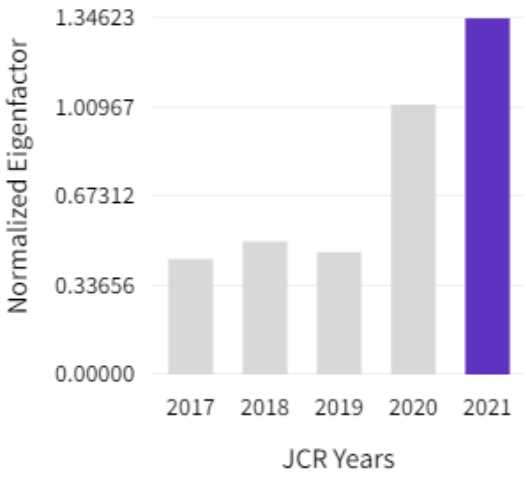
The Eigenfactor Score is a reflection of the density of the network of citations around the journal using 5 years of cited content as cited by the Current Year. It considers both the number of citations and the source of those citations, so that highly cited sources will influence the network more than less cited sources. The Eigenfactor calculation does not include journal self-citations.




## Normalized Eigenfactor

**1.34623**

The Normalized Eigenfactor Score is the Eigenfactor score normalized, by rescaling the total number of journals in the JCR each year, so that the average journal has a score of 1. Journals can then be compared and influence measured by their score relative to 1.

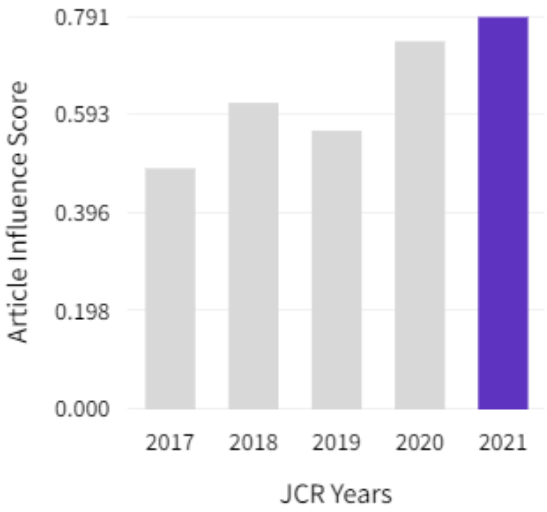


## Article influence score

## 0.791

The Article Influence Score normalizes the Eigenfactor Score according to the cumulative size of the cited journal across the prior five years. The mean Article Influence Score for each article is 1.00. A score greater than 1.00 indicates that each article in the journal has above-average influence.

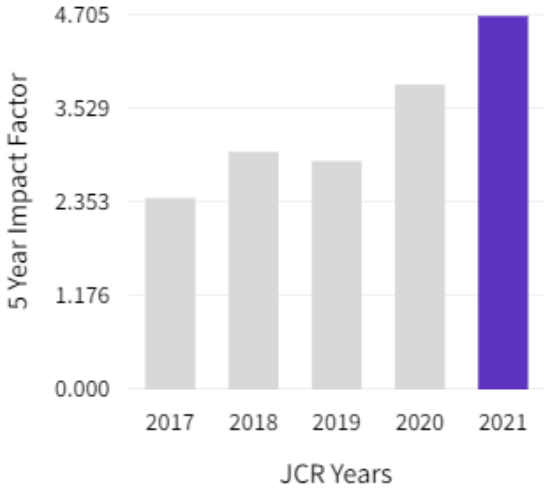


# 5 year Impact Factor

## 4.705

The 5-year Impact Factor is the average number of times articles from the journal published in the past five years have been cited in the JCR year. It is calculated by dividing the number of citations in the JCR year by the total number of articles published in the five previous years.




5 year Impact Factor calculation

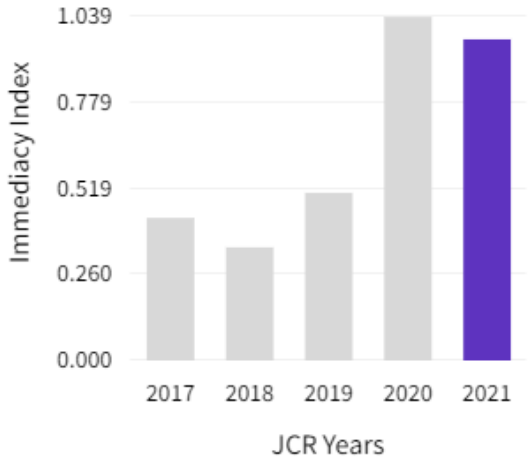
$$\frac{\text{Citations in 2021 to items published in [2016-2020] (3,924)}}{\text{Number of citable items in [2016-2020] (834)}} = \frac{3{,}924}{834} = 4.705$$

# Immediacy Index

## 0.971

The Immediacy Index is the count of citations in the current year to the journal that reference content in this same year. Journals that have a consistently high Immediacy Index attract citations rapidly.




Immediacy Index calculation

| | | |
|---|---|---|
| Cites in 2021 to items published in 2021 | 264 | 264 / 272 = 0.971 |
| Number of items published in 2021 | 272 | |