Factors associated with recognition at work among nurses and the impact of recognition at work on health-related quality of life, job satisfaction and psychological health: a single-centre, cross-sectional study in Morocco

Latifa Alahiane, Youssef Zaam, Redouane Abouqal, Jihane Belayachi

ABSTRACT

Objectives To describe the sociodemographic, occupational and health factors that influence nurses’ recognition at work and to examine a recognition pathway model to assess the relationship between recognition at work and health-related quality of life (HRQOL), job satisfaction, anxiety and depression.

Design This is a cross-sectional observational study with prospective data collection based on a self-report questionnaire.

Setting University hospital centre in Morocco.

Participants The study included 223 nurses with at least 1 year of practice at the bedside in care units.

Measures We included the sociodemographic, occupational and health characteristics of each participant. The Fall Amr instrument was used to measure job recognition. HRQOL was measured using the Medical Outcome Study Short Form 12. The Hospital Anxiety and Depression Scale was used to assess anxiety and depression. Job satisfaction was measured using a rating scale (ranging from 0 to 10).

Path analysis was used to examine the nurse recognition pathway model to assess the relationship between nurse recognition at work and key variables.

Results The participation rate in this study was 79.3%. Institutional recognition was significantly correlated with gender, midwifery specialty and normal work schedule: $\beta = -5.10 (8.06, -2.14)$, $\beta = -5.13 (8.66, -1.60)$ and $\beta = -4.28 (-6.85, -1.71)$, respectively. Significant correlations were found between recognition from superiors and gender, mental health specialisation and normal work schedule: $\beta = -5.71 (-9.39, -2.03)$, $\beta = -5.96 (-11.17, -0.75)$ and $\beta = -4.04 (-7.23, -0.85)$, respectively. Recognition from coworkers was significantly associated with mental health specialisation: $\beta = -5.09 (-9.16, -1.01)$. The trajectory analysis model found that supervisor recognition had the best impact on anxiety, job satisfaction and HRQOL.

Conclusions Recognition from superiors is important in maintaining nurses’ psychological health, HRQOL and job satisfaction. Therefore, managers in hospitals should address the issue of recognition at work as a potential personal, professional and organisational lever.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This study is original because it is the first to explore the impact of nurses’ job recognition on psychological health, health-related quality of life and job satisfaction in Morocco or even in North Africa.

⇒ The study was conducted in the largest university hospital in Morocco, which is representative of all university hospitals in the country.

⇒ Scientifically valid measurement instruments were used to measure the study variables.

⇒ To study the relationships, we developed an original model to analyse the trajectories between the three dimensions of recognition and quality of life, job satisfaction, anxiety and depression.

⇒ This study is monocentric and this approach makes it difficult to generalise the results obtained.

INTRODUCTION

The nursing profession has undergone an original and universal evolution, with the emergence of different grades and the development of university training in nursing specialties. Nurses have become autonomous healthcare professionals as well as collaborators working together with physicians. The WHO defines nursing as the provision of autonomous and collaborative care to individuals, families, groups and communities in all settings and at all ages, from health promotion and disease prevention to caring for the sick, disabled and dying. Indeed, nurses play a vital role in achieving universal health coverage and the Sustainable Development Goals.

However, despite this growth, the nursing profession continues to face challenges, including premature abandonment and shortages, particularly in developing countries where international mobility exacerbates...
the problem.7–9 (In 2018, the WHO estimated a deficit of 5.9 million nurses.5) This shortage is attributed to various factors, including challenging working conditions such as excessive workloads, mandatory overtime, inadequate hours, lack of leadership, and a significant disparity between effort and rewards.7 8 10 11

In addition to these challenges, nurses face the daily reality of being at the bedside, dealing with pain, death, suffering and complex tasks,12 which can be physically, psychologically and emotionally challenging.13 As a result, nurses are among the health professionals with the poorest mental health and are at risk of experiencing psychological distress, depression and burnout.14 They are also at risk of experiencing physical health problems such as back pain and musculoskeletal disorders.15–17 Therefore, the quality of the work environment is crucial to promoting nurses’ mental and general health, as well as job satisfaction.12 17–19

The work environment of nurses merits decisive reflections, considering the current context characterised by an ever-increasing demand for nurses, fuelled by medical advances, increasing life expectancy, and the burden of chronic diseases and epidemics,7 such as COVID-19. The COVID-19 pandemic has underscored the critical need to address challenges to nursing retention, as healthcare professionals, including nurses and physicians, have experienced higher levels of anxiety, depression and difficulties in balancing their professional and personal responsibilities.18–21 In Morocco, nurses and doctor colleagues have demonstrated exceptional commitment and selflessness in the face of the country’s health crisis, despite the challenges of inadequate equipment, budget constraints (the health budget is 5% of the gross domestic product)21 and a shortage of nurses and health technicians (with a deficit of 64,747 in Morocco).22 Nurses have doubled their working hours and cancelled their vacations,23 making their work more challenging and taking a toll on their psychosocial well-being.24 However, the feeling that their efforts were not adequately recognised led to a strike.25 26 Despite the Ministry of Health’s efforts, they were unable to fulfil all the nurses’ demands. Therefore, it is critical for leaders in strategy and operations to focus on creating and maintaining a healthy work environment by enhancing leadership and providing non-monetary incentives.7 27 Furthermore, research has shown that monetary rewards alone are insufficient for nurses.28 29

Among non-monetary incentives, recognition at work is the most effective approach.30 31 It consists of recognising and appreciating the contributions of employees, expressed by their colleagues, superiors or management, with symbolic, emotional or financial value.30 32 Recognition should encompass work practices, investment in work and results achieved.30 32 For nurses, recognition should be linked to both exceptional and ordinary performances,33 determined by professional relationships based on respect, support and feedback on work. It should also include organising social activities outside work, creating spaces for discussion, granting autonomy over care practices, involving nurses in planning and decision-making, flexible schedules, and offering opportunities for professional growth.33–35

Recent research suggests that nurses have a strong need for recognition33–35 and that the lack of such recognition can have negative consequences. This includes increased suffering for nurses,16 deterioration of their psychological health and reduction of health-related quality of life (HRQOL),16 36 37 contributing to low job satisfaction and even leading to abandonment of the nursing profession.29 38

Although there is clear research evidence that recognition at work has significant health benefits to nurses, there have been no studies on this topic in the hospital sector in Morocco. The objectives of this study were to (1) describe the sociodemographic, professional and health factors that influence nurses’ recognition at work; and (2) examine a recognition pathway model to assess the relationship between recognition at work and HRQOL, job satisfaction, anxiety and depression.

**Study hypothesis**

This study aimed to investigate the relationship between recognition at work and HRQOL, job satisfaction, anxiety and depression.

- **Hypothesis 1**: recognition at work improves nurses’ job satisfaction.
- **Hypothesis 2**: recognition at work improves nurses’ HRQOL.
- **Hypothesis 3**: recognition at work has an impact on nurses’ psychological health.

Research indicates that social support from superiors and coworkers is a crucial factor in work recognition.32 In a study, social support was found to have a significant impact on nurses’ quality of life in all domains.39 Another study conducted in Brazil demonstrated an association between effort–reward imbalance and low scores on the psychological dimension of HRQOL among registered nurses.40 Based on these findings, we predict that there is a positive relationship between nurses’ job recognition and HRQOL among nurses in this study.

- **Hypothesis 3**: recognition at work has an impact on nurses’ psychological health.

Research suggests that the lack of recognition at work can have a negative impact on nurses’ psychological health.17 A study conducted in Canada found that the lack of support and respect from colleagues or superiors contributed to the deterioration of nurses’ mental health.19 Anxiety and depression are common symptoms of poor psychological health. Therefore, we hypothesise

that there is a link between workplace recognition and anxiety and depression. The more nurses feel recognised in their work, the less anxious and depressed they are likely to be.

A recognition pathway model (figure 1) has been developed to evaluate the relationship between recognition at work and key variables such as HRQOL, job satisfaction, anxiety and depression. This model considers both direct and indirect relationships between these variables.

METHODS
Design
This was a cross-sectional observational study with prospective data collection using a self-assessment questionnaire (see online supplemental file), which was distributed to nurses working at the bedside of patients in the care units of a university hospital centre in Morocco between January and December 2019.

Setting
We carried out the research in the care units of a university hospital in Morocco. It is a public administrative institution, a legal entity with financial autonomy. The centre contributes to implementing state policy in terms of third-level care, public health, medical training, dentistry, pharmacy, as well as research, expertise and innovation, with a functional capacity of 2347 beds and a human capital of 6536, including 2654 nurses.

Participants
► Inclusion criteria: nurses who had worked in the care units of a university hospital centre in Morocco for at least 1 year were eligible.
► Exclusion criteria: the following were excluded from this study:
  - Nurse managers and nurses who handle administrative tasks, as they are more concerned with management and organisational tasks than with patient care.
  - Nurses with a technical profile, such as statistical technicians and radiology technicians. The nature of their jobs does not allow them to be constantly at the bedside bearing the workload and the emotional and physical strain caused by patients’ demands and sufferings.

Sampling method
The sample size for a given level of statistical power is determined by the number of predictors, the effect size and the level of significance.40 Given a statistical power of 0.90, a sample size of 218 is required to detect an average effect size of 0.3, with eight predictors, at a significance level of 0.05.

Patient and public involvement
Participants were not involved in the design, conduct, reporting or dissemination plans of our research. There are no plans to distribute the study findings to the participants.

Procedures
Following ethics approval, data collection began at the study’s target sites, beginning with the staff who met the study’s inclusion criteria. We gave participants the questionnaire, along with an information sheet outlining the study protocol. They were encouraged to ask questions about the study, and any information about them was kept anonymous and confidential. All study participants provided written informed consent.

Measures
We recorded the following characteristics for each participant:
► Sociodemographic characteristics: age, gender (male or female), marital status (single or married), number of children and level of education (bachelor’s degree, bachelor’s/master’s degree/doctorate).
► Professional characteristics: nursing specialty (nurse anaesthetist, mental health nurse, physiotherapist/speech therapist/psychometrician, midwife, multiskilled nurse), number of years of practice, intention to leave hospital practice (yes or no) and type of schedule (normal schedule, on-call schedule). The normal schedule is from 08:00 to 16:00, excluding weekends and holidays. On-call schedule is either day shift (the nurse works from 08:00 to 20:00, 1 day out of 2), night shift (the nurse works from 20:00 to 08:00, 1 night out of 2), or alternation between day and night shift (in this case, the nurse works the day shift, then the night shift, with a 2-day recovery).
► Health characteristics: whether the participant has a chronic illness, the length of illness per year and the number of medical certificates filed in the last 6 months.

Instrument for recognition at work
We chose the measurement scale developed by Fall41 to assess recognition at work. The first four items concern institutional recognition, the second four items concern superior recognition and the third four items concern recognition by colleagues. The establishment’s...
recognition refers to all the methods used by the establishment to benefit its employees. Superior recognition corresponds to support, a testimony of consideration and sympathy. The term ‘colleague recognition’ refers to the spontaneous appreciation expressed directly by colleagues to highlight good work.

We scored each item on a 5-point scale (ranging from 1 ‘strongly disagree’ to 5 ‘strongly agree’), with a total score for each subscale ranging from 4 to 20. Higher scores indicate higher level in the dimension under consideration (institutional recognition, superior recognition or colleague recognition).

Psychological health measurement instrument
We used the 14-item Hospital Anxiety and Depression Scale (HADS) to evaluate psychological health. Seven items measure depression, and seven others measure anxiety. We gave each item a 4-point rating (ranging from 0 to 3), with a total score for each subscale ranging from 0 to 21. A higher score indicates more anxiety or depression. We established the following threshold values for both scores: a score of 7 or less indicates no anxiety or depression; a score of 8–10 indicates doubtful anxiety or depression; and a score of 11 or more indicates the presence of anxiety or depression.

HRQOL instrument
Self-assessment using the Medical Outcome Study Short Form 12 (SF-12) was used to measure HRQOL. The SF-12, which only has 12 items, is a descendant of the SF-36. The physical component summary (PCS) and the mental component summary (MCS), each with six items, are two summary measures that combine the 12 items. Eight quality of life domains are covered by the two components. The PCS is concerned with general health, physical function, physical pain and physical role (limitations in roles due to physical problems). The MCS focuses on four areas: vitality (energy/fatigue), emotional role (limitations in roles due to emotional problems), mental health (psychological distress and well-being) and social functioning.

Higher scores indicate better physical and mental health functioning. The scores range from 0 to 100. Physical fitness was defined as having a score of 50 or less on PCS-12, while we defined impaired mental health as having a score of 42 or less on MCS-12.

Numerous studies have found that the SF-12 has good psychometric properties across a range of age groups, including the elderly, and across various nations. The SF-12 is available in Moroccan Arabic and is regarded as a reliable tool for determining the general health of Moroccans.

Job satisfaction measurement instrument
A single item that evaluated the entire job was used to measure job satisfaction: ‘In total, how satisfied are you with your job?’ The ease of measuring job satisfaction with a single item and the fact that single-item job satisfaction measures had at least comparable validity and reliability with corresponding multi-item measures were both revealed by research. The higher the score, the more satisfied an individual is with the job, according to a response scale of 0–10 points for this question.

Statistical analysis
To characterise the sample, descriptive statistics were performed through means and SDs for continuous variables and frequencies and percentages for categorical variables. Continuous variables were summarised as mean and SD or median and IQR depending on the distribution.

First, to determine the factors associated with workplace nurse recognition, we performed univariable linear regression. As our study is exploratory, variables with p≤0.05 by univariable analysis were selected for inclusion in the multivariable analysis. Multivariable linear regression with β coefficient and 95% CI was used.

Path analysis was used to examine a nurse recognition pathway model to assess the relationship between workplace nurse recognition and the variables (HRQOL, job satisfaction, anxiety, depression). Path analysis was used to determine the pathways by which each workplace recognition dimensions (institutional recognition, recognition of superior, and recognition by colleagues) influence physical and mental quality of life, hospital anxiety, depression, and job satisfaction.

Path analysis allows obtaining the direct and indirect effects between the variables and indication of the overall suitability of the model. The significance of all direct and indirect effects was evaluated to determine which variables had a direct and indirect impact on mental and physical quality of life, hospital anxiety, depression, and job satisfaction. Standardised beta coefficients (β) were derived for each explanatory variable to allow for comparison and estimation of the relative importance of each measure.

To examine the fit of the conceptual model of path analysis, goodness-of-fit indexes were used, including comparative fit index, Tucker-Lewis index (>0.95 suggesting good fit), root mean square error of approximation and standardised root mean square residual (<0.05 suggesting good fit). Significance level for all analyses was set at p<0.05. Data analysis was conducted using Stata V.14 software.

RESULTS
Description of the variables
Participants
A total of 238 nurses completed the questionnaire, with a 79.3% response rate. Of the questionnaires, 223 were used and 15 were rejected as they were incomplete. Of the respondents, 155 (69.5%) were female. The mean (±SD) age of the respondents was 34 (±10) years. Of the respondents, 138 (61.8%) were married and 65.9% had a university education (table 1).
Instruments

- Recognition at work: workplace recognition received 11±4 points for institutional recognition, 13±4 points for superior recognition and 15±3 points for colleague recognition.
- HADS: measure of anxiety and depression. For anxiety, the mean HADS-A score was 11±5. For depression, the mean HADS-D score was 9±4.
- HRQOL: the mean score for the physical component of the SF-12 was 43.5±7.4, while the mean score for the mental component was 39.6±8.2.
- Job satisfaction: on a scale of 0–10, job satisfaction was 5.6±2.3.

Table 1 describes the measurement instruments.

Factors associated with recognition at work

Univariate analysis

The following are the factors influencing nurses’ recognition in the univariate analysis:

**Institutional recognition**

Sociodemographic, professional and health factors associated with more institutional recognition were advanced age (β=0.06; 0.02, 0.11), professional seniority (β=0.07; 0.01, 0.12) and physical therapy/speech therapy/psychomotricity specialty (β=2.6; 0.8, 4.5). Variables associated with less institutional recognition are higher educational level (β=−1.07; −2.13, −0.01) and midwifery specialty (β=−2.06; −3.63, −0.48). Better perceived institutional recognition was associated with less anxiety (β=−0.14; −0.2, −0.03) and better physical and mental quality of life (β=0.1; 0.03, 0.16, and β=0.07; 0.01, 0.1).

**Superior recognition**

Sociodemographic, professional and health factors associated with more recognition from superiors are advanced age (β=0.06; 0.02, 0.11), physical therapy/speech therapy/psychomotricity specialty (β=3.38; 1.45, 5.31) and normal work schedule (β=1.45; 0.4, 2.5). Variables associated with less recognition from superiors were higher educational level (β=−1.07; −2.13, −0.01) and number of medical certificates (β=−2.06; −3.63, −0.48). Better perceived recognition from hierarchy was associated with less anxiety (β=−0.14; −0.2, −0.03) and better physical and mental quality of life (β=−0.14; −0.25, −0.04), more satisfaction at work (β=0.44; 0.2, 0.66) and better physical quality of life (β=0.12; 0.045, 0.19).

### Table 1

<table>
<thead>
<tr>
<th>Participant characteristics</th>
<th>n (%) or mean±SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sociodemographic variables</strong></td>
<td></td>
</tr>
<tr>
<td>Age (per year)</td>
<td>34±10</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>68 (31)</td>
</tr>
<tr>
<td>Female</td>
<td>155 (69)</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
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<tr>
<td>Not married</td>
<td>85 (38)</td>
</tr>
<tr>
<td>Married</td>
<td>138 (62)</td>
</tr>
<tr>
<td>Number of children, median (IQR)</td>
<td>1 (0–2)</td>
</tr>
<tr>
<td><strong>Level of study</strong></td>
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</tr>
<tr>
<td>Bachelor's/master's/doctorate</td>
<td>147 (66)</td>
</tr>
<tr>
<td>Baccalaureate</td>
<td>76 (34)</td>
</tr>
<tr>
<td><strong>Professional variables</strong></td>
<td></td>
</tr>
<tr>
<td>Specialty</td>
<td></td>
</tr>
<tr>
<td>Intensive care anaesthesia</td>
<td>19 (8.5)</td>
</tr>
<tr>
<td>Mental health</td>
<td>23 (10.3)</td>
</tr>
<tr>
<td>Physical therapy/speech therapy/psychomotricity</td>
<td>18 (8)</td>
</tr>
<tr>
<td>Midwifery</td>
<td>25 (11)</td>
</tr>
<tr>
<td>Multiskilled</td>
<td>138 (62)</td>
</tr>
<tr>
<td><strong>Type of schedule</strong></td>
<td></td>
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<tr>
<td>Normal schedule</td>
<td>110 (49)</td>
</tr>
<tr>
<td>On-call schedule</td>
<td>113 (51)</td>
</tr>
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<td><strong>Intention to leave the hospital</strong></td>
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<tr>
<td>Yes</td>
<td>99 (45)</td>
</tr>
<tr>
<td>No</td>
<td>124 (55)</td>
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<tr>
<td><strong>Number of years in practice</strong></td>
<td>10.2±9.4</td>
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<td><strong>Health variables</strong></td>
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<tr>
<td>Suffering from a chronic disease</td>
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<tr>
<td>Yes</td>
<td>75 (34)</td>
</tr>
<tr>
<td>No</td>
<td>148 (66)</td>
</tr>
<tr>
<td><strong>Duration of illness (per year)</strong></td>
<td>8.3±6.2</td>
</tr>
<tr>
<td><strong>Number of medical certificates (during the last 6 months)</strong></td>
<td>0.4±0.8</td>
</tr>
<tr>
<td>Instruments</td>
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<tr>
<td>Recognition at work</td>
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<tr>
<td>Institutional recognition</td>
<td>11±4</td>
</tr>
<tr>
<td>Superior recognition</td>
<td>13±4</td>
</tr>
<tr>
<td>Colleague recognition</td>
<td>15±3</td>
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<tr>
<td>Anxiety/depression</td>
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<tr>
<td>Anxiety</td>
<td>11±5</td>
</tr>
<tr>
<td>Depression</td>
<td>9±4</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td></td>
</tr>
</tbody>
</table>

Continued
Colleague recognition
No statistically significant association was found between colleague recognition and nurses' sociodemographic, professional and health factors. Online supplemental table S1 summarises the results of the univariate analysis of nurses' sociodemographic, occupational and health characteristics, HRQOL, job satisfaction, anxiety, and depression with regard to the three dimensions of job recognition.

Multivariate analysis
The following are the factors influencing nurses’ recognition in the multivariate analysis:

Institutional recognition
Sociodemographic, professional and health factors significantly associated with less institutional recognition were male gender ($\beta=-5.10; -8.06, -2.14$), midwifery specialty ($\beta=-5.13; -8.66, -1.60$) and normal work schedule ($\beta=-4.28; -6.85, -1.71$).

Superior recognition
Sociodemographic, occupational and health variables significantly associated with less recognition from superiors were male gender ($\beta=-5.71; -9.39, -2.03$), mental health specialty ($\beta=-5.96; -11.17, -0.75$) and normal work schedule ($\beta=-4.04; -7.23, -0.85$).

Colleague recognition
Less recognition from colleagues is significantly associated with mental health specialty ($\beta=-5.09; -9.16, -1.01$). Online supplemental table S2 summarises the findings of the analysis of the multiple variables related to recognition at work.

Path analysis model
The path analysis model is a model for analysing the pathways between the dimensions of recognition and HRQOL, job satisfaction, anxiety and depression.

Figure 2 and table 2 show the results of the pathway analysis model between the three dimensions of job recognition and HRQOL, anxiety, depression and job satisfaction. Figure 2 shows that the goodness of fit of the model studied in the path analysis is satisfactory.

DISCUSSION
The aim of our study was twofold: first is to describe the sociodemographic, occupational and health factors that influence nurses’ recognition at work; and second to examine the relationship between workplace recognition and key variables, including HRQOL, job satisfaction, anxiety and depression using a pathway model.

Regarding the first objective, we found that male gender, midwifery and mental health nursing specialties, and normal working hours were associated with less recognition at work.

The study found that male nurses feel less recognised than their female counterparts. This may be due to societal and cultural biases that view caregiving as a traditionally female role, leading to a perception that men are less suitable for nursing roles. These biases can have negative consequences for male nurses, including difficulties in gaining acceptance from colleagues and patients, as well as barriers to career advancement. The study highlights the need to address these biases and promote greater recognition of male nurses in the workplace.

The study found that midwives felt less recognised by their institution compared with nurses in other specialties, while mental health nurses felt a need for recognition from their colleagues and superiors. This emphasises the need to acknowledge and address the distinct needs and perspectives of different nursing specialties for recognition and support in the workplace.

The study's findings on the need for institutional recognition for midwives highlight the importance of ongoing advocacy efforts by professional associations for midwives. In Morocco, these efforts have resulted in the development of a new law (No. 44/13) governing the profession of midwifery and the establishment of a cooperation programme between midwifery associations and the United Nations Population Fund to support the implementation of this law and the creation of a midwifery order in Morocco. These initiatives can contribute to improving the recognition and support of midwives in the workplace and ultimately improving maternal and child health outcomes in the country.

With regard to mental health nurses, a review of the literature on nurses’ experiences in psychiatric hospital care revealed the same results; a problem nurses face is the lack of recognition and support. The perception of diminished recognition may be related to organisational constraints faced by nurses working in Moroccan psychiatric institutions, such as lack of job description,
continuous training, safety and protection, poor living conditions, and professional and social stigmatisation.51

Our study also found that nurses who work normal hours received less recognition at work. This could be because superiors constantly monitor the fact that they work the same timetable. If there is no real proximity management, this situation may limit nurses’ autonomy in their work or even cause difficulties. The presence of too much hierarchy may have a negative impact on individuals’ well-being and effectiveness.50 52 This could explain the findings of a study on the impact of working hours on caregivers’ perceived health and psychological demands at work, which discovered that caregivers working 12 hours are less tired and feel less emotionally drained than caregivers working 8 hours.30 Therefore, it is crucial for healthcare organisations to provide a healthy working environment for nurses; flexible scheduling, a balanced workload, adequate staffing and autonomy can be effective strategies to ensure that nurses receive adequate recognition and support on the job.

Concerning the factors age, seniority professional and level of education, the results of this study are similar to those of the Blegen et al study. The Blegen study involving 341 nurses, suggested that nurses’ age, years of service and level of education did not significantly affect the meaning of the recognition they received.

The univariate analysis showed that the intention to leave the university hospital centre was negatively and significantly associated with recognition from superiors, suggesting that recognition from superiors is a crucial factor in retaining nurses in their workplace. Addressing this issue could help decrease turnover rates and ensure a stable workforce in the hospital. This finding is consistent with the results of a study of 2488 nurses which found that encouraging recognition practices at work had a positive effect on nurses’ renewed interest in nursing and job retention.51

Regarding the second goal of this study, the trajectory analysis model indicated that supervisor recognition had the greatest effect on nurses’ job satisfaction, anxiety and HRQOL. This finding supported some of the initial hypotheses.

Our findings indicate a negative and significant correlation between recognition from the superiors and anxiety, which is consistent with the findings of a previous study on the effect of an empathetic management approach. This study found that nurses in hospital 2 who used the aforementioned approach had a higher perception of support and recognition than nurses in hospital 1 and that this feeling of recognition reduced burnout in hospital 2.54 Another cross-sectional study with 353 nursing professionals from a hospital showed that social support, lack of autonomy at work, hostile relationships with colleagues and lack of recognition are statistically associated with levels of stress, anxiety and depression.55 These findings highlight the importance of supportive and empathetic management approaches in promoting the mental health and well-being of nurses, including recognition at work.

This study found a positive and statistically significant relationship between recognition from superiors and nurses’ job satisfaction, which is consistent with the findings of other studies,11,18 and so solidifies the findings of the psychodynamic analysis of the nurse,56 which details the impact of lack of recognition on nurses’ perceptions of their responsibilities as sources of suffering rather than sources of professional valorisation. Therefore, strategies that promote recognition and support from supervisors should be implemented to improve job satisfaction and the overall well-being of nurses.

The finding that superior recognition has a positive and significant effect on nurses’ HRQOL is consistent with other research reporting a positive and significant correlation between superior support (recognition from superiors) and nurses’ HRQOL in all its physical and psychological components.59 In another study, nurses

<table>
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<th>Table 2</th>
<th>Types of direct and indirect relationships</th>
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<td>Effect</td>
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<tr>
<td>On physical component of QOL</td>
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<tr>
<td>Of IR</td>
<td>0.19</td>
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<tr>
<td>Of SR</td>
<td>0.31</td>
</tr>
<tr>
<td>Of CR</td>
<td>−0.13</td>
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<tr>
<td>On mental component of QOL</td>
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</tr>
<tr>
<td>Of IR</td>
<td>0.29</td>
</tr>
<tr>
<td>Of SR</td>
<td>0.07</td>
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<tr>
<td>Of CR</td>
<td>0.04</td>
</tr>
<tr>
<td>On job satisfaction</td>
<td></td>
</tr>
<tr>
<td>Of physical component of QOL</td>
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<tr>
<td>Of mental component of QOL</td>
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<td>Of SR</td>
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<td>Of CR</td>
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<td>On anxiety</td>
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<td>Of physical component of QOL</td>
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<tr>
<td>Of mental component of QOL</td>
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</tr>
<tr>
<td>Of job satisfaction</td>
<td>−0.44*</td>
</tr>
<tr>
<td>Of IR</td>
<td>−</td>
</tr>
<tr>
<td>Of SR</td>
<td>−</td>
</tr>
<tr>
<td>Of CR</td>
<td>−</td>
</tr>
<tr>
<td>On depression</td>
<td></td>
</tr>
<tr>
<td>Of physical component of QOL</td>
<td>−0.02*</td>
</tr>
<tr>
<td>Of mental component of QOL</td>
<td>−0.07*</td>
</tr>
<tr>
<td>Of job satisfaction</td>
<td>−0.30*</td>
</tr>
<tr>
<td>Of IR</td>
<td>−</td>
</tr>
<tr>
<td>Of SR</td>
<td>−</td>
</tr>
<tr>
<td>Of CR</td>
<td>−</td>
</tr>
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*P<0.05.
CR, colleague recognition; IR, institutional recognition; QOL, quality of life; SR, superior recognition.
seek social support due to lack of recognition, and this has a negative impact on their quality of life. Therefore, social support is an important resource for nurses, but if they do not receive recognition from their supervisors and colleagues, this can have a negative effect on their well-being physically and psychologically.

The study’s findings suggest that recognition from superiors plays a critical role in nurses’ job satisfaction, HRQOL, and anxiety. This is supported by the mediating role of perceived superior emotional support in the relationship between extrinsic strain and emotional exhaustion, as well as the relationship between work–family conflict and job satisfaction and emotional exhaustion. Additionally, the need for recognition from superiors is considered the most important recognition need expressed by nurses. These findings emphasise the importance of recognition from superiors as a critical resource for nurses, which can improve their ability to handle work demands and their sense of professional fulfilment.

Our findings contradict the findings of other studies in the literature, which found no statistically significant relationship between coworker recognition and the other study variables. It supported, on the other hand, the bifactorial theory (motivational and hygiene factors) developed by psychologist Frederick Herzberg, which classifies good interpersonal relations (the basis for recognition by colleagues) as one of the hygiene factors that lead to weakening job dissatisfaction and are not necessarily likely to produce satisfaction. However, it is important to note that research in this area can often produce varying results due to differences in study design, sample size and other factors. Therefore, further research is needed to fully understand the relationship between coworker recognition and the other variables.

It is important to note that the negative relationship between job satisfaction and anxiety/depression found in this study, as well as in other studies, highlights the need for healthcare organisations to prioritise the well-being of their nursing staff. Improving work conditions, and providing adequate resources can also help alleviate as strategies to address this issue. Additionally, addressing the nursing shortage by increasing recruitment efforts and providing adequate resources can also help alleviate job stress and improve job satisfaction among nurses. These strategies appear relevant in the Moroccan context, which is characterised by a severe shortage of nursing resources, and an insufficient work timetable and work rhythm system.

Our findings show that HRQOL is positively and significantly related to job satisfaction. This is consistent with the findings reported in the international literature. Ioannou et al. reported positive correlations between all scales of the job satisfaction measure and HRQOL in a cross-sectional study of 508 nurses in Greece. The relationship between nurses’ job satisfaction and patients’ satisfaction could explain such a correlation. On the one hand, nurses’ job satisfaction is determined by the extent to which they contribute to improving their patients’ health, and on the other hand, patient needs are determined by nurses’ physical, emotional and mental abilities. This suggests that improved HRQOL enables nurses to respond more effectively to patients’ needs, resulting in higher job satisfaction.

**Strengths, limitations and avenues for research**

This conceptual extension appears significant and novel due to several reasons. First, our study is the first empirical research to investigate the relationship between workplace recognition and nurses’ well-being in Morocco and even in North Africa. Additionally, the need for recognition from superiors is considered the most important recognition need expressed by nurses. These findings emphasise the importance of recognition from superiors as a critical resource for nurses, which can improve their ability to handle work demands and their sense of professional fulfilment.

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Our study’s findings regarding the effect of recognition from colleagues on other variables differed from those of previous Western studies. This discrepancy has sparked our interest in conducting a future study that focuses specifically on the dimension of recognition of nurses by their coworkers. By narrowing our focus to this dimension, we can investigate the specific factors that influence the relationship between recognition by colleagues and nurses’ well-being.

Our research supports the importance of recognition by superiors in maintaining a nurse’s psychological health, quality of life and job satisfaction. Knowing that excellent care is the purpose of the nursing profession, this discovery encourages us to pursue scientific research hypotheses exploring the relationship between recognition by
superiors and nursing care quality. By investigating this relationship, we can gain a better understanding of how recognition by superiors impacts nursing care quality and identify potential ways to improve patient care outcomes.

Managerial implications
The results of this study have important implications for hospital operational managers and nursing leaders. The finding that recognition from superiors is a critical factor in nurses’ psychological health, HRQOL and job satisfaction highlights the need for hospital managers to prioritize this aspect of the work environment. Specifically, managers could consider implementing recognition programmes or initiatives that acknowledge and reward nurses’ efforts and achievements and provide opportunities for them to receive feedback and support from their superiors.

Furthermore, addressing the lack of recognition could also help reduce nurses’ intention to leave the hospital, which is a critical issue in the context of nursing shortage. By recognizing and valuing the contributions of nurses, managers may be able to increase job satisfaction and reduce burnout, which are known factors that contribute to nurses’ intention to leave.

At the strategic level, incorporating the dimension of workplace recognition into human resource management, education and action plans could also help foster a culture of recognition and support within the hospital. This could involve providing training to managers on how to effectively recognize and support their staff, as well as promoting the importance of recognition among nurses themselves. Additionally, recognizing nurses’ contributions could be incorporated into performance evaluations and other human resource management practices.

Overall, addressing the issue of workplace recognition has the potential to improve nurses’ well-being and job satisfaction, which could ultimately lead to better patient care and outcomes.

CONCLUSIONS
This study revealed that gender, nursing specialty and work schedule are the sociodemographic and professional factors associated with nurses’ recognition at work. It proved the significant impact of recognition at work on nurses’ job satisfaction, HRQOL and psychological health, especially recognition by superiors. It also helped broaden the understanding of the concept of job satisfaction and its relationship to psychological health and HRQOL.

As this is the first study conducted on the subject in Morocco, further research is highly recommended in other health institutions, both in the hospital network and in the primary healthcare network, to confirm the results and draw strategic recommendations.

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Contributors
LA and JB designed the study and performed the statistical analysis and interpretation of data. LA discussed the results and drafted the manuscript. JB critically reviewed the article and guarantor of study. JB and RA supervised the study and gave final approval of the manuscript. LA and YZ were responsible for coordination and data collection and acquisition. All authors read and approved the final manuscript.

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None declared.

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Patients and/or the public were not involved in the design, or conduct, of reporting, or dissemination plans of this research.

Patient consent for publication
Consent obtained directly from patient(s).

Ethics approval
This study involves human participants and was approved by the Ethics Committee for Biomedical Research, Mohammed V University (approval in the session of 17/1/2019; reference number: file 05/19). Participants gave informed consent to participate in the study before taking part.

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