European Journal of Occupational Health Nursing

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SUMMARY

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Editorial

Welcome to the first issue of EJOHN

Henriett Éva Hirdi

President of the Federation of Occupational Health Nurses within the European Union

Dear Readers, Colleagues and Friends,

Welcome to the first issue of the European Journal of Occupational Health Nursing (EJOHN), the official journal of the Federation of Occupational Health Nurses within the European Union (FOHNEU)!

It is my privilege and pleasure to write this letter and to introduce EJOHN, which aims to be a high-quality, peer reviewed, open access journal. The main objective of the Journal is to serve as a vehicle of communication for the dissemination of innovative and impactful research and clinical content in the field of occupational health nursing.

EJOHN started out as an agenda point at the Post-Congress FOHNEU Board Meeting in Budapest, Hungary one and half year ago, when representatives from Spain put forward a proposal to establish an on-line European Journal for Occupational Health Nurses. One of the aims of FOHNEU is to encourage research into areas of occupational health practice, education and management with publication of the results. So, we had a vision to create an innovative and authentic scientific journal in this field.

In the first phase we are focusing on to expand and refine the editorial board to embrace top experts. At present we are pleased to already be able to welcome the following editors to the board: Manuel Romero Saldaña PhD (University of Córdoba, Spain) as editor in chief, Melek Nihal Esin PhD (University of Istanbul-Cerrahpaşa, Turkey) as managing editor, Gema Arévalo Alonso MSc (FOHNEU) as editorial officer, Elisabete Borges PhD (University of Porto, Portugal), Walter de Caro PhD (Sapienza University of Rome, Italy), Rocío de Diego Cordero PhD (University of Seville, Spain), Javier González Caballero PhD (National Institute of Social Security, Spain), Henriett Éva Hirdi PhD (FOHNEU & Semmelweis University, Hungary), Alfonso Meneses Monroy PhD (Complutense University of Madrid, Spain), Lucia Mitello MSc (San Camillo Forlanini Hospital, Italy), Paula Naumanen PhD (University of Oulu,

Finland), Laura Sabatino PhD (Centre of Excellence for Nursing Scholarship of Ipasvi Rome, Italy), Julie Staun PhD (FOHNEU, Denmark), and Livia Szobota MSc (FOHNEU, Hungary) as associate editors. The fact that editors are based in different countries and are able to communicate in a number of European languages makes the Journal's operation more efficient.

The topics covered in the Journal include but not limited to: health surveillance, immunisations, hazard assessment and control, emergency response and advanced emergency care, ergonomic assessment, health promotion and education, legislation, prevention and management of occupational diseases, return to work, disability management, etc.

We want EJOHN to be an international forum for sharing the best practice ideas and for exchange of information on all of the above topics and more, in various formats: original theoretical, quantitative and empirical research and discussion papers, survey papers, insightful systematic reviews, and case studies in nursing care. We also welcome proposals for special issues on topics, within the scope of EJOHN that might be of current scholarly and clinically interest.

I would like to take the opportunity to thank our current editorial board members for their commitment to the standards to which this new Journal aspires. Beginning this year, these board members have handled the first-round submissions. I also would like to thank all authors who contributed manuscripts for this 1st issue and other authors who are waiting patiently to get their manuscripts published in subsequent issues.

We envisioned this year going a bit differently. The World Health Assembly has designated 2020 the International Year of the Nurse and the Midwife. We are very disappointed to report that the COVID-19 pandemic has forced us to cancel many of the in-person meetings and celebrations.

Hereby, I would like to express my gratitude to all of my colleagues for participating in the fight against COVID-19. Over the past months, employers around the world have taken unprecedented steps to combat the COVID-19 pandemic. Closing workplaces and ordering workers to home office, then later the reopening has had different impact on the health and well-being of the workforce. Employers and employees need decision support as they consider their options to assure safe and healthful working

conditions. We all know, that occupational health nurses play a vital role in providing health advices and services. Thank you for all you have done for the working community in the efforts of keeping them safe and healthy.

Finally, I'm proud to emphasise that this year also marks the 120th anniversary of the birth of Dr. Mária Baloghy, the director of the very first industrial nurse training in Hungary. She was very interested in girls' and women's education and occupational health. In order to properly elaborate a training scheme for Occupational Health Nurses, the high school teacher Dr. Baloghy took up a job as a factory workwoman; she lived and worked with workwomen, and thus she gained sufficient experience. Because of her efforts, the first industrial nurse training launched in 1933 in Budapest, Hungary. The first students passed their final exam in June 1934. Between 1933 and 1945 more than 150 women become industrial nurses. She encouraged her students and the certified industrial nurses to share their experiences, best practices in the occupational health community.

I close this message by inviting everyone to submit their exciting articles to EJOHN keeping up the tradition inherited by Dr. Baloghy.

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Original Article

Comparison of performance targets of public and private sector Occupational Health Nurses in Finland

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ABSTRACT

Introduction. The aim of the study was to compare the performance targets among Finnish occupational health nurses working in the public and private sector. To our knowledge, the performance management has not been studied in occupational health nursing.
Methods. The Finnish Association of Occupational Health Nurses (FAOHN) carried out an electronic questionnaire study in 2018. The questionnaire was answered by 48 public health sector and 178 private health sector OHNs. We analyzed the data by using cross-tabulation, percentages, and Chi Square-test.
Results. Public health sector OHNs consider the set performance targets reasonable compared with the private sector nurses. About half felt the performance targets inappropriate to their work. The performance targets were not based on the goals agreed with the clients, actual workload, or quality of the work.
Conclusions. The performance targets should be reasonable, personalized, and based rather on achieving the goals with the clients than optimizing the financial return. Direct participation in the target setting, personal goals, and rewards when the goals are met, can increase OHNs' well-being at work.

Keywords: Health care; Healthcare providers; Occupational health nursing; Management.

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Introduction

In Finland, there was in total 442 occupational health care units and 2154 occupational health nurses (OHNs) at the end of 2018 [1,2,3]. In two-thirds (67%) of the occupational health care units a multi-professional (67 %) team consisting of occupational physician, occupational health nurse, occupational physiotherapist and occupational psychologist was available.

The OHN has an important role in coordinating the services and cooperating with the client organizations and enterprises. The main tasks of OHN are promotion of health and wellbeing at work and prevention of work-related ill-health and disability. OHNs do health surveillance and counseling and assess working environments and communities and their impact on health in liaison with the other experts in the occupational health care team. OHNs coordinate care, rehabilitation and return to work after illness and other causes. They also carry out health examinations and related tests - such as hearing and vision tests and provide vaccinations [4, 5]. The work of OHN is based on understanding the clients' needs, good nursing practice and a holistic approach with high ethical standards. As well OHNs prioritize preventive care, chronic disease management, healthy communities, environmental health, and sustainability [5-7]. The changes in work life and health care have led to new ethical issues at all stages of the caring process. The importance of the ethical issues in nursing also requires a similar adjustment in educational pathways of nursing than in medicine [8].

The Occupational Health Care Act (1383/2001) defines the position of OHN [9]. It also provides professional competences required for public health nurses working in occupational health service. A certified occupational health nurse must have post-graduate education of at least fifteen credits on occupational health care within two years of taking up in occupational health service. The OHN should attend an in-service training on average 7 days a year. Almost all (98 %) OHNs were qualified in 2018 [3]. Most of the OHNs work in permanent employment in private sector and the employer have direct management rights over them [3, 4].

Recent studies confirm that supporting the autonomy of nurses reduces the burden of work, and that self-management supports OHN's coping at work. Other identified supporting factors include enough resources, job management, interaction skills and feedback from the supervisor [10, 11]. In the 21st Century, the changes in work life with more

stress and mental problems and the increasing use of digital technologies place new demands to the work and future of occupational health nursing. In Finland OH nurses in the private sector appear to be the most overloaded by work content compared to the OH nurses in public sector [11, 12]. A knowledge-sharing culture and organizational learning can be core factors affecting nursing performance. It might be one method to enhance the outcomes of nursing performance and achieve greater business competitiveness [13]. Effort-reward imbalance is prevalent among nurses and is associated with stress, burn out, poor self-related health, sickness absence and intention to leave the nursing profession [14-16]. Consequently, performance management should support the work of OHN.

Performance management became common in Finnish health care in the 1990s, and often means monetary rewards, such as bonuses and benefits. The issue has been controversial, and the employers and employees have not always shared the same view. Employees have felt that they have not had a full understanding of the reward system and cannot influence it enough. On the other hand, some have felt that performance management should be the basis of the health care management systems [17]. However, in general in Finland, the attitude toward changes brought by performance management has been slightly positive and commitment to performance management moderately positive. Also interest in measuring costs and goal- orientation has increased [18, 19]. According to Seitovirta (2018) [20] the performance management had a negative impact on the work environment due to deterioration of job retention. Total salary has been seen a better alternative to different bonuses [18, 21]. In public sector, only a few municipalities have introduced smaller instant bonuses and performance bonuses. [21, 22]. Performance management faces many challenges for example lack of consensus on which organizational and environmental factors can improve these results [23].

To our knowledge, the performance management has not been studied in occupational health nursing. The aim of the study was to compare the performance targets among Finnish occupational health nurses working in the public and private sector, and what factors were considered when setting the targets.

Methods

Study design. Sample.

The Finnish Association of Occupational Health Nurses (FAOHN) carried out an electronic questionnaire study in November 2018. The questionnaire contained questions about performance management, factors influencing the setting of performance targets, were the quality of work and wellbeing at work considered, and what were the indicators used for measuring performance.

The questionnaire was answered by 48 public health sector and 178 private health sector OHNs. The membership amount in Finnish Association of Occupational Health nurses in about 1200. The response rate was 19%.

Ethical aspects

We had Finnish Institute of Occupational Health (FIOH) institutional and Finnish Association of Occupational Health Nurses (FAOHN) support. The research had no ethical approval from an institutional review board. Data protection Supervisor (FAOHN) addressed the ethical issues. The paragraph in the Personal Data Regulations that explicitly allows the use of the material for statistical research (including historical), although there is no mention of it when collecting the data. The respondents are not recognized from data.

Statistical analysis

We analyzed the data by using direct distribution, cross-tabulation, percentages, and Chi Square-test. Statistical significance was defined as $P < 0.05$. The statistical analyses were performed using the SPSS Statistics 25 package (IBM Corp., Armonk, NY, USA).

Results

For most of the respondents the professional title was occupational health nurse or responsible occupational health nurse. One out of four OHNs in both public and private health care sector reported that 75-100% of their working time is devoted to occupational health nursing (Table 1).

Table 1. Respondents of the survey

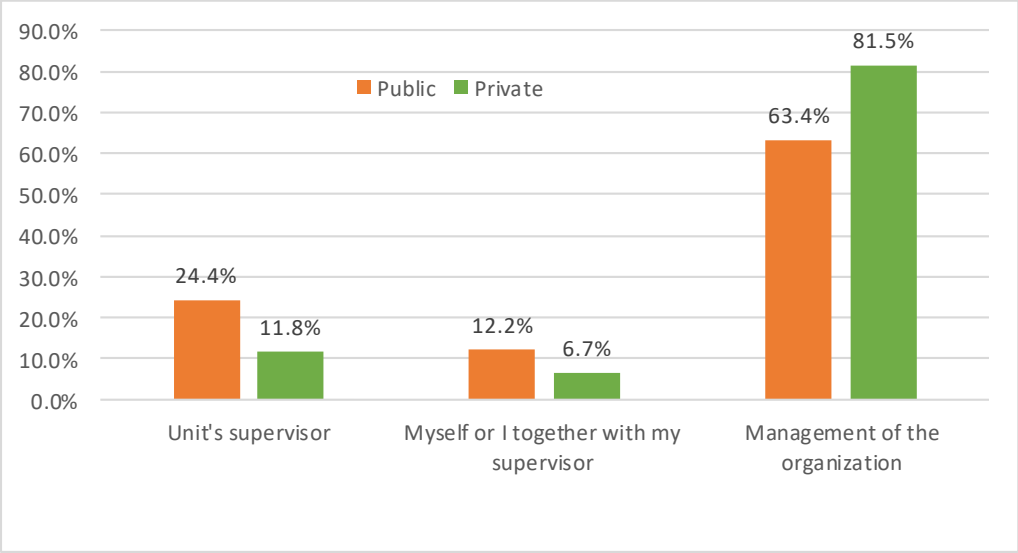
	Job title			Total
	OHN n (%)	Supervisor/responsible OHN n (%)	Other n (%)	
Public	43 (89.6)	4 (8.3)	1 (2.1)	48 (100)
Private	115 (88.5)	11 (8.5)	4 (3.1)	130 (100)
Total	158 (88.8)	15 (8.4)	5 (2.8)	178 (100)

OHN: Occupational Health Nurse

Three out of four (77%) of the public sector OHNs reported having equal performance targets. In private sector 89% shared the same opinion. The performance target system was considered the same for all the professionals by 34% of the public sector and 27% of the private sector OHNs. About 60% of the respondents answered that a billing target was defined, more often in the private sector.

The target setter was quite well known. However, in the public sector, still almost 15% of the OHNs could not tell who sets the performance targets. Similarly, in the private sector, 8.5% were unaware of the targets' setter. Setting the performance targets by oneself or together with the supervisor was not common. More of the public sector OHNs reported having done so (12%) compared with the private sector nurses (7%). The difference was not statistically significant (Figure 1).

Figure 1. Who sets the performance targets?



In the public sector, half of OHNs felt that they were unable to influence their performance targets, while on the private sector, 63% shared this opinion.

When asking about the performance indicators, half of the respondents in both sectors reported that the measure was the number of health checks. Referrals to other experts were measured commonly. Almost all (90%) told the referrals to physicians and the referrals to psychologists and physiotherapists (70%) were used as indicators. Often used indicators were also the number of laboratory tests (88%) and other exams (92%).

We assumed that the number and profile of customers as well as the working time and absenteeism would have been considered in the target setting. However, the number of customers did not influence the performance targets in 70% of the OHNs in private sector and 62% of the public sector nurses. Over 60% felt that the customer profile was not considered in the performance targets.

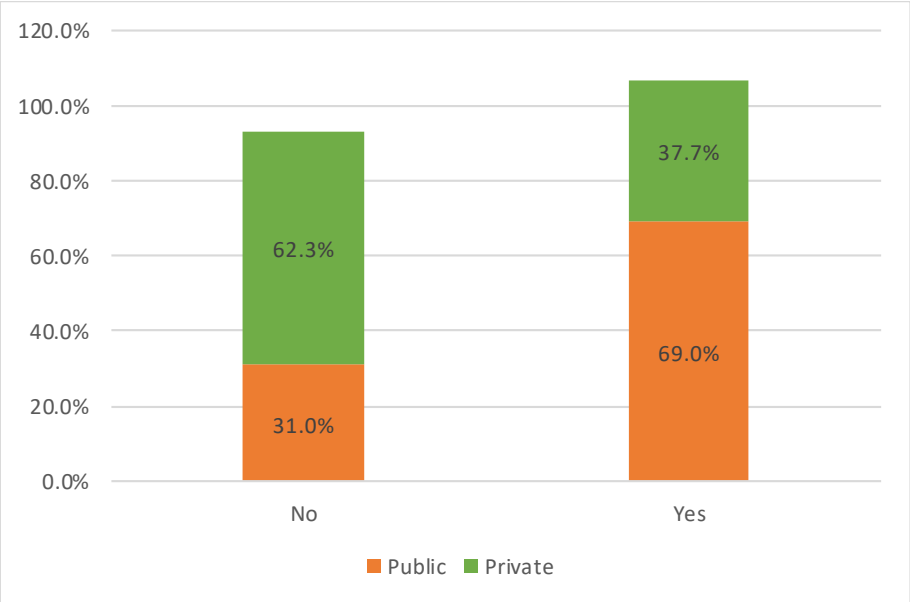
The absence from work was not well considered, but more of the nurses in the private sector (44%) than in the public sector (30%) reported it influenced the target setting. The best considered factor was the working time. Of the respondents 78% said it was used. Almost 90% of the respondents felt that wellbeing at work was not considered in the performance targets.

Three out of four (74%) public sector OHNs felt that the quality of their work was not considered in the performance targets. In the private sector, a little bit fewer (63%) had the same opinion. It was also noticed that considerable proportion (35%) of nurses in the public sector could not say whether the quality issues were considered in the performance targets.

The performance targets were considered reasonable by 69% of the public sector OHNs, while in the private sector, only 38% felt so ($p<0.05$). When there was an opportunity to influence the performance targets, they were considered more reasonable ($p<0.05$), and more felt that well-being at work was considered.

Meeting the targets were mostly done monthly (67%). Yearly evaluation was not common, but more frequent in the public sector (30%) than in the private sector (10%).

Figure 2. Are the performance targets reasonable?



Performance targets were set for 70% of public sector OHNs and 65% of private sector nurses. Only one-third of the OHNs estimated that they will achieve 75% of the performance targets. Noteworthy was that about half of the respondents did not see the performance targets appropriate to their work and even fewer (39%) felt the performance targets were essential.

In the free comments the OHNs told what they considered proper performance targets. Planning of work, collaboration, quality metrics and customer feedback were mentioned. In addition, personal goals and a monthly financial reward for accomplishing the goals were suggested. The volume of customers and workload were suggested to be considered when setting the performance goals.

Discussion

The number of respondents in this study represent only 8% of the OHNs in Finland and 19% of the members in FAOHN. However, considering the descriptive nature of the study, the results give a relatively accurate image of the performance targeting among public and private sector OHNs in Finland. The study is part of a larger inquiry of the OHNs' work and working conditions implemented by the Finnish Association of Occupational Health Nurses (FAOHN) in autumn 2018.

Eighty-six percentage of OHNs reported having equal performance targets. Most of the OHNs' performance targets were either financial billing goals or quantitative goals, such as the number of health examinations or workplace surveys performed in a set time, usually in a month. The performance targets were usually set at the management level. Only few had personalized targets agreed with a supervisor, and even fewer could influence them.

Significantly larger proportion (69% vs. 38%) of the public health sector OHNs consider the set performance targets reasonable compared with the private sector nurses. In both study groups, about half felt the performance targets inappropriate to their work, and only 30-40% of the nurses reported that the number and profile of the customers were considered when setting the targets.

The performance targets were not based on the goals agreed with the clients, actual workload, or quality of the work but rather on the available working time, output volume and returns. The targets were not adjusted in two out of three nurses even when they were absent from work. It can be questioned whether performance targets guide the work towards the goals.

Legally and ethically sound practice binds all the healthcare personnel. If the performance targets are not in line with the professional ethics, the dilemma can lead to constant stress and even burnout. Therefore, it is worrying that nine out of ten OHNs said their well-being was not considered in target setting. Ethical reflection is essential when OHN meets unrealistic outcome pressures [6, 23, 24].

The law (1383/2001) oblige a written quality system and monitoring of the quality and effectiveness of the service. OHNs' work form an essential part of the key client processes. High quality in both person and organization client work benefit not only the

clients but also enhances the skills and well-being of OHNs and other professionals [23]. However, only one out four OHNs reported the quality of their work regarded in the performance setting. If quality is neglected in the occupational health care performance targets, where would it lead us?

According to Campbell and Burs (2015) [25], OHNs are well qualified to educate workers and coach them through changes in work and life. Thus, management of results and performance targets should support preventive work, quality and co-operation. Indicators for evaluation of nursing performance have been developed and should be used for supporting realistic goals [26].

OHNs need to be able to influence the performance targets themselves, because it increases their well-being and commitment to work. The performance targets should be reasonable, personalized, and based rather on achieving the goals with the clients than optimizing the financial return.

In Finland, the OH services have concentrated during the whole 2000 century. Large commercial occupational health services dominate the market. In practice, ethics and the quality of work should be considered alongside the results and cost-effectiveness. Good quality in occupational health care consists of supporting workability and promoting healthy and safe workplaces.

For the well-being of OHNs, the management by results and performance targets should support the preventive occupational nursing work. The number of person and organization clients allocated for an OHN need to be reasonable. When setting the targets, the profile of clientele and its needs should be considered. Direct participation in the target setting, personal goals, and rewards when the goals are met, can increase OHNs' well-being at work.

Limitations

A limitation of the study was a small number of respondents to the questionnaire, which is common for web-based surveys [27]. We could have got a more precise results, if more OHNs would have answered. However, our understanding is, that even with the limited number of respondents, we got a relatively accurate view on the

performance target setting in the private and public occupational health care services in Finland.

Concluding Remarks

The current way of setting the performance targets is not satisfying. However, well set performance targets have a great potential to empower OHNs to meet the clients' goals as well as to achieve the personal professional goals. Appropriate performance targets can improve the quality of occupational health nursing.

Conflict of interest. The authors declare no conflict of interest.

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Original Article

Work ability literacy among occupational health nurses. A qualitative study

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ABSTRACT

Objectives: The study aimed to develop and test the work ability literacy concept, and to evaluate the effect of a counselling training intervention on occupational health nurses' work ability literacy. We investigated how the occupational health nurses defined the concept of work ability literacy on both a personal level and when working with clients in occupational health check-ups at baseline, and whether their concept definition changed after the counselling training intervention.
Methods: Qualitative content analysis of occupational health nurses' answers to open-ended questions on work ability literacy.
Results: The occupational health nurses' concept of work ability literacy was broader and more defined after the intervention. The number of responses to work-related issues increased. The nurses began to find more means to support their own work ability. In client work, the counselling training promoted development from being a passive listener to an active supporter of the client's actions to meet their own goals.
Conclusions: The work ability literacy concept shifted the focus of occupational health check-ups towards empowering the client to maintain and improve their own work ability and health. We propose the use of the work ability literacy concept for improving the effectiveness of counselling in occupational health services.

Keywords: occupational health practice; work ability literacy; health plan; occupational nurses; work ability promotion; counselling; occupational health check-up

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Introduction

Finland has well-developed occupational health services [OHS], which cover 85% of the 2.3 million workforce. Annually, OHS perform over one million health check-ups in Finland [1], the objective of which is to promote health and work ability [2]. These are mostly conducted by occupational health nurses [OHNs].

Work ability is a comprehensive, resource-driven concept. One way of conceptualizing and visualizing it is the 'Work Ability House' [3], a model in which the resources are a person's health, motivation, competence, professional skills, and acting according to one's own values. The effects of different work and occupations place demands on work ability and health, and environmental factors also affect work ability [4,5]. Different work tasks and occupations have different effects and demands on health and work ability, and thus the promotion of work ability means that solutions should be tailored according to the occupation and work. For example, health promotion intervention studies of workers in physically strenuous work have shown to be effective if the physical activity training is tailored according to the demands of the work tasks [6].

Maintenance of good work ability throughout the working career is a key goal of Finnish OHS. Counselling during occupational health [OH] check-ups mostly focuses on lifestyle, work ability and functional capacity, and less on work and working conditions [7], although these are equally important. In addition to the contents, the counselling skills, methods and interaction, and the ability of the OHN to tailor the counselling according to the client's stage of change process are of great importance for enhancing the effectiveness of counselling [8]. Many types of interventions have been tested in primary care to improve health literacy for chronic disease behavioural risk factors, but not directly for work ability [9].

The idea of studying work ability literacy came up in our study team when we were discussing how to improve OHNs motivational counselling skills. The roots of the work ability literacy concept lie in health promotion and the concept is closely related to that of health literacy. Health literacy can be used to measure the impact of a health promotion intervention [10]. Its measures include health-related knowledge, attitudes, motivation, behavioural intentions, personal skills, and self-efficacy. Improving health literacy through counselling can empower individuals to take better care of their health. We suggest broadening the health literacy concept to include the promotion of work ability in the work

of OHS in order to improve the effectiveness of their measures. Thus, as a starting point, we present a new concept called *work ability literacy.* This causes a change in the paradigm of the counselling in health check-ups from the evaluation of health status and the effects of work-related factors on health to work ability literacy. Work ability literacy can be used as a concept or framework in the promotion of work ability. When it is used, it improves the tailoring of counselling to the effects and demands of work on health and work ability. To our knowledge, this is the first time this concept has been used in research.

In order to develop this concept, we were interested in how the OHNs define it, because they as professionals conduct most of the health check-ups in Finland. This knowledge is also needed in order to further develop effective interventions to improve OHNs' counselling and interaction skills with their clients. We considered a qualitative research approach, framed by a naturalistic paradigm, which is appropriate for this study, as we wanted to identify the variety of ways in which the participants in our data construct the meaning of the concept [11]. This was important as we found no previous studies on this topic that could have guided our inquiry. This was also the reason why we wanted to study text data in the form of open-ended questions, as they do not have as much influence on the answers as structured questions might have.

Therefore, the objective of this study was to develop and test the work ability literacy concept, and to evaluate the effect of a motivational counselling training intervention on OHNs' work ability literacy. In this study, work ability literacy refers to: 1] How well an OHN understands the requirements and effects of their work on their own health, health behaviour and ability to function at work, and 2] How well an OHN is empowered to take these requirements into account and act upon them both personally and in their own profession when counselling a client during a health check-up. We were interested in how OHNs defined the concept of work ability literacy both on a personal level and when counselling clients during OH check-ups, and how this changed after the intervention.

Methods

Study protocol

This study was a sub-study of a larger intervention study [http://urn.fi/URN:ISBN:9789522619174] [12] in which we used a stepped-wedged design to study whether the motivational counselling and use of a written health plan in OH check-ups influenced employees' work ability, perceived health, and resources for continuing to work.

The study was conducted during 1 April 2016–31 May 2018. The trial was registered before the start of the study at the Nederland's Trial Register [https://www.trialregister.nl/trial/5620] under the number 5620, on 28 April 2016. The study was approved by the Hospital District of Helsinki and Uusimaa Coordinating Ethics Committee in February 2016.

Participants

Our focus in this sub-study was the OHNs from the OH units in the larger study. They participated voluntarily, were female, Finnish-speaking, experienced, and used to expressing themselves in writing. We did not limit ourselves to female nurses, but Finnish OHS has very few male OHNs, and none of whom participated. The mean age of the OHNs was 46 and mean perceived work ability 8.5, measured by a question about their current perceived work ability on a scale of 0–10, 10 indicating lifetime best work ability. [13,14] Table 1 presents the characteristics of OHNs.

Table 1. Characteristics of occupational health nurses

OHN	Age	Gender	Worked in OH service in years	OH service type	Location of the clinic by province
1	41	Female	5-10	Private	Uusimaa
2	60	Female	more than 10	Private	Uusimaa
3	44	Female	more than 10	Private	Uusimaa
4	32	Female	5-10	Private	Northern Savonia
5	45	Female	5-10	Private	Northern Savonia
6	46	Female	more than 10	Private	Southern Savonia
7	57	Female	more than 10	Private	Southern Savonia
8	33	Female	over 2 but less than 5	Private	Uusimaa
9	56	Female	5-10	Private	Uusimaa
10	35	Female	over 2 but less than 5	Private	North Ostrobothnia
11	55	Female	more than 10	Private	North Ostrobothnia
12	31	Female	over 2 but less than 5	Private	North Ostrobothnia
13	55	Female	more than 10	Private	Southern Savonia
14	41	Female	more than 10	Private	Southwest Finland
15	52	Female	more than 10	Public	Uusimaa
16	43	Female	over 2 but less than 5	Public	Uusimaa
17	54	Female	5-10	Public	Uusimaa
18	52	Female	over 2 but less than 5	Public	Uusimaa
19	41	Female	more than 10	Public	Uusimaa
20	52	Female	more than 10	Private	Uusimaa
21	54	Female	more than 10	Private	Central Finland
22	42	Female	5-10	Private	Central Finland

Counselling training

Altogether 37 OHNs from 22 OH clinics participated in the counselling training intervention. The training consisted of two half-day theoretical and practical periods and online assignments on motivational counselling, work ability literacy and making a written health plan together with the client. The Work ability house was used as a framework for the work ability concept [4].

Because all the participating OHNs were experienced in counselling, the training focused on strengthening their counselling skills and improving their interaction with their clients in addition to the use of a written health plan. The framework for their training was the experiential learning cycle [15], the constructivist concept of learning [16] and the transtheoretical change process model [17].

The questions

As part of the study protocol, the OHNs responded to the questionnaire before and after (6 and 12 months) the training intervention. The material used in this sub-study consisted of responses to the questions (Q1) 'Write down your own understanding of work ability literacy' and (Q2) 'Write down your own understanding of work ability literacy in client work' (OH check-ups). We only included responses by the same person to both Q1 and Q2 before and after the intervention (6- or 12-month follow-ups). Of the 37 OHNs, 22 answered the first and 21 the second question. The questions were open-ended. The researchers did not influence the responses through time pressure or in any other way.

Data processing and analysis

We used qualitative, conventional content analysis [18, 19]. First, the researchers read the responses. The responses were pseudonymized and brought to qualitative data analyses using Atlas. fi software. We used the qualitative data analyses software coding function to simplify the responses and capture their key points. The unit of analysis was the whole answer to the question. However, in cases in which an OHN had responded at both 6-month and 12-month follow-ups, the responses were treated as one.

Each response was assigned one or more codes describing its content. Second, the coded expressions were grouped into categories. As the existing theory on the phenomenon was limited, we avoided preconceived categories, and derived our categories directly from the data [11]. At this phase of the analysis, we created two main categories:

expressions related to the 1) content of work ability literacy and 2) measures promoting work ability. This classification was developed by SS during discussions with TL, JL and EW. Divergent views were discussed, the final coding was formulated, and the responses were placed into different categories. Finally, for Q1 and Q2, the ranking of the responses before and after the counselling training intervention was examined on the basis of what content was given to the work ability literacy concept (Table 2) and the level of measures to promote work ability (Table 3).

Table 2. Occupational health nurses' understanding of the content of work ability literacy before and after intervention training

Subcategory		**Q1 Work ability literacy in own work**		**Q2 Work ability literacy in client work**	
No	Name	Before IT	After IT	Before IT	After IT
1	Health, lifestyle and functional ability	6	4	7	6
2	Personal attributes such as motivation, values, skills and resources	4	3	2	1
3	Life situation	2	2	2	2
4	Work-related issues	10	15	9	11
5	Multifactorial work ability	3	10	5	14
	- affecting factors mentioned	1	7	3	7
	- affecting factors not mentioned	2	3	2	7
6	Personal feelings during the working day	3	0	0	0
7	Content lacking from response	3	1	6	1

Table 3. Work ability literacy in occupational health nurses' own health behaviour/actions and when counselling clients in health check-ups before and after intervention training (IT)

Subcategory number	Q1 Work ability literacy in own work	Before IT	After IT
1	Recognition factors that influence work ability, but no actions mentioned	14	12
2	Restricting workload	5	1
3	Searching extensively for ways to maintain and improve work ability	3	9
	Q2 Work ability literature in client work		
1	Understanding client's work ability	12	3
2	Increasing client's awareness of work ability	2	7
3	Helping client make a change	7	11

Results

We present the results regarding work ability literacy and its changes from baseline to 6 or 12 months expressed in the nurses' responses as those related to 1) the content (Category 1) and 2) the activity level of work ability promotion (Category 2).

Category 1. Content of work ability literacy

The work ability literacy contents were classified into seven different subcategories (Table 1): 1) health, lifestyle and functional ability; 2) personal attributes such as motivation, values, skills and resources; 3) impact of life situation on work ability; 4) impact of work-related issues on work ability; 5) work ability as an entity including both work demands and two to three aspects from subcategories 1–3; 6) personal feelings during the working day; and 7) content missing from response.

Most commonly, work ability literacy was related to health, personal attributes and life situation) subcategories 1–3). The OHNs described work literacy as follows: 'Awareness of you own resources, ability to face situations and cope with them. Knowing and accepting your limitations.' and 'Acknowledging the client's life situation, health and lifestyle issues and motivation/attitude in a comprehensive way.' (Q2).

The number of responses that included work-related issues (subcategory 4) increased from 10 to 15 after the training, particularly with regards to how work ability was

seen in terms of one's own work. 'Work ability literacy means recognizing the dangers/threats of work and the opportunities for one's own health and well-being.' (Q1). (OHN 8, aged 33). There was also a small shift towards taking work-related issues into account in client work responses. One respondent (OHN 2, aged 60), for instance, stated: 'I can relate my client's coping and health challenges to their work and work tasks. I can get the client to tell me things so that I can make judgments about their ability to do their specific job.' (Q2).

The training clearly broadened the OHNs' definition of their own work ability literacy (subcategory 5). Responses describing not only work demands but other aspects (health, personal attributes or impact of life situation) also increased from one answer to seven answers in this subcategory. As an example of a broad definition, one respondent concluded 'For me, it means managing my own work, considering my own resources; health and a healthy lifestyle; leisure time that helps recovery and hopefully brings a sense of empowerment to work.' (Q1) (OHN 7, aged 57). The same change was also observed in the responses to client work. 'Work ability extends beyond health and functional capacity to a broader range of issues, such as work and working conditions, motivation to work, and skills, which should be addressed in addition to health/illnesses in interactions with the client during health check-ups.' (Q2) (OHN 17, aged 54).

Answers that could be interpreted as containing a comprehensive work ability concept but that mentioned no specific dimensions diminished during the intervention in both the nurses' own work and the client's work: 'For me, work ability literacy means comprehensive consideration of matters.' (Q1) (OHN 5, aged 45). 'Understanding and interpreting all matters related to the ability to work.' (Q2) (OHN 7, aged 57).

Before the training intervention, three responses regarding the nurses' own work ability literacy were classified into subcategory 6, meaning that they only contained expressions of personal feelings during the working day. One respondent (OHN 11, aged 55) wrote: 'It is what I feel at work.' (Q1). After the training, this subcategory had no responses.

Six responses before the training did not address the content of the term work ability literacy at all (subcategory 7). One respondent (OHN 18, aged 52), for instance, defined work ability literacy simply as 'Understanding the matters related to the ability to work.' (Q1). Only one response remained in this subcategory after the training in relation to client work, but also when the OHNs defined it in relation to themselves.

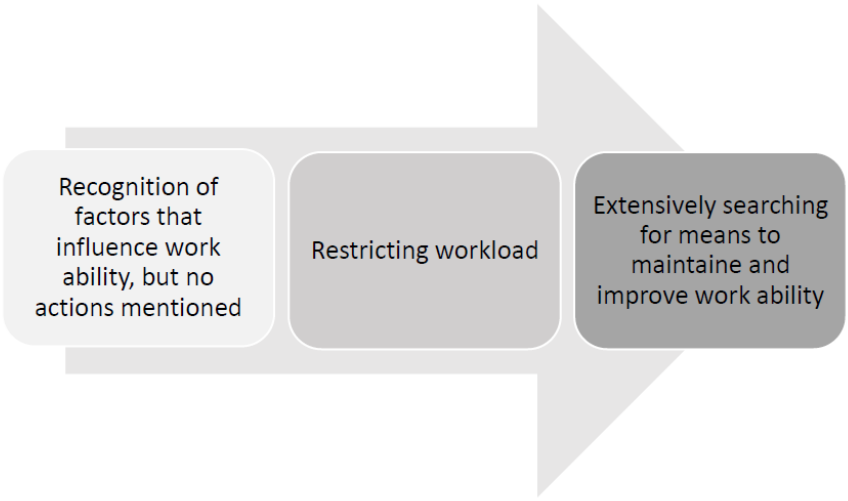
We also examined the before training responses of those who did not answer after the training (n = 27). These seemed to remain almost the same. Thus, we assumed no significant differences between the groups that also answered after training and those who did not.

Category 2: Measures to promote work ability

The responses also included expressions describing measures to promote work ability (Table 2). Three subcategories were created for the nurses' actions in relation to their own work ability (Q1): 1) recognition of factors influencing work ability, but no actions mentioned, 2) restricting workload, and 3) searching extensively for means to maintain and improve work ability. The corresponding subcategories for work ability literacy in client work (Q2) were: 1) recognition of factors that influence work ability 2) increasing clients' awareness of work ability and 3) helping clients make changes.

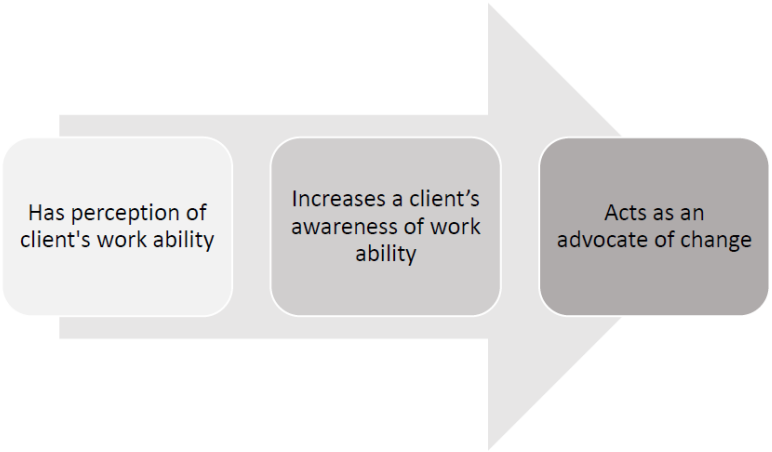
Before the training, over half the responses to the question on the nurses' own work ability literacy (Q2) recognized factors that influenced work ability. These responses did not include any statements on measures that would actively promote work ability. One respondent (OHN 10, aged 35), for instance, defined work ability literacy simply as 'Understanding my own health and well-being and related matters, and their impact on my ability to work.' After the training, these responses decreased slightly. The responses that involved measures restricting workload, decreased during the training; for example, '… I must have the ability to recognize sufficient job performance in relation to my own resources and, if necessary, be able to ask for help and limit my work to within my resources.' (Q1) (OHN 21, aged 54). At the same time, responses that indicated searching for various ways to improve work ability increased from three to nine responses, for example, 'With this I can evaluate my own ability to cope with work. Is the job too demanding? I can assess how my own work and lifestyle contribute to maintaining work ability and even improving it.' (Q1) (OHN 13, aged 55). The trend in the development of nurses' own work ability literacy is presented in Figure 1.

Figure 1. Development of work ability literacy in occupational health nurses' own health actions during intervention



In client work (Q2), there was a shift from merely having an insight into the client's work ability towards becoming an active advocate of change (Figure 2). Prior to the training, more than half of the OHNs (n = 12) understood work ability literacy as only the nurse's perception of the client's work ability. One respondent (OHN 9, aged 56), for instance, defined work ability literacy as 'Comprehensive understanding of a client'. (Q2). After the training, only three nurses used this subcategory when describing work ability literacy. The training increased the perception that work ability literacy in client work refers to how well an OHN can help increase a client's awareness of work ability: 'It means that in different ways I help the client recognize matters related to their ability to work. The things that make up one's work ability.' (Q2) (OHN 11, aged 55). Supporting clients' change processes also improved with training. 'I think that my job is to help the employee understand/read their own health situation, and on that basis make possible changes to achieve their work ability and health goals.'

Figure 2. Development of occupational nurses' work ability literacy in health check-ups during intervention



Discussion

One way in which to enhance the effectiveness of health check-ups is to develop interaction and counselling skills. In this study, we examined whether a short intervention could improve counselling and interaction. The results show that the training intervention made the nurses increasingly see themselves as an agent of change. The work ability literacy concept supported the effectiveness of counselling by helping to tailor and personalize counselling content based on the requirements and effects of work. The importance of this tailoring is supported by the finding that in effective interventions among workers in physically strenuous work, physical activity has been tailored according to their occupation [6]. In addition, our published and forthcoming results from the video recordings of the health check-up interactions [20, 21] highlight the importance of tailoring counselling to the client's needs. We found that training in counselling skills was beneficial in targeting advice to better meet the clients' concerns and needs. Furthermore, the promotion of health in OHS and at the workplace has traditionally focused on healthy habits and the prevention of diseases [7]. The work ability literacy concept represents a new way of thinking, and further studies on its effectiveness are needed.

When work ability literacy is used as a framework for counselling, the counsellor's main task is to help their client become aware of the demands and effects of their occupation on their health and behaviour, and to reflect on whether they behave accordingly. After this, the next question is how the counsellor can promote the required

behaviour change, or the development of work or work processes to better suit the worker [5]. Intervention studies on enhancing behaviour change using a theoretical framework have gained better and more effective results [22, 23]. Examples of such frameworks are the behaviour change wheel [24] and behaviour change techniques [25], the transtheoretical change model [26], and motivational interviews [27]. Using counselling materials such as the Work ability house [3], or a written health plan on a structured document [10, 28, 29], which were introduced in the training intervention, might also help counsellors better succeed and tailor their counselling to work-related issues. Further, digitalized systems, such as digitalized medical records, can guide attention systematically towards work issues in health check-ups. In order to improve the support of individuals' work ability, OHS should also promote measures to improve work processes and conditions at the workplace.

Limitations

Researchers' characteristics and reflexivity may influence results. In our research team, two of the researchers had an OH background, one in health promotion and one in healthcare communication. All of us had extensive experience in research or development in OH settings. None of us directly worked or had other relations with the participants of this study. None of us had any conflicting interests.

The data in the current study were collected using open-ended questions in surveys, which might have limited the answers. Thus, the results might have been somewhat different if we had used, for instance, individual or group interviews in the data collection. However, despite the features of the data collection method, the OHNs' perception of work ability literacy had clearly changed after the intervention. To increase the reliability of the analysis, all the research team members discussed the categories, codes and segments of the data several times, and shared opinions and disagreements to reach a consensus regarding the meaning of the data. The validity of the analysis was controlled, ultimately, by presenting the analytical process, how the categories covered the data and representative quotations from the transcribed text in this research report. The results are promising: even a short counselling training intervention can have a positive effect on nurse–client interaction and the empowerment of a client to take care of their own work ability. Our study was the first to

use the work ability literacy concept. We hope that more research will be conducted using this concept.

Concluding Remarks

The concept of work ability literacy gave the OHNs a better understanding of both their own and their clients' health and work ability and better equipped them to support corrective measures. These measures may vary from merely recognizing factors that influence work ability to searching for extensive ways to maintain and improve work ability. In client work, these may involve increasing the client's awareness of work ability and helping them make a change.

We also studied whether the counselling training intervention changed the OHNs' perception of work ability literacy. Work-related issues were given more attention, and more agency and support for behaviour change to promote work ability, respectively, were included in the responses after the intervention. The results show that with relatively short training on motivational counselling and work ability literacy, the OHNs' perception of work ability literacy expanded from a human-specific concept to a broader, multi-faceted and work-focused approach, and included an operational perspective to the promotion of work ability.

We tested whether the work ability literacy concept was useful for the framework of counselling in OHS. We found seven subcategories related to the content of work ability literacy in the nurses' responses, using conventional content analyses. These subcategories at least partially covered the floors of the Work ability house [3], which is a widely used model for conceptualizing the work ability concept. After the intervention, more work-related factors were observed and used as promoters for change in counselling.

Practical Implications

To improve the effectiveness of counselling, we propose the work ability literacy concept for the promotion of health and work ability among working-age people. Work ability literacy may help counsellors tailor their counselling content according to the demands and effects of work tasks and occupations. Further, counsellors orientated towards enhancing the work ability literacy of their clients empower them to take measures to promote their own work ability. Thus, better work ability literacy of counsellors could improve the effectiveness

of the counselling and work of the OHS. The concept of work ability literacy opens up a new theoretical framework for improving counselling during OH check-ups.

Conflict of interest. The authors declare no conflict of interest.

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Original Article

The Quality of Working Life among Nurses in Pediatric Setting in Spain: A pilot study

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ABSTRACT

Introduction: The health professional´s occupational health can affect both the quality of the care provided and the degree of training and the therapeutic techniques available. In case of nurses, they usually are exposed to situations that affect their Quality of Working Life (QoWL). The aim was to measure the quality of working life among nurses in pediatric departments and its factors associated.

Methods: A cross-sectional pilot study conducted in nurses of Pediatric departments in public hospitals in Andalusian (Spain). Participants (n=62) completed the biographical questionnaire and the validated 23-item Work-Related Quality of Life scale (WRQoL). A descriptive and multiple regression analysis were carried out.

Results: The average QoWL of pediatric nurses was of 78.13 ± 19.89 according to WRQoL scale. In relation to factors associated to QoWL, the analyses showed that having a master – maximum educational level, having pediatric nursing specialty, being married or having a civil partner and having labor flexibility for the reconciliation of work and private life increased total WRQoL score except having pediatric nursing specialty which decreased it.

Conclusion: Although the total WRQoL is average, more efforts should be made to increase the total WRQoL among pediatric nurses and to ask about other aspects in which to work to maintain a high QoWL.

Keywords: Quality of Working Life, Pediatric Nurse, Occupational health.

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Introduction

Nurses are the largest single employee component of hospitals and they are vulnerable to stress and exhaustion and there is no adequate support for them (1). Stressful events (situations) can put the person at risk of developing physical or even psychological problems (2). In recent years, pathologies such as Burnout Syndrome have acquired special relevance, due to the serious repercussions that it produces both labor and personal. In general, health professionals daily must to provide complex care and treatment to patients and being stressors factors that posing the risk of occupational burnout (3). In the case of nurses, a recent meta-analysis showed that global prevalence of burnout symptoms among nurses was 11.23% (4). This is especially important in nurses of pediatric services, since it can lead to a deterioration in the care provided to children and it has been suggested that patients treated by staff affected by the syndrome have a less favorable clinical course and are dissatisfied with the quality of care received.

"Quality of working life" (QoWL) is a broad concept that is affected by factors such as stress and job satisfaction, which change depending on the cultural context (5). Definitions of this concept begin to emerge in the 1960s after which many attempts at definition have been made, based on various combinations of factors and distinguishing between organizations and groups of employees. The evidence have showed the influence of a multitude of factors among which are equal employment opportunities, ambiguity in the role of work, job design and job security among others (6–8). But given the influence of sociocultural factors, there is no consensus about whether the key aspects of the QoWL of an individual. Hence, it is very important to know the conceptual components of the concept of QoWL and their differentiate from the concept job satisfaction among nurses (9).

Currently, in the specific field of health, many researchers have proposed models for the quality of work life among health professionals, especially nurses, which include a wide range of factors that affect the quality of work life. Several scales based on different factors as appropriate for various cultures and groups and sectors of work have been proposed. Among them, the Work - related Quality of Life (WRQoL) scale initially based on samples from the United Kingdom, has subsequently been used in more than 30 countries and is a measure designed to capture perceptions of the working environment and employees 'responses to them.

Henceforth, the aim was to measure the quality of working life and its factors associated among nurses in pediatric departments in Spanish Hospitals.

Methods

Design

A quantitative cross-sectional pilot study approaches to assess the QoWL of nurses working in pediatric departments, using WRQoL Scale.

Setting and sample

The study is conducted in Andalusian, Spain. Data were collected over 6 months in 2019. A purposive sample was carried out which involved all nurses who are working in pediatric departments of Andalusian publics hospitals. It was not limited for age, sex or any criteria. The literature recommends a sample of between 30 and 50 participants for a pilot study, which must meet the criteria to be measured in the target population (10). The total nurses involved was 62 nurses.

Variables

The following variables were considered. Sociodemographic and professional variables: age, sex (male; female), maximum educational level (PhD; Master; Degree), years of experience as a nurse, years of experience in a pediatric department, lost work days due to a health problem, pediatric nursing specialty, marital status (married or civil partner; divorced; single) and labor flexibility for the reconciliation of work and private life (Table 1).

Instrument

The WRQoL scale consists of 23 items, which are measured through a 5-point Likert scale (from 1 = "strongly disagree" to 5 = "strongly agree") and six subscales that measure work-related quality of life. The subscale "job and career satisfaction" (JCS) consists of six items (1, 3, 8, 11, 18, and 20). The subscale "general wellbeing" (GWB) also has six items (4, 9, 10, 15, 17, and 21). The subscale "homework interface" (HWI) consists of three items (5, 6, and 14). The subscale "stress at work" (SAW) consists of two items (7 and 19). The subscale "control at work" (CAW) consists of three items (2, 12, and 23) related to be involved

in decisions at work. The final subscale is “working conditions” (WCS) and consists of three items (13, 16, and 22) (Easton & Van Laar, 2018). Three negative items (7, 9, and 19) are in reversed coding before the calculation of the WRQoL subscale scores. The total WRQoL score is calculated by taking the mean of the six subscale scores. Higher WRQoL scores indicate a higher work-related quality of life. Higher overall score on this scale indicates better QoWL. The validity and reliability of the Spanish version of the WRQoL was showed by Edwards, Van Laar, Easton y Kinman (2009). This study pointed to a Cronbach's alpha of 0.94, for the 23 elements. Later, Van Laar and Easton (2010) considered a further revalidation exercise in which the staff of nine universities in the United Kingdom were involved. From this investigation, a Cronbach's alpha of 0.94 was indicated (11).

Statistical analysis

Demographic characteristics of nurses were calculated as the mean ± standard deviation, or n (%) of the total. Normal distribution of the total WRQoL score and its subscales were tested using the Shapiro Wilk normality test. Relationships between the different variables studied and WRQoL subscale scores were analyzed using a Spearman correlation analysis, T de Student and ANOVA depend on type of variable due to the non-normal distribution. The effect of different covariates (age, sex, marital status, maximum educational level, years of experience as a nurse, years of experience in a pediatric department, lost work days due to a health problem, Pediatric Nursing Specialty and labor flexibility for the reconciliation of work and private life) on overall WRQoL score were investigated using multiple linear regression analysis. Some variables were centered using median, such as age and years of experience as a nurse, due to value 0 was not included in these variables for sample studied. Statistical analyses were done using R version 3.6.2 statistical software. A p value < 0.05 was accepted as statistically significant.

Ethical aspects

The Biomedical Research Ethics Committee of Andalusia approved this research. Written consent was required for all participants. Confidentiality and anonymity were guaranteed.

Results

A total of 62 nurses working in pediatric departments responded to the questionnaire. The mean age was 36.23 ± 9.59 years. Of the 62 nurses, more than half (80.65%) were women, 51.61% were married, the Master level was reached by 46.77% and only 8.06% were PhD. In relation to training in pediatric nursing specialty, 63.93% of nurses had this academic degree. The mean of years of experience as a nurse and in a pediatric department were 12.89 ± 8.45 and 7.30 ± 7.55, respectively.

Table 1. Demographics characteristics of the nurses (n=62)

Variable	Mean ± SD or n (%)
Age (years)	36.23 ± 9.59
Sex	
Woman	50 (80.65)
Man	12 (19.35)
Maximum educational level	
PhD	5 (8.06)
Master	29 (46.77)
Degree	28 (45.16)
Years of experience as a nurse	12.89 ± 8.45
Years of experience in a pediatric department	7.30 ± 7.55
Lost work days due to a health problem	9.06 ± 48.55
WRQoL score	78.13 ± 19.89
Pediatric Nursing Specialty	39 (63.93)
Marital status	
Married or civil partner	32 (51.61)
Divorced	2 (3.23)
Single	28 (45.16)
Labor flexibility for the reconciliation of work and private life (yes)	40 (64.52)

The mean WRQoL score was 78.13 ± 19.89. Correlations coefficients between total WRQoL score and its subscales and the different demographics and covariates studied are given in Table 2 and 3.

Table 2. Spearman correlation coefficients (r) and statistical significance (p) levels between the different covariates studied and Work-Related Quality of Life (WRQoL) subscales

	WRQoL subscales						Overall WRQoL score
	JCS[a]	**GWB[b]**	**HWI[c]**	**SAW[d]**	**CAW[e]**	**WCS[f]**	
Age (years)	0.182	0.100	0.093	0.060	0.244	0.133	0.178
Years of experience as a nurse	0.149	0.032	0.042	-0.010	0.233	0.062	0.119
Years of experience in a pediatric department	0.143	0.142	0.029	0.105	0.327**	0.197	0.189
Lost work days due to a health problem	-0.266**	-0.340**	-0.296**	-0.437***	-0.209	-0.366**	-0.336**

Note: *p<0.05; **p<0.01;***p<0.001

[a]JCS: "job and career satisfaction"; [b]GWB: "general wellbeing"; [c]HWI: "homework interface"; [d]SAW: "stress at work"; [e]CAW: "control at work"; [f]WCS: "working conditions"

Table 3. The relation between demographics variables with WRQoL score and its subscales

		WRQoL subscales						Overall WRQoL score
		JCS[a]	GWB[b]	HWI[c]	SAW[d]	CAW[e]	WCS[f]	
Sex	p	0.262	0.757	0.440	0.443	0.577	0.551	0.425
Marital status	p	0.015*	0.018*	0.033*	0.086	0.002**	0.0442*	0.005**
Maximum educational level	p	0.017*	0.008**	0.19	0.143	0.006**	0.000***	0.005**
Labor flexibility for the reconciliation of work and private life	p	0.000***	0.001**	0.000***	0.020*	0.020*	0.000***	0.000***
Pediatric Nursing Specialty	p	0.090	0.100	0.182	0.640	0.837	0.624	0.185

Notes: *p<0.05; **p<0.01;***p<0.001

[a]JCS: "job and career satisfaction"; [b]GWB: "general wellbeing"; [c]HWI: "homework interface"; [d]SAW: "stress at work"; [e]CAW: "control at work"; [f]WCS: "working conditions"

The total WRQoL score was significantly and negatively correlated with lost work days due to a health problem ($r = -0.336$; $p < 0.01$) and positively correlated with marital status ($p<0.01$), maximum educational level ($p<0.01$) and labor flexibility for the reconciliation of work and private life ($p<0.001$). Considering the WRQoL subscales, years of experience in a pediatric department were significantly and positively correlated with the control at work, lost work days due to a health problem were significantly and negatively correlated with all subscales except with the control at work, which reflects reflects the level at which an employee feels they can exercise what they consider to be an appropriate level of control

within their work environment. Marital status was significantly and positively correlated with all subscales except with stress at work, maximum educational level was significantly and positively correlated with all subscales except with stress at work and homework interface, which is related to work-life balance and the extent to which an employer is perceived to support someone's home life, and finally, labor flexibility for the reconciliation of work and private life was significantly and positively correlated with all WRQoL subscales.

Among the variables that were entered into the multiple regression model, only four (master – maximum educational level, having pediatric nursing specialty, being married or having a civil partner and having labor flexibility for the reconciliation of work and private life) were found to be statistically significant in terms of total WRQoL score, increasing this score except having pediatric nursing specialty, which decreases total WRQoL (Table 4). This model explained 51.1% the Work-Related Quality of Life.

Discussion

Our study answered to aim finding that having a master – maximum educational level, having pediatric nursing specialty, being married or having a civil partner and having labor flexibility for the reconciliation of work and private life increased the total WRQoL score except having pediatric nursing specialty, which decreased it. These findings should be interpreted cautiously since the study is based on a non-representative sample of the population and, being a cross-sectional study, no causal relationships can be established.

Related to the association between having a higher educational level and QoWL, our findings showed that having a master or maximum educational level increases the QoWL among the participating nurses. Another studies showed that bachelor's degree (BS) and Research nursing (RNs) scored significantly higher in job satisfaction related to the opportunity for autonomy and growth, job stress and physical demands and job and organizational security (12). What´s more, two of main characteristics of "magnet hospitals" identified by nurses were: "*working with other nurses who are clinically competent*" and "*support for education*" (13).

Table 4. Effect of risk factors on overall WRQoL score using a multiple linear regression model.

Covariates	Type of covariates	Standardized coefficients # (β)	t	p
Age (centered on 34 years)	Numeric	-0.954	-1.858	0.069
Sex (woman)	0: Man; 1:Woman	2.768	0.547	0.587
Maximum educational level (master)	0: Degree; 1: Master; 2: PhD	11.831	2.96	0.004**
Maximum educational level (PhD)		11.208	1.538	0.130
Years of experience as a nurse (centered on 12 years)	Numeric	0.780	1.291	0.202
Years of experience in a pediatric department	Numeric	0.244	0.549	0.585
Lost work days due to a health problem	Numeric	-0.019	-0.498	0.620
Pediatric Nursing Specialty (yes)	0: No; 1: Yes	-9.384	-2.278	0.027*
Marital status (divorced)	0: Single; 1: Divorced; 2: Married or civil partner	17.465	1.458	0.151
Marital status (Married or civil partner)		14.338	2.750	0.008**
Labor flexibility for the reconciliation of work and private life (yes)	0: No; 1: Yes	20.334	5.453	0.000***

Our findings showed that having pediatric nursing specialty decreased the QoWL. This is in contrast with another studies (14) where the most valid indicator of competence reported by nurses was BS or master's education and national specialty certification. In this intervention, education-master's prepared nurses reported the most favorable environments and clinical unit-medical and surgical specialty and outpatient units reported the healthiest work environments.

In our study, being married or having a civil partner associated with a higher QoWL. Another studies (15–20) have been carried out on the relationship between marital status and job satisfaction. Their findings showed the married group had higher rates of job satisfaction.

Finally, having labor flexibility for the reconciliation of work and private life associated with a higher WQoL. The findings of a study with 30,649 Korean workers showed that a poor work–life balance was associated with poor psychosocial well-being even after adjusting for work-related and individual characteristics (21). In Europe, flexible working time arrangements have become more widespread with actions such as part-time work, tele-working, term-time working, flexible daily start and night times, among others (22). However, related to legislation on working time only a few countries have legal provisions on time-credit schemes (23).

Concluding Remarks

Our findings showed the level of overall quality of working life among pediatric nurses which is average. Having high academic qualification, being married or having labor flexibility increased QoWL, but having pediatric nursing decreased it. It is needed to carry out intervention to know what the reason are because this question negatively influences among nursing pediatric and inquire about other aspects to work on that allow maintaining a high QoWL. In addition, it is needed to have occupational health programs to increase and improve the QoWL among nurses.

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Original Article

Mobbing in nursing students: characteristics and frequency of harassment behaviors

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ABSTRACT

Introduction. Mobbing in nursing is a problem with such a huge magnitude due to its high prevalence. This study is written in order to conduct a research study whose objective is to describe the characteristics and frequency of mobbing behavior in nursing students of the Faculty of Nursing and Physiotherapy of the University of Cádiz.

Material and Methods. To achieve the mentioned objective, we have developed a descriptive study to follow up one cohort, who is the 106 second year students of the four year degree of nursing, for a year. They have already done the Cisneros Questionnaire twice: one after finishing the second year and the second one after the third one.

Results. The results obtained show a progressive increase in frequency of harassment behaviors perceived by the students. The aspects that have been most highlighted are the nurses´ limitation of communication to the students and the lack of difficulty of the work that the nurses demand from the latter.

Conclusions. Students feel that the activities they do in their placements are far below their abilities or that they hardly assign them tasks. This make that their placements are a period that can be described as a monotonous and boring work with almost no learning. They also feel that they do not listen to them, ignore them and do not value their arguments or proposals. This makes them feel frustration, insecurity and vulnerability, which are three adjectives are felt by victims of mobbing

Keywords: Nursing; Nursing students; Psychological harassment; Workplace harassment,

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Introduction

Since the beginning of the conceptualization of Mobbing by Leymann (1990) (1), many investigations have been carried out to highlight its impact in different professional fields, especially in the ones that work bringing you into contact with the public, with the health care professions presenting one of the most prevalence of mobbing (2).

This problem has a huge impact on the metal health of employees (3), since in many cases it does not come to light until the situation of harassment has been established for a long period of time (2) and this results in various mental health (4) disorders such as anxiety or depression (5,6), among others, that can mask the diagnosis of mobbing if an adequate assesment of the etiology of the symptoms is not made (7,8,9,10).

For all these reasons, this situation is being considered as a public health problem (2,11), as well as for the high absenteeism that it causes and for the responsibility of companies which have to ensure the health of their workers, as stated in various current laws in Spain (Royal Legislative Decree of the Statute of workers 1/1995 of 24th March and in the Law on Prevention of Occupational Risks of 31/1995 of 8th November).

The age range which nursing professionals are most likely to be suffering from mobbing is between the ages of 20 and 22, coinciding with recent graduates of the degree (12,13) with another peak between 35 and 45 years old (14).

The lack of work experience, a precarious work situation and in a context-the hospital environment-with excess bureaucratization, role indefinition and high level of stress (5,15,16) make that the recent graduates are the target group to suffer harassment behaviors.

This Project investigates whether or not this problem, which is witnessing or being victims of harassment in their placements in the different health centres, is experienced in students who have not yet finished their degree. The objective is to study if this situation is occuring in nursing placements and to determine its characteristics and frequency in order to establish guidelines for action and prepare future nurses to be more resilient and to be able to detect bullying in its beginning, to establish adequate coping strategies.

Material and methods

Study design, population and simple.

This is a descriptive study of longitudinal case series or follow-up of a cohort. This type of study aims to describe the characteristics of mobbing behaviors and the frequency to which the second-year nursing student of the Faculty of Nursing and Phisiotherapy of Cádiz may have been exposed during the period of clinical placements studied (96 days)

The population is made up of second-year nursing students from the Faculty of Nursing and Physiotherapy at the University of Cádiz (106 students), who were surveyed in the 2017/2018 academic year.

The sample is made up of 76 second-year nursing students (2017/2018) and 81 students from the same population but in their third-year (2018/2019) of a four-year degree.

Ethical aspects

To carry out the research, the right of decision, confidentiality and anonymity of all the students who participated in the Cisneros scale have been taken into account at all times, in addition to the personal data obtained from them (Organic Law 15/1999 on data protection and Law 14/2007 on biomedical research), in accordance with the provisions of the Declaration of Helsinki revised in 2013.

Variables and measurements

To assess the impact and consequences of mobbing, the Cisneros scale, which was created by Piñuel (9,17,18) and whose objective is to periodically detect the state and the consequences of violence in the work environment, has been used. It is based on the guidelines of the questionnaire created by Leymann; LIPPT2 (19,20,21).

In order for the questionnaire to reach all students, a link to the Cisneros questionnaire has been created on a free Access web platform, in which the students could access from any electronic device with internet. Also, it has been the possibility of doing it in paper if they did not have any devices.

Three indices are obtained from this questionnaire, which will be used to determine the frequency and characteristics of harassment behaviors perceived by students (17,22):

Total number of bullying strategies (NEAP): are the different bullying behaviors experienced by the respondent. In order to calculate it, those items that obtained non-zero responses must be added.

Global psychological harassment index (IGAP): assesses the intensity of the harassment suffered. To obtain this index, it is necessary to add the score of the items (from 0 to 6) and it is divided among the 43 items that the scale has.

Average Index of Harassment Strategies (IMAP): it offers a global average to measure the severity and degree of harassment at the time the survey is conducted. It is obtained by adding the score of the items and dividing the result by the value already obtained in the NEAP index.

To obtain the necessary data for the investigation, the Cisneros scale was carried out twice in the same group over two courses (2017/2018-2018/2019).

The first survey ("Cisneros 1") was carried out during the course (2017/2018), after having a first contact with sanitary placements (25 June 2017). This first contact refers to Practicum I, with a duration of 32 days and in which it is rotated by general hospital plants (vascular surgery, infectious, urology, traumatology ...). It was held on June 25th, 2017 and was completed by 76 students.

The second survey ("Cisneros 2") was carried out in the same group, but in a later course (2018/2019). In this case, it is practicum II and III, with a duration of 64 days and in which the units of pediatrics, maternity, delivery room, hospitalization facility and health center rotate. It took place on April 9th, 2019 and was completed by 81 students.

Statistical methods

Once we obtain the results of the NEAP, IGAP and IMAP indices of the different surveys, we will proceed to study their distribution. The Kolmogórov-Smirnov test (K-S test) was used to verify whether the distribution of the indices was normal or not normal (17) . These statistical tests are included with the SPSS statistical software.

Regarding the comparison of the means of the index employees, after performing the Kolmogórov-Smirnov test (KS test), it will be seen that, due to the p-values and results less than 0.05, we reject the null hypothesis, for what we cannot assume normality in the data.

Media comparisons between groups are not possible. Within “Cisneros 1” and “Cisneros 2” it is possible to compare means between certain variables of interest (age, sex and access). Because these are non-normal variables, we performed the Mann-Whitney U test, to detect if there are specific differences between men and women, under 25-over 25 and selectivity-FP or higher grade within each group. Observing that the p-values are greater than 0.05 in all cases, we can conclude that there are no statistically significant differences (Table 1).

Table 1: Values for the NEAP, IGAP and IMAP indices according to sex, age and form of access to university for "Cisneros 1" and "Cisneros 2".

			Cisneros 1		
			NEAP	**IGAP**	**IMAP**
Years old	Under 25	Average	6.31	0.23	1.57
	Over 25	Average	6.88	0.28	1.88
Sex	Woman	Average	6.51	0.24	1.65
	Man	Average	5.55	0.20	1.34
Access way	Selectivity	Average	6.76	0.25	1.70
	FP	Average	4.88	0.17	1.12
	Senior access	Average	7.25	0.36	2.43
			Cisneros 2		
			NEAP	**IGAP**	**IMAP**
Years old	Under 25	Average	11.05	0.44	1.69
	Over 25	Average	12.86	0.45	1.73
Sex	Woman	Average	10.38	0.38	1.47
	Man	Average	17.10	0.86	3.30
Access way	Selectivity	Average	11.00	0.46	1.75
	FP	Average	11.80	0.41	1.57
	Senior access	Average	12.00	0.28	1.07

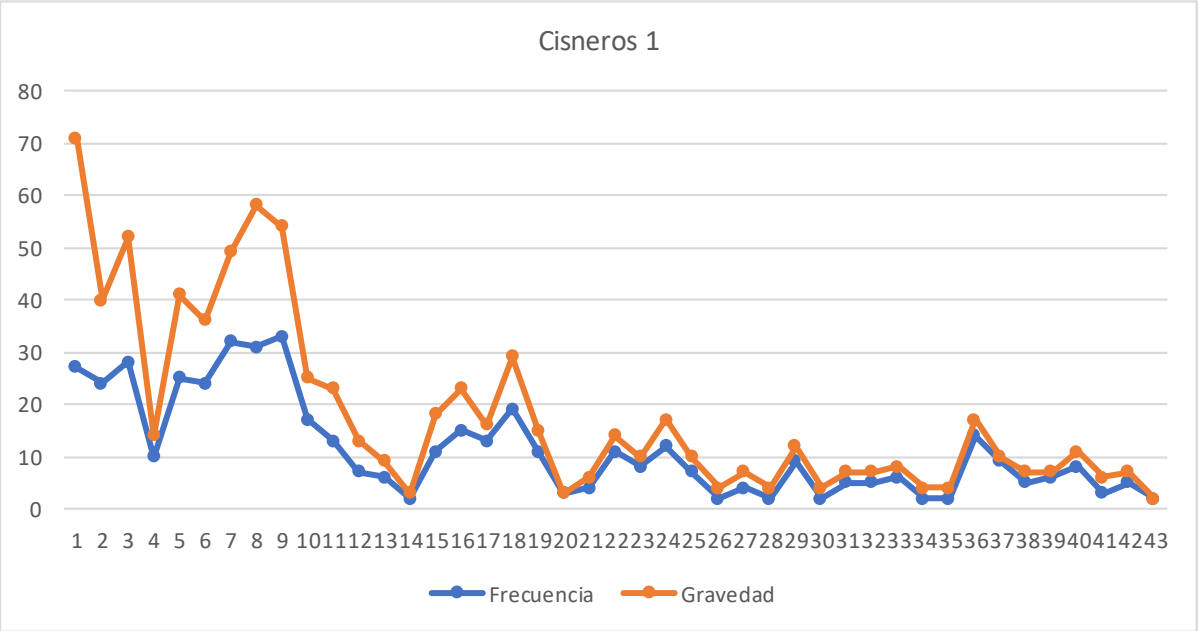
Results

Figure 1 represents the information obtained in the "Cisneros 1" survey. At first glance it can be seen that some of the behaviors mentioned in the survey are more frequent than the rest. For the "Cisneros 1" survey, we based ourselves on the items that obtained more than 40 points. The items with the highest severity were:

- 1: communication restriction.
- 2: ignore.
- 3: continuous interruptions.
- 5: biased evaluation.
- 7: absurd jobs.
- 8: tasks below competence.
- 9: routine tasks.

The hostile behaviors detected in this survey are related to the assigned tasks (5, 7, 8 and 9) and personal treatment (1, 2 and 3).

Figure 1. Frequency and severity of bullying behaviors in the "Cisneros 1" survey.

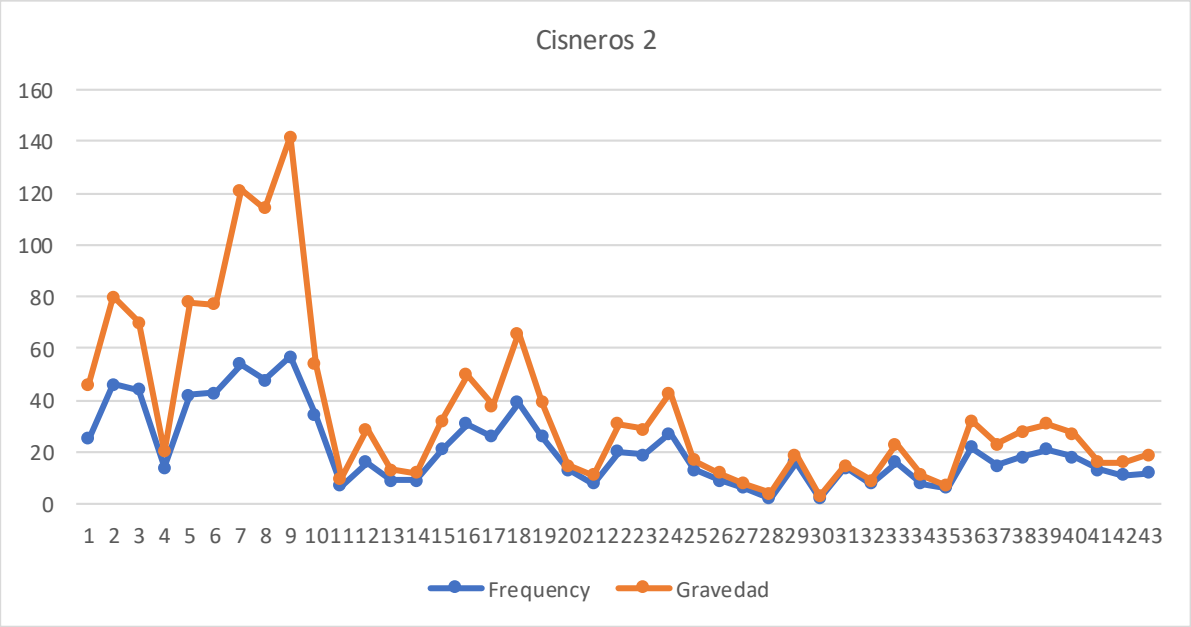


In the "Cisneros 2" survey, the results of which can be seen in detail in Figure 2, we focused on the items that obtained more than 50 points.

The items that obtained a higher level of severity (according to the sum obtained in "Cisneros 2" for each item) were:

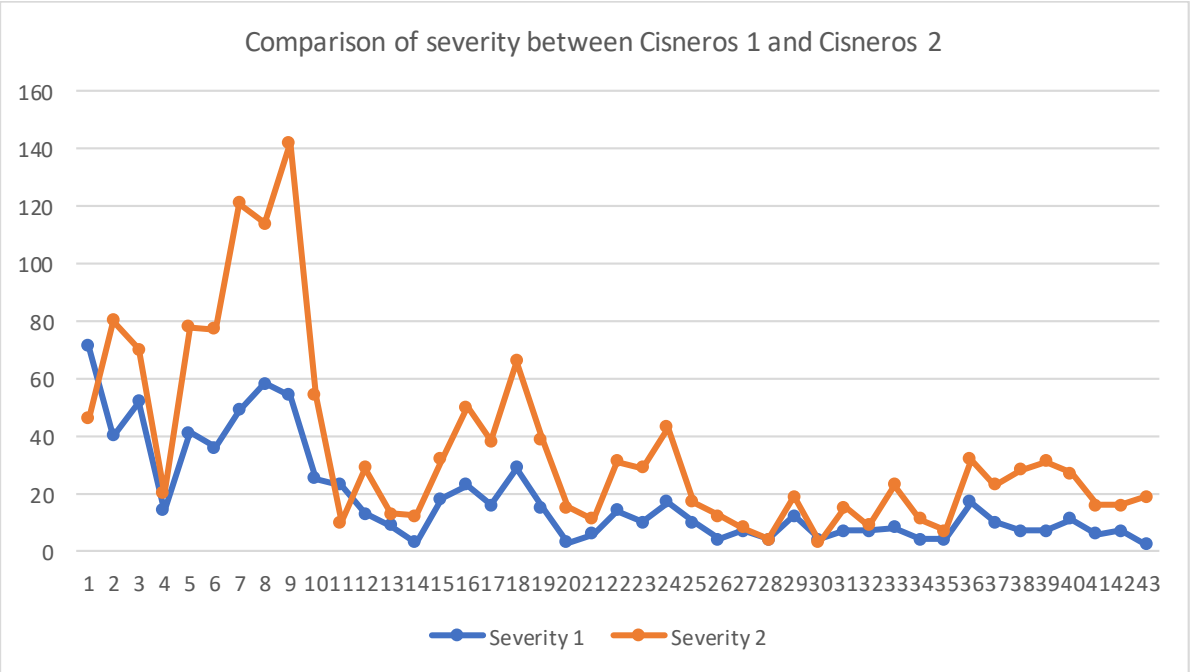
- 2: ignore.
- 3: continuous interruptions.
- 5: biased evaluation.
- 6: forced inactivity.
- 7: absurd tasks.
- 8: tasks below competences.
- 9: routine tasks.
- 10: overload.
- 16: fuzzy accusations.
- 18: amplification of mistakes.

Figure 2. Frequency and severity of bullying behaviors in the "Cisneros 2" survey.



In this survey, we again obtained high values in the items related to the assigned tasks (5, 6, 7, 8 and 9) and personal treatment (2, 3, 16 and 18). In Figure 3 we can see the difference between the severity of the behaviors perceived in "Cisneros 1" and "Cisneros 2".

Figure 3. Comparison of severity (sum of the responses obtained in the surveys) between "Cisneros 1" and "Cisneros 2".



Discussion

Once all the components that surround the term mobbing have been analyzed, it is necessary to reflect on its impact on people and how it may impact on jobs and, in this case, on the experience that a nursing student acquires in their placements.

As Hopkins, Fetherston and Morrison (23) conclude in their research, the experiences and experiences lived in the placements as students, will mark the line that the rest of their lives will follow as professionals, hence the importance of perceived bullying behaviors be minimal.

The novelty of this research is that the sample is made up of students, and can know the evolution of the perception of mobbing throughout the placements and if they will increase over time.

It would be interesting to carry out this same survey in the same group when they are in 4th year, in this way we could detect that the values detected in this study can or may even increase the placement time. Regarding the internship time, it should be noted that it does not exceed 6 months in any of the courses surveyed. For this reason, we could not properly speak of mobbing, since among the characteristics that make it up, it is found that, in order to be aware of such a situation, the victim must have repeatedly suffered bullying at least 6 months. Returning to the analysis of the data obtained, to know the frequency and severity of bullying behaviors, we observe the values obtained for the NEAP, IGAP and IMAP indices in each survey. The items that are most frequently repeated and that score the most are: 2, 3, 5, 6, 7, 8 and 9, as shown in Figure 1 and Figure 2.

These items refer to the assignment of tasks of little value, routine and well below the qualification of the students and to the barriers in communication and expression that students have in placements.

Regarding the first result, it should be noted that it is very common to find units where students carry out routine activities that are worthless for learning, making the student a mere spectator of healthcare practice. This creates negative feelings in students who are more than qualified to perform more elaborate procedures. In many cases they may worry about not having performed a technique and that at the end of the race they will have to face the same situation without having done it once for themselves. This can lead to the student becoming discouraged, worried and frustrated (24) making them more vulnerable to bullying

situations. The aforementioned situation coincides with the consequences on the feelings of the students described by Hopkins, Fetherston and Morrison (23) and by Banda, Mayers and Duma (24).

When these students get their first employment contract, they will be a safe target for bullying behaviors, coinciding with the ages with the highest prevalence of mobbing exposed by Sánchez (14), which indicates a higher prevalence of victims of mobbing among recent graduates.

The other group of items with the highest scores refer to communication. The student feels that they ignore him and interrupt him; it cannot express itself freely. These items coincide with the data obtained in the prevalence study by Chang and Cho (13), in which 59.6% of the respondents reported having been victims of verbal violence.

For all these reasons, as Celebioglu (12) points out, these students may experience negative feelings of contempt, humiliation and undervaluation; reconfiguring the vulnerability that will make them more prone to mobbing.

The increase in mobbing behaviors perceived by the student throughout the course may be related to the difficulty they encounter as they go through the different units (Figure 3). This may be due to the fact that, in certain units, a student is less likely to be able to fulfill the role of nurse, even in a tutored way, due to the complexity and specificity of the care required.

Referring to the data reflected in Figures 1 and 2 and, as we have already mentioned above, the items that obtain a higher score are grouped in the first 10 and specifically, those related to limitations in communication and low load of work and relevance of the tasks performed.

Regarding the results obtained regarding the items related to sexual harassment, we must point out that although it is a relatively small amount, the consequences that these few people who are victims of sexual harassment may experience can negatively affect their entire lives, For this reason, it is an item that we hoped would not obtain the slightest score due to the severity of the type of behavior and the repercussions in every way for the student who suffers from them. They are intolerable behaviors.

Kim, Tilley, Kapusta, Allen and Cho (7) detect impacts on patient care, fear of what could have happened, fear of repercussions and long-term impact on personality, in students who revealed that they suffered bullying sexual in the period of clinical placements.

The statistical data obtained in the Mann-Whitney U test for the sex variable gives us values greater than 0.05, so there are no significant differences between being a man or a woman, but it is true that it is one of the values that most closely approximates the 0.05 in the different indices (Table 2 and Table 3). In this case, it is men who suffer a greater number of bullying behaviors, possibly due to the weight of the woman within the nursing profession. It is necessary to take into account that the sample is made up of very few men and that in order to confirm this fact it would be necessary to carry out an investigation where their participation was higher.

Table 2. Results for the Mann-Whitney U test for the sex variable ("Cisneros 1")

Test statistics[a]			
	IMAP	NEAP	IGAP
U of Mann-Whitney	292,000	299,000	292,000
W of Wilcoxon	2437,000	2444,000	2437,000
Z	-,971	-,868	-,971
Asymptotic significance (bilateral)	,332	,386	,332
a. Grouping variable: Sex			

Table 3: Results for the Mann-Whitney U test for the sex variable ("Cisneros 2")

Test statistics[a]			
	IMAP	NEAP	IGAP
U of Mann-Whitney	227,500	232,000	227,500
W of Wilcoxon	2783,500	2788,000	2783,500
Z	-1,833	-1,769	-1,833
Asymptotic significance (bilateral)	,067	,077	,067
a. Grouping variable: Sex			

In our study, very high levels of students who have suffered a mobbing situation at some time during their internship period have been detected.

The "Cisneros 1" scale reflects that 85.53% of the students have been victims of some mobbing situation throughout their placements, being these with a low severity in most

cases, while on the "Cisneros 2" scale we obtain that 88.9% of students have been victims of mobbing and with a much higher severity. The average of both results gives us 87.22%.

The harassment behaviors obtained in the study by Tee, Üzar and Russell-Westhead (25) were 42.18% in nursing students and Banda, Mayers and Duma (24) obtained 72% of victims of harassment in health professionals. Both studies show lower results than those obtained in our research.

The increase in gravity can be seen in Figure 3, in which we observe that most of the behaviors that were obtained in "Cisneros 1", are repeated in "Cisneros 2" but with a much higher severity.

If, for example, we compare item 9 "I am assigned routine tasks or with no value or interest", as it is the one with the highest value for both surveys, we see that in "Cisneros 1" it scores 54, while in "Cisneros 2" it rises up to 142 points.

It would be logical to think that as the practice time increases, the confidence in the students also increases, but in our case it is not so; many more items obtain higher scores in "Cisneros 2" and we can estimate that, the longer the placements are, the greater the exposure to bullying behaviors that decrease the student's self-esteem and increase their impact and intensity is.

Tee, Üzar and Russell-Westhead (25) reconcile their research on the relationship between treatment of patients and bullying, and also describes some of the most recurring thoughts of students who are victims of mobbing; These include the approach of dropping out of nursing, the fear of carrying out an order due to insecurity, the negative effect of working with anyone else, and unjustified absenteeism.

Being able to access the nursing degree is not an easy task, it requires a lot of effort before and during the course of it. A student must be very stressed to consider abandoning it, with all the consequences that this entails.

Anger, humiliation, depression, anxiety, confusion, insecurity, shame and fear are some of the feelings described by Tee, Üzar and Russell-Westhead (25) in their research, coinciding with some of the feelings obtained in the results of our surveys, already described at the beginning of this section.

Coinciding with Hogan, Orr, Fox, Cummins, and Foureur (26), an intervention for the prevention of mobbing is necessary, sensitizing students on the subject and preparing them to react to hostile behaviors.

The levels of mobbing and its consequences for health, work and organizations would decrease, because those who received this training in its prevention, would more easily recognize bullying behaviors and would be better able to avoid the introduction of mobbing.

This intervention would help them develop the necessary skills in social skills, to defend their right to fair and dignified treatment and to be able to detect and support people who are victims of mobbing in their work environment (22,27,28).

Limitations

Because no type of code was assigned to each student and no reference data was requested (due to the decision that the survey was completely anonymous), we found the limitation of not being able to compare the indices between the two groups studied, since in reality it is paired data and the pertinent statistical tests could not be performed.

Regarding the population, we have taken the 106 students enrolled in second nursing, but it has been impossible for us to verify that these same students are the ones that make up the population of third-year nursing students, for the reasons that we have previously explained. It is necessary to take into account that from one course to another there may be students who do not promote or third-year students who remain in the same course and students who can join the course and who come from other universities.

Another limitation found throughout the conduct of the study is the shortness of the internship periods, which makes it difficult to speak of the prevalence of mobbing itself, since they do not exceed the 6 months necessary to be called as such.

Said limitations could be solved if a previous methodological design based on the type of study, we want to carry out is carried out in subsequent studies.

Concluding remarks

Between 85.53% and 88.9% of the students surveyed reported having suffered some of these bullying behaviors during their clinical placements.

The behaviors that obtain a higher score on the Cisneros scale refer to the barriers in communication and expression that students have and to the assignment of tasks of little value, routine and well below the qualification of the students.

The student's perceived mobbing behaviors increase as they carry out the placements, which can cause negative feelings that make them more vulnerable to bullying behaviors and decrease their competence in the development of their nursing activities.

Sexual harassment behaviors detected by a small number of students have been detected but it is important to highlight the seriousness of the subject, emphasizing the still sexualized image of the nurse.

It is men who suffer a greater amount of bullying behaviors, possibly due to the weight of women in the nursing profession.

An intervention is necessary to prevent mobbing, sensitizing students to the subject and preparing them to react to hostile behavior.

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Review Article

Working conditions and health of the immigrant worker population: a literature review

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ABSTRACT

Introduction. The migrant flow has increased worldwide in recent years, mainly because of the need to look for work in other countries in order to improve their quality of life. The immigrant community usually carries out the jobs which native people have rejected due to the precarious nature of the working conditions involved in the labour. The aim of the current study is to find out more about the working conditions and how it affects the health of the immigrant worker community.

Methods. Literature review of scientific articles by searching the databases Pubmed, Scopus, WOS and Cinahl (2014-2019). Reviews of the full text articles have been included, based on the established inclusion criteria. Twelve articles were selected for review.

Results. The main topics of the reviewed studies are the health consequences in immigrant workers (n=10), the factors that make immigrants more vulnerable to suffer occupational hazards in comparison with native workers (n=10), the measures that could prevent it (n=7) and the existence of gender differences that emphasize the health problems in female immigrant workers (n=6). The major findings of the studies show that precarious working conditions, discrimination at work, cultural barriers and innacessibility to health services leads to poor physical and mental health in the immigrant worker community.

Conclusions. Further investigation is needed to better understand how and who could prevent this situation of vulnerability in the immigration worker community.

Keywords: Labour conditions; Migrant workers; Occupational health; Occupational health nursing.

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Introduction

The migrant flow has increased worldwide in recent years. According to the International Organization of Migration (IOM), the number of immigrants worldwide reached 272 million in 2020 (1). There are many causes to emigrate but the main cause of the immigrant population is to access the labour market. The immigrant community is important to the economy of the country because they execute the jobs that native people reject (2). The IOM defines immigration as a process by which non-nationals move into a country for the puporse of settlement (3).

According to the data collected in the last census in 2018, Spain has 46.659.302 residents, 9'5% of the population are foreign (4). Since 2017 the migration rate has been increased 28.4% because of an increase of immigrants from low-income countries who were searching for better social and economic conditions in Spain (5). The Moroccan population is the biggest population in Spain, followed by Peruvian, Venezuelan and Honduran community (4). Spain acts as a focal and economic point for the immigrants who are looking for jobs. However, the employment rate in 2017 was 48.7%, positioning Spain as one of the worst countries of Europe with worst employment figures (6).

The immigrant community is more likely to work in the labour sectors that native people reject due to the precarious conditions of them and job instability. These jobs are commonly known as "3D jobs" because they are dirty, dangerous and difficult. These jobs frequently belong to: agriculture sector, hotel industry, construction sector and domestic staff (7). Besides, nationality and gender are related to the type of work. For example, women are more likely to work in the domestic staff and Moroccan men usually work in the construction sector (8).

Despite the fact that 50% of immigrants have higher studies or vocational training, the immigrant worker community often experience difficulties in working in skilled jobs. In that regard, Colombian community is the most affected population because their vocational training is not always considered by the receptive country (2,9).

Businessmen claim that immigrants adapt quickly to the job despite their inexperience in the sector because they need a job to gain a residence permit and to cover their basic requirements and their families' requirements too. It is for this reason that their working conditions are characterized by job insecurity and low qualification (10,11).

There are differences among natives' salary and immigrants' salary due to individual characteristics, working conditions and nationality, this discrimination is larger in Asian and African population (12). In 2018, 9.62% of immigrants earned less than 500€ per month (13).

In 2017, Spain logged 515.082 workplace accidents leading to work leave. These accidents affected 70% of men and the majority of them were European with indefinite contracts as opposed to immigrants who had a temporary job when the accident happened. Employment sectors which were more affected were those in which the immigrant community is more likely to work (14).

Businessmen fail to invest in occupational health and workplace hazard prevention, sometimes this affects more to the health of native people than immigrant population because of the effect of "the healthy migrant effect" (15). In addition to the few preventative measures, the immigrant community has to deal with the difficulty to access to public health, ethnocultural differences, communication problems related with the language differences and the concerns about their family' health (2). They tend to give greater priority to work than health and they neither know the health coverage to which they have access (10).

Despite the lack of preventive measures, in Spain, the article 40.2 of the Constitution and the Law of the Prevention of Risk in the Workplace claim that every worker has the right to healthcare and protection of their occupational health (16). Likewise, since 2006 is approved the occupational health nursing in Spain, whose objective is to prevent ill health and accidents, to promote occupational health to achieve the highest possible level of psychosocial well-being and to adapt the work to individual needs (17,18). In addition, because of the migration process, cultural diversity at work makes it necessary for nurses to apply the Transcultural Nursing Theory described by Madeline Leininger. She affirms that to give competent and culturally consistent care, nurses must respect cultural differences and similarities (19). Leininger's Sunrise Model explains the factors that must be borne in mind when nurses give care (20).

The aim of the current study is to find out more about the working conditions and how it affects the health of the immigrant worker community.

Methods

This is a literature review and it is in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement (21). This review included both quantitive and qualitative studies published in peer-reviewed jounals. Any opinion pieces, such as editorials or other forms of popular media, letter to the editors or case reports were excluded from this review.

Literature research

We search in Scopus, WOS, Pubmed and Cinahl using the same research terms during March and April 2019. To perform keyword searches of each database, it used MeSH and DeCS descriptors. The research terms were:

"migrant workers" AND "occupational health".

The information was collected from primary (scientific articles) and secondary sources (databases). Two researchers (AJ and RD) performed the searches following the same strategy. These two reviewers (AJ, RD) were in charge of extracting the data independently with 100% in the percentage of agreement regarding the inclusion/ exclusion of the studies. In the first place, duplicate records were verified for their elimination and later, with the extracted data, a narrative synthesis was carried out.

The studies were then independently selected and analysed by two reviewers (AJ, RD), according to the stablished eligibility criteria, after review of the titles and abstracts. The selected studies were then analysed by reading the full text to verify that they continued to meet the inclusion criteria.

Inclusion criteria

We included studies which fulfilled the required criteria:

- The study is related with the aim of our review.
- The study was published between 2014 and 2019.
- The study is written in Spanish or English.

Exclusion criteria

We excluded articles which fulfilled the following criteria:

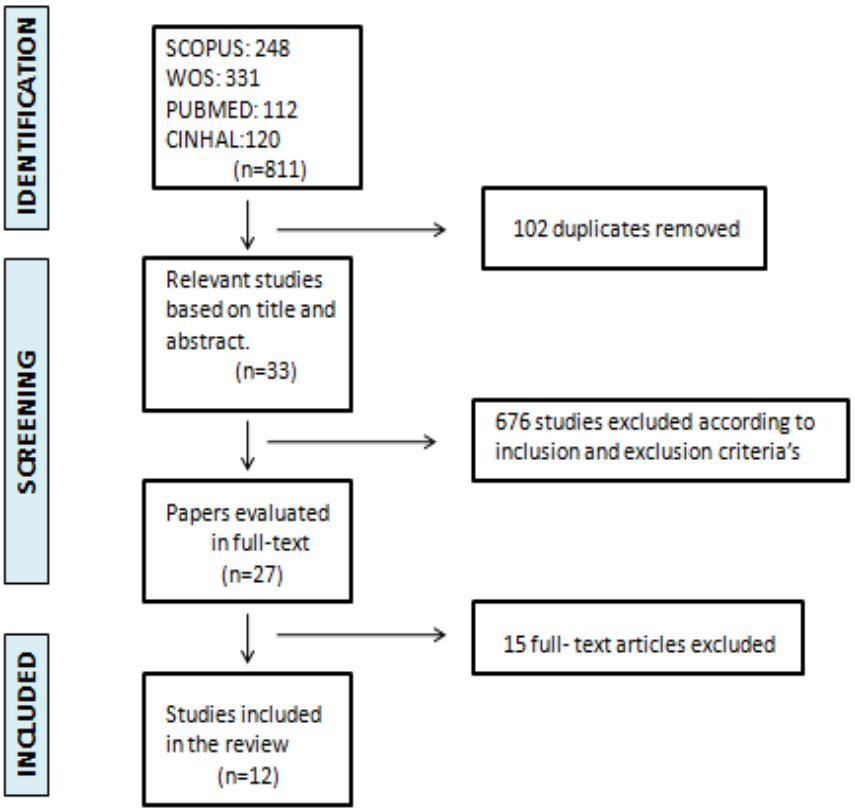
- The study appears in different databases.
- The study is written in a language different to Spanish or English.

Results

The search resulted in 881 articles. Finally, having applied the inclusion and exclusion criteria, 12 articles have been included: 3 literature reviews (22,23,24), 3 systematic reviews (25,26,27), 1 exploratory mixed study (28), 2 qualitative and quantitative studies (29,30), 1 secondary analysis (31), 1 cross-sectional study (32) and 1 cohort study (33).

A flow chart has been developed, in accordance with the PRISMA Statement (21), to expose the selection process of the articles included (Figure 1). Furthermore, a table which synthesize the essential information and characteristics of each study (Table 1) has been created.

Figure 1. Flow chart, own elaboration based on PRISMA Statement.



The studies were from Canada (n=4), Spain (n=2), Norway (n=1), Qatar (n=1), EEUU (n=1), Nepal (n=1), Turkey (n=1) and Italy (n=1). The participants included in the reviewed studies were aged 25-45 years. The major findings from included studies show

that immigrant workers tend to develop diseases and occupational accidents because of their precarious working conditions and the exposition to occupational hazards (22-27, 29, 31-33). Besides, studies describe the measures that could prevent it and the interventions and policies needed to protect migrant workers (22-26, 30, 33). Furthermore, studies that compare native workers with immigrant workers show that immigrants are more vulnerable to suffer health problems than natives because of different factors such as inaccessibility to health services, discrimination at work and vulnerability, as a result of the migrant flow, the cultural barriers and the fact of being a immigrant, especially a recent immigrant (22-24, 26-28, 30-33). Lastly, some of the reviewed studies have found the existence of gender differences between migrant workers that emphasize the health problems in female immigrant workers (23-25, 28, 29, 31).

Discussion

This literature review provided evidence about how are the working conditions in immigrant workers and how it affects the health of them. Our results showed a negative impact of immigrant workers' health.

In reference to the most prevalent diseases and accidents, different studies claim that immigrant workers have higher rates of morbidity and mortality than native people due to the diseases they suffer because of their working conditions (22, 25-27, 33). Even so, immigrants have more presenteeism and less work leave (23, 27).

The environmental and working conditions determine the possible illness that immigrants could develop (24). In this way, workers of the construction sector are more at risk of trauma, in agricultural sector are more frequent respiratory and dermatological diseases and lung cancer is more usual in workers who work in environments with high levels of polution (26). In addition to these diseases, there are others that frequently appear in immigrant workers such as headache, asthenia, skeleton pains, cardiovascular diseases and mental disorders (23, 32). We found difficulties in establishing the main cause of occupational accidents. Three of the reviewed studies concluded that traumatisms due to falls, cuts or sprains are the main cause of accidents in immigrant workers. Nevertheless, the participants of this studies worked in the construction sector, so the evidence is not conclusive (22, 26, 32, 34).

Several factors have been described to explain why immigrants are more likely to suffer risk at work, some of these factors are the individual characteristics or the preparatory training (23). However, other studies claim that the migratory flow has an effect on the occurrence of diseases because the cultural change produces stress in the organism (23,35).

In addition to the deterioration of physical health, the results of the studies have revealed that immigrant workers have worse mental health than native workers, evidenced by cases of burnout, anxiety, depression, personality changes and suicides (23, 24, 28, 31, 36). In a exploraty mixed study that we have reviewed, participants affirm feeling weak and with a dull personality after coming home from work (27). In other study, the results showed worst mental health in semi-urban than in urban immigrant workers, despite the fact that both groups worked in the same labour sectors and they were the same age (32). On the other hand, the study results' identify more discrimination in immigrants than in native workers (37-39). Especially, we found two qualitative studies in which participants reported high levels of mistreatment from their clients and managers. The first study analyse women who work in the sex industry in Vancouver and the second study examine the working conditions of trafficked men from the Greater Mekong Subregion (25,29).

In reference to occupational hazards and measures to prevent them, immigrant workers are not exposed to greater risk at work than native workers when they carry out in the same labour sector. However, the immigrant community, because of their poor economic situation, is used to working more hours than native workers so the exposure to risks is higher (23). Moreover, labour sectors in which immigrants are used to work are characterised by the lack of security measures, vocational training and personal protection equipment. The lack of this equipment makes them more vulnerable to risks because they are exposed to high temperatures, vibration, moisture and noises without the adequate protection (22, 24, 30, 33).

The reviewed studies conclude that there are different factors which make immigrant workers more vulnerable to occupational hazards. These factors are the lack of security measures, the ignorance of their rights as workers, the inexperience at work and the racial diversity (22, 25, 30). Parallel to the above, the results of a systematic review about the impact of language and culture diversity at work, show that language barriers are

also risk factors because confusion and misunderstanding among workers usually occur. Consequently, immigrants are used to learning by themself even though it is not always effective (40). In the same way, culture also has influenced the apparition of occupational risks because each worker depending on his culture perceived the risks differently. The use of protocols and training with pictograms or role-playing could be effective to overcome this problem (40-42).

It should be pointed out that, according to the results of a systematic review that we have included in our study, the lack of protection at work is intensified in trafficked workers. Besides, immigrants who speak more than one language are at higher risk for suffering occupational hazards (25).

To sum it up, studies conclude that the State should provide appropriate training for vulnerable workers and they should prevent occupational risks by using training protocols (22-24, 26, 29-33). Nonetheless, we found a scoping review which concludes that occupational health nurses are the proffesionals who should introduce the use of security measures and appropriate healthcare considering social and cultural characteristics of each worker (43).

In relation to vulnerability and access to health services, there are different contributing factors that has been analysed in the reviewed studies, such as the social impacts of migration, family and home care responsibilities, job insecurity and accessibility to health services. The immigrant workers interviewed in a cohort study and in a qualititative study included in this review affirm that they could not demand better working conditions to their boss because they were uninformed about their rights as workers and, due to their economic status, they could not put themselves at risk of losing their job (30, 33).

The data available to us through this review of the literature confirm that the quality life of immigrant workers is worse than natives, as many studies highlight that immigrants often have lower incomes, heavier workloads, lower education levels, more working hours and they tend to live in crowded housing in comparision with native workers (24, 26, 27, 44, 45). Besides, there are also differences between immigrant workers. Those who work in small and medium businesses are more vulnerable because there is less supervision and protection at work, illegal immigrants are more at risk because they do not

have access to health services and recent immigrants are also more vulnerable due to the migratory flow (26, 30, 46). In that regard, there is a discrepancy regarding the time it takes the acculturation process; some studies claim that it takes five years and others said that eleven years (33, 47).

One of the reasons for vulnerability in the immigrant community is the inaccessibility to health services. The barriers to access the health services are: language difficulties, cultural differences, the fear of losing their job if they miss the work in order to go to health services, the ignorance of the services in which they can be assisted, the cost of the displacement and the poverty (22, 24, 31, 32). As a result of the above facts, immigrants would consider switching to another job with better working conditions.

In relation to immigrant women, they often emigrate to accompany their partner instead of emigrating by their own decision. They have to deal with gender differences, for example, women have lower salary than men. They are much more susceptible to occupational risks and they often suffer from mental disorders and cancer. Finally, they often face inequality in domestic tasks (23, 24, 28).

It needs to be mentioned that there are high rates of unplanned pregnancies in the immigrant community and they do not have access to reproductive health services, specially undocumented immigrants (29, 48).

It is estimated that over 2 and 2.7 millions of persons are trafficked and although it affects to both sex, it is more frecuent in women. They often experience physical and sexual violence, abuses and explotation. All of this may lead to suffer post-traumatic stress disorders, somatic disorders and sexually transmitted diseases (25).

Nevertheless, situations of violence or abuse are not always relationed to trafficked women (31). In the sex industry, there are many abuse cases. Women who work in this labour sector claim that they usually suffer from sexual and physical violence and clients take advantage of women' helplessness to coerce them. In one of the qualitative studies included in this review, interviewed women of the sex industry affirm feeling unprotected from policy and they are concerned about their health. However, they choose to work in the sex industry because the salary and the working day are better than in other labour sectors (29).

Limitations of the review

This study has some limitations. First, original and full-text studies have been included, excluding those which were not writing in Spanish or English. Moreover, the literature search has been limited to published studies of the past five years. Hence, it is possible that there may exist studies that are not included in our review but they mention immigrants' working conditions.

A secondary limitation is the heterogeneity of the methodology used in the included studies. The reviewed studies have different simple size, methodological approaches and recruitment methods. Futhermore, we have included some systematic reviews in our study and this type of reviews are often biased because they compare very different studies and they cannot generalize their findings to a larger population. Nevertheless, general conclusions have been made providing the most up-to-date evidence in this topic of knowlegde.

Conclusions

The findings of this study suggest that immigrant community is more likely to encounter unsafe labour conditions, due to the lack of adequate occupational health safety measures, the immigration process and ethnocultural differences. All of this results in a deterioration of occupational health and, as a consequence, a greater impact on physical, emotional and social health.

After having reviewed studies, we concluded that there is a lack of information in the literature about how and who could prevent this situation of vulnerability in the immigrant worker community. For that reason, we strongly believe that there is needed for futher investigation to better understand the roles played by occupational heath nursing in immigrant workers' health.

Conflict of interest. The authors declare no conflict of interest.

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Table 1: characteristics of the included studies.

Author	Year/ Country	Method	Objectives	Results	Characteristics of the participants	Interventions of the studies
Bener	2017/ Turkey	Cross-sectional study	To identify the health status, living conditions, occupational accidents and the access to health services of immigrants in Qatar.	Immigrants suffer from health problems due to their working conditions. Only 20% of immigrants have access to health services.	1186 urban and semi-uban migrant workers (564 females and 622 males) with at least 12 months in Qatar. The median age was between 25-44 years.	Research and survey on the occupational health, hazards and working conditions.
Dodd et al.	2017/ Canada	Exploratory mixed study	To analyse the relation between "the healthy migrant effect" and the occupational health of workers.	The migrant flow has an impact on occupational health.	300 households surveyed (205 migrant and 1012 non-migrant adults). The average age of migrant workers was 28 years.	Semi-structured interviews using snowball and surveys using multi-stage random sampling.
Goldenberg et al.	2017/Canada	Qualitative and quantitative study	To describe the determinants of health and safety of immigrants in the indoor sex industry in Canada.	Interventions and policy reforms are needed to emphasize human rights and to decrease discriminition and stigma in immigrants.	44 immigrant female sex workers and owners working in the indoor sex establishments, the median age was 42 years old.	In-depth interviews and an ongoing community-based cohort study of street and off-street sex workers in Canada.

Mehmood et al.	2018/Qatar	Literature review	To analyse the occupational health of migrants workers and the lack of occupational risk prevention in Qatar.	Actions should be taken at work to prevent health problems.	Included studies in the review.	
Moyce and Schenker	2018/EEUU	Literature review	To compare the occupational health and work safety among immigrants and native workers.	Immigrant workers have higher risk of suffering health inequalities due to working conditions and cultural barriers.	Included studies in the review.	
Mucci et al.	2019/ Italy	Systematic review	To identify the main occupational risks and occupational diseases of immigrant workers.	There exists a high prevalence of work hazards because of unfavourable working conditions.	Included studies in the review.	
Pocock et al.	2016/ Canada	Systematic review	To explore the occupational health, accidents and violence in male immigrants trafficked for different sectors.	Interventions are needed to protect immigrants from abuse and occupational risks.	Included studies in the review.	
Ronda et al.	2014/ Spain	Literature review	To analyse the relation among working conditions	There is a higher incidence of health problems related to	Included studies in the review	

			and their effects on health in immigrants working in Spain.	work, precariousness and injury accidents in immigrant workers.		
Ronda et al.	2019/ Spain	Cohort study	To identify whether immigrant workers are more vulnerable to suffer occupational risks.	Immigrants are more vulnerable to exposure to occupational risks.	306 migrant workers from Colombia and Ecuador with at least one year of work experience in Spain and a control simple of Spanish-born workers.	Participants were recruited through key informants and they were interviewed in their homes.
Simkhada et al.	2018/Nepal	Secondary analysis	To analyse the health problems of female migrants working in Asia.	A significant proportion of female migrants have experienced health problems due to working conditions.	1010 female returnee migrants registered wih an emergency shelter in the period from 2009 to 2014 in Nepal, with a median age of 31 years.	Interviews using a standard questionnaire.
Sterud et al.	2018/ Norway	Systematic study	To know the working conditions and occupational health of immigrants in Europe and Canada.	The immigrant community have worse working conditions than native workers.	Included studies in the review.	
Yanar et al.	2018/ Canada	Qualitative study	To analyse the experience of recent immigrants and refugees looking for their first job.	Immigrants are a vulnerable group because of inadequate safety measures and the scarce of risk prevention policies.	110 newcomers and refugees in Canada, 73% had university training and 43% were under 35 years.	Focus groups included 4 to 10 participants and lasted between 60-90min.

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Review Article

Training in occupational health nursing competencies: an ongoing review

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ABSTRACT

Occupational Health Nursing has a long history in the field of specialized care due to its specific training and presence in the workplace. Although the process of acquiring professional competences admits different peculiarities within the European Union, the article invites a joint periodic review in order to consolidate a discipline that provides care for the working population based on the best available scientific evidence.

Keywords: Occupational Health Nursing; Professional training.

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Introduction

Occupational Health Nursing has a long history in the field of specialized care due to its specific training and presence in the workplace. Although professional training to develop their skills is endorsed by extensive regulatory support, the specialty is immersed in a complex, diverse and variable work environment where significant changes and new challenges for the health and safety of workers are emerging (1).

The historian Henry E. Sigerist, promoter of the social aspect of health care (2), proposes an account of the history of humanity through the history of work. The author considers the central character that work occupies in society and the influence it exerts both

in the personal and relationship spheres (3). From this premise, the space occupied by Occupational Health Nursing is necessary for the process of improving not only working conditions but also increasing the quality of life at work.

The historical trajectory of this specialty in Spain runs parallel to the evolution of the nursing profession itself, and its presence became evident in companies when the Occupational Safety and Hygiene Regulations (1940) (4) were approved. Spanish legislation in the field of occupational health dates back to the publication of a norm that requires the creation of a Company Medical Service (1956) in centers with 500 or more workers (5,6). Years later, in 1959, the status of Company Health Technical Assistant was recognized to the professional who accredits the specific training given by the National School of Occupational Medicine (NSOM) (7). Consequently, the NSOM itself regularly convenes a specific course to obtain the degree between 1962 and 2005, issuing 35,343 Company Nursing diplomas during this period (8). Once the training of professionals has begun, the National Institute for Safety and Hygiene at Work (1969) determines their functions of a medical, physiological, psychological, health, administrative and educational nature (9).

The training process supervised until that moment by the NSOM is decentralized, and the Autonomous Communities (1989) convene regular courses of similar content. In this legislative evolution, the publication of a specific royal decree on nursing specialties (2005) (10) revises a previous regulation from 1987 (11) that did not contemplate Occupational Health Nursing, a circumstance that allows this nursing specialty to be recognized for the first time in Spain. The provision also regulates the training of future specialists as Resident Intern Nurse through a residency system in an accredited multi-professional teaching unit. Access to the system is carried out uninterruptedly through an annual state call since 2009.

Finally, in 2009 the National Commission for the Occupational Health Nursing Specialty defined its own competencies and a specific training program in a consensual way. This circumstance constitutes a turning point in this nursing discipline (12). The acquisition of skills allows access to a level of knowledge, skills and attitudes through training in the following areas: preventive, care, legal and expert, management, teaching and research. Being assigned to an accredited teaching unit implies completing a two-year training period

that includes theoretical and practical content. During the first year, competences are acquired through a system of rotation both in the hospital and in the community, in the second the training is developed entirely linked to a prevention service, a more practical aspect of the training period of the future specialist.

At the community level, the Federation of Occupational Health Nurses within the European Union describes the competences of the specialty in different countries (Table 1) and analyzes the teaching programs taught, observing generalized access to the specialty through a university master's degree (13). Although the structure of the program differs depending on the country, the contents related to public and community health have a great weight in all cases, in addition, the experience is a prerequisite for access to postgraduate training in countries such as Germany, Denmark, Finland and Switzerland. However, the professional federation itself points out two considerations: in six countries they have specific contents during the undergraduate period (14), and in twelve they have established specific specialization programs (15), having their origin in the United Kingdom (1934) already then Finland (1948) (16).

In a complementary way, the priority lines of action of different institutions stimulate the competence development of the specialty. The European Union's health and safety strategy invite occupational health professionals to establish a repertoire of good practices among the working population (17). In parallel, the National Institute for Occupational Safety and Health promotes the improvement of quality and effectiveness in a specific area, the surveillance of the health of workers (18). An action where it is appropriate both the application of specific guides and protocols and the establishment of initiatives that facilitate preventive actions based on scientific evidence. Aspects that are in line with the action plan proposed by the World Health Organization (WHO) (19) and the National Institute for Occupational Safety and Health (NIOSH) (20) that advocate the establishment of initiatives that promote comprehensive care to the worker. The circumstance that is favored by the protection of labor rights with a safe work environment as advocated by both the United Nations and the International Labor Organization (21).

Table 1. Competencies of Occupational Health Nursing

Country	Germany	Belgium	Croatia	Cyprus	Denmark	Slovenia	Spain	Finland	France	UK	Grece	Holland	Hungary	Ireland	Malata	Portugal	Romania	Sweden	Switzerland	Turkey
Health education/promotion	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•
Disease/injury prevention	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Health assistance/surveillance		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•
First aid services	•	•		•	•	•	•	•	•		•	•	•	•		•	•	•	•	•
Administration of occupational health service	•	•	•	•	•	•	•	•	•		•	•	•	•		•		•	•	•
Sickness absence management				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Rehabilitation/ressetlement		•		•	•			•	•	•	•	•	•	•		•	•	•	•	•
Environmental surveys/controls	•	•		•	•	•	•	•	•		•		•	•			•	•		•
Workplace risk assessment		•		•	•		•	•	•	•	•	•		•			•	•		
Epidemiological surveys		•			•	•	•	•	•		•		•			•		•		•
Occupational health services managem/policy development								•	•	•										
Employee occupational health training							•				•									
Case management									•											
Phychosocial work environment					•												•			

Source: Staun J. Occupational Health Nurses status in European Union states 2005-2012. Final results. Federation of Occupational Health Nurses within the European Union (FOHNEU), 2014.

Specifically, the Federation of Occupational Health Nurses within the European Union (22), the American Association of Occupational Health Nurses (23,24), the Canadian Nurses Association (25), the Association of Occupational Health Nurse Practitioners (Royal College of Nursing) (26), the Scientific Committee on Occupational Health Nursing (27,28), the WHO Regional Office for Europe (29), the Occupational Health Nursing Research Center (30) and the Faculty of Occupational Health Nursing (31) They have also defined the different roles of occupational nursing in their areas of influence.

In the first study in the European Union where the opinion and perception of the professional competences of the Occupational Health Nursing itself are analyzed, the

specialists reach a higher degree of development in those tasks related to the care area (32). On the other hand, they consider content related to prevention and health promotion to be more important. These last perceptions coincide with the contribution of Rogers et al., who in their conclusions, highlights the greater autonomy of execution achieved in these areas (33). Along the same lines, both contributions are in line with the action proposals recommended by the Scientific Committee on Occupational Health Nursing to achieve greater professional independence (34). In fact, the American Association of Occupational Health Nurses indicates that 47% of specialists incorporate preventive advice in each nursing act (35). These benefits are ratified by both the International Social Security Association (36) and Harvard University (37), in both reports they confirm the cost-benefit ratio of implementing preventive actions represents a relevant performance in organizations.

In this account of priorities of the specialty, other influential circumstances emerge: a globalized socio-economic reality, complex labor relations in a changing scenario, the characteristics of the current labor market, business and professional expectations and attitudes, the dimension of the relationship established with the working population, the appearance of new diseases or emerging pathologies linked to work and the inheritance of previous organizational and care models. All of them determine the development and execution of the competences of the largest group that provides health care in the workplace (38).

Despite the professional, economic and labor conditions, the specialty aims to make visible some of its less developed skills by establishing new lines of research. Although initially, they focused on projects related to the prevention and promotion of healthy habits, incorporating the modification of lifestyles in their proposals (13), currently the priority lines deepen the evaluation of the actions implemented based on cost-benefit criteria, the impact and consequences of psychosocial risks, the adaptation of people with limited capacities and the presence of vulnerable or especially sensitive workers. At this same level, they also point to an interest in prolonging working life under healthy conditions, the incorporation of migrant workers as a consequence of demographic changes and the analysis of the effects of new technological applications together with recent forms of work (39, 40), priorities that are framed in the research proposals of the European Agency for Safety and Health at Work (40).

In this journey through the Occupational Health Nursing specialty, formative strengths and weaknesses emerge, however, 67% of developed countries have an official degree and a specific program of the specialty (38). Since 1999, the American Association of Occupational Health Nurses reviews their skills every four years using the Delphi method with a clear purpose, to analyze the professional practice of the actors involved (32). Therefore, from a proposal with a labor approach but close and complementary to the community sphere, it is a question of provoking a reflection on the opportunity to harmonize the training contents periodically in order to consolidate a discipline that provides care to the labor population-based on the best available scientific evidence.

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