

RESEARCH ARTICLE

Salutogenic factors and hospital work environments: A cross-sectional study in a small Portuguese hospital

André Rafael Coutinho FARIA, RN¹, Jani de Oliveira CARVALHO, RN²,
 Maria Margarida Silva Vieira FERREIRA, RN, MSc, PhD³, Diogo Guedes VIDAL, BSc, MSc, PhD⁴
 and Joana Margarida Pinheiro TEIXEIRA, RN, MSc, PhD⁵

Abstract

Background & Aim: A healthy work environment is one in which workers and managers cooperate in the process of continuous improvement regarding the protection, and promotion of workers' health and well-being, for the sake of work sustainability. The current state of the art shows that an unfavourable work environment contributes to nurses' dissatisfaction, burnout and emotional exhaustion, and the intention to leave the workplace/service. This study aimed to identify the Nurses' Work Environment in a small Portuguese Hospital, diagnose the situation, and focus on a healthy work environment.

Methods and Materials: This is a quantitative, descriptive, and cross-sectional study, with a convenience sample of 90 nurses. The "Escala de Ambiente de Trabalho da Prática de Enfermagem" (Nursing Practice Work Environment Scale), validated and adapted by Ferreira & Amendoeira (2014) for the Portuguese population, was applied. The statistical treatment was performed using SPSS 27.

Results: The sample is mostly composed of female nurses (87%) with an average age of 26 years, and 75.5% are single. The dimension "Management and Leadership of the Head Nurse" had a mean value of $\bar{x}=3.3$ (out of 4) and $\sigma=0.5$, which was the dimension with the best assessment. The dimension with less encouraging results was "Nurses' Participation in Hospital Affairs" with $\bar{x}=2.8$ (out of 4) and $\sigma=0.7$. Overall, all domains assessed had a mean value above 2.5, which was considered a favourable work environment by the nurses.

Conclusion: The results, although generally satisfactory, show the need to carefully intervene and assess each dimension in an integrated perspective, to promote a healthy work environment and workers' well-being, since its imbalance may negatively affect quality of their work, impacting the quality of health care provided to the user. In addition, these results should be understood as an important factor to be considered in the design of future care teams. Regarding future research, it would be important to consider large samples and deepen the topic explored among different departments in the health care facilities.

Keywords: Nurses; Workplace; Health Promotion

Introduction

The work environment plays a significant role in nurses' health and well-being, which can have deleterious effects on their physical and mental health —(Burton, 2010; Viterbo et al., 2019). Healthcare environments are characterized by the high

complexity related to the interaction between users, nurses, and the organization, with these professionals playing a key role in the provision of care to patients, families, and the community (Håkan et al., 2020).

¹ Corresponding author; Nurse at Escola Superior de Saúde Fernando Pessoa, Fernando Pessoa University, 4249-253 Porto, Portugal; 37167@ufp.edu.pt

² Nurse at Escola Superior de Saúde Fernando Pessoa, Fernando Pessoa University, 4249-253 Porto, Portugal; 36787@ufp.edu.pt

³ Coordinator Professor at Health Sciences School Jean Piaget Vila Nova de Gaia, CINTESIS, 4405-678 Vila Nova de Gaia, Portugal; mmsvferreira62@gmail.com; Researcher at "NursID: Innovation & Development in Nursing", CINTESIS- Centro de Investigação em Tecnologias e Serviços de Saúde, 4200-450 Porto, Portugal

⁴ Corresponding author; Invited Assistant Researcher at Centre for Functional Ecology - Science for People & the Planet (CFE), TERRA Associate Laboratory, Department of Life Sciences (DCV), University of Coimbra (UC), 3000-456 Coimbra, Portugal; diogo.vidal@uc.pt

⁵ Coordinator Nurse at Fernando Pessoa University School Hospital, 4420-096 S. Cosme, Portugal; jteixeira@ufp.edu.pt

Nursing professionals work in different care settings and, within them, in the areas of care, management, education, and research, with caring for the person in need being their main priority, engaging not only with the wearer, but also with the family and the community, associating time, energy, and feelings (Seguel Palma et al., 2015).

A healthy work environment focuses on the collaboration between workers and managers for the use of a process of continuous improvement in the protection and promotion of the safety, health, and well-being of all those involved and for the sustainability of the work environment (Viterbo et al., 2018). According to Burton (2010), a healthy work environment is one in which workers, managers, and employees cooperate in the process of continuous improvement regarding the protection and promotion of workers' health and well-being, thus ensuring their safety, for the sake of work sustainability.

When entering a nursing work environment, nurses bring with them personal and professional expectations, such as good peer relationships and the provision of adequate resources (M. Ferreira & Ferreira, 2014). Håkan et al. (2020) portray that dissatisfaction was the most valued reason by health professionals for intending to leave their job (35.5%) and, among those who were dissatisfied, 33.1% intended to leave the nursing profession.

The inability to balance, integrate or reconcile work, family or career, and personal life among health professionals develops together with burnout. According to Hämmig (2018), on average, one in every twelve health professionals had increased burnout symptoms, and one in every six often thought of leaving the profession.

Given the work context in which nurses perform their functions, there is significant exposure to stressful situations caused by pain, suffering, despair, death, grief, helplessness, and anguish. In addition, there is a lack of enough nursing professionals to provide full care, resulting in the duplication of working hours. In the long term, this situation causes damage to the physical and mental health of those involved, emotional fatigue, and unbalanced interrelationships with colleagues, the organization, and patients, which may lead to a deterioration in the quality of care provided to patients, their health, and, consequently, their quality of life (Seguel Palma et al., 2015).

Nursing professionals perform their work in an environment where biological risks prevail, contact with body fluids such as blood, body secretions with hematic and purulent drainage, emesis, urine, and those from sterile cavities such as cerebrospinal fluid. Acute accidents with contaminated material, contact with infectious disease carriers, and the lack of personal protective equipment are situations to which they are exposed in their daily lives (Bentes et al., 2018; Seguel Palma et al., 2015).

Some characteristics positively influence the nursing practice environment, such as greater nurse autonomy, good interprofessional and collaborative relationships, transparent and open lines of communication, nurses' involvement in decision-making and hospital affairs, and good collaboration with the manager and the organization's investment in nurse training (Cusack et al., 2016; Das Neves Borges et al., 2021).

Some healthcare institutions seek to provide autonomy to nursing teams, in addition, to promoting collaboration and good relationships between the multidisciplinary team and control over the work environment, resulting in benefits for patients, improved quality of care, and a safe environment with quality for health professionals (Neves, 2012). The training and education of health professionals are highlighted as positive aspects that contribute to nurses' self-efficacy (Cusack et al., 2016). According to the same author, educational support, adequate schedules, breaks during the shift, well-trained teams, clarification of the expectations of each person's role within the team, and maintaining a balance between professional and personal life are identified as factors that influence nurses' ability to deal positively with adversities.

Salutogenesis is focused on the development of skills so that all people can effectively cope with the demands and challenges of everyday life (Becker et al., 2010; Bonanato et al., 2009). It identifies the positive resources for health and the strategies adopted for people to stay healthy, contributing to well-being, quality of life, and individual empowerment, which are essential elements for health promotion. The salutogenic approach allows people to experience a sense of productive and active life in controlling personal adversities in their environment (Marçal et al., 2018).

The promotion of a salutogenic work environment is considered to be an essential condition for maintaining the health of future health professionals, preventing adverse consequences on their health and, consequently, on their performance (Agosti et al., 2015).

This study aimed to identify the Nurses' Work Environment at a Portuguese Small Hospital, to diagnose the situation, with a focus on a healthy work environment.

The specific objectives were as follows: 1) To characterize the Nurses of a Portuguese Hospital regarding sociodemographic variables; 2) To describe the Nurses' Working Environment; 3) To identify factors that contribute to a Healthy Work Environment for Nurses.

Methods

An exploratory, descriptive, cross-sectional, quantitative study was developed in a small Portuguese hospital, with a

convenience sample of 90 nurses, in a universe of 236, who were available to participate in the study at the time of questionnaire distribution. It worth noting that since this is a convenience sample, not representative of the population, the results achieved cannot be generalize but rather understood as exploratory clues to be considered in future studies. The Nursing Practice Work Environment Scale was applied, with a Cronbach's alpha of 0.92 for overall reliability and the support of a five-dimensional structure, validated and adapted by Ferreira & Amendoeira (2014) for the Portuguese population. This is a self-completion instrument aimed at assessing the sample's perception of the nursing care practice environment. It is composed of 28 items,

which have four response options, so the individual should answer according to his/her level of agreement on a Likert-type scale (1- Strongly disagree; 2- Disagree; 3- Agree; and 4- Strongly agree). The statistical treatment was performed using SPSS 27.

Results

The sample revealed a predominance of female nurses (86.7%), aged between 22 and 35 years, with a mean age of 26.9 years (Table 1). Most nurses are single (75.6%) and have only a Bachelor's degree (84.4%), which may be partly related

Table 1. Sociodemographic profile of respondents

Variables	<i>n</i>	%
Sex		
Female	78	86.7
Male	12	13.3
Marital Status		
Single	68	75.6
Married or Registered partnership	20	22.2
Divorced or separated	2	2.2
Level of education		
Undergraduate/Bachelor's degree	76	84.4
Nursing specialty	4	4.4
Master's Degree	8	8.9
PhD	2	2.2
Nursing specialty		
Child and pediatric health nursing	2	2.2
Medical-surgical nursing	8	8.9
Maternal and Obstetric Health Nursing	2	2.2
Service where you work		
MSI	28	31.1
LTCU	30	33.3
CRMU	12	13.3
External consultation/special examinations	8	8.9
Emergency service	10	11.1
Operating theatre	2	2.2
Do you have a chronic illness?		
Yes	18	20.0
No	72	80.0
	Average	Standard Deviation
Age	26.9	3.89
Years of service	2.42	2.01
Body Mass Index	23.4	3.22

Notes: MSI - Medical-Surgical Internment; LTCU- Long Term Care Unit; CRMU - Convalescence, Rehabilitation and Maintenance Unit

to their years of service (on average, 2.42). Concerning the service where they work, 33.3% of the nurses work in the Long-term Care Unit (LTCU), closely followed by 31.1% nurses who work in Medical-Surgical Internment (MSI).

Table 2 presents the data on the full assessment of Factor I regarding the "Management and Leadership of the Head Nurse", with a mean of $\bar{x}=3.3$ from 1 to 4. It should be noted that the items "The Head Nurse is a good manager and leader" and "The Head Nurse supports the nursing team" showed higher mean scores ($\bar{x}=3.5$) with 95.5% and 97.8% of positive answers, respectively. The item "Head nurse consults nurses regarding daily problems and procedures" had the highest level of disagreement, with 13.3% of respondents expressing their disagreement. This factor

was the highest ranked, expressing the nurses' favourable position towards the issues related to the Chief Nurse's Management and Leadership that were imposed on them.

Concerning Factor II "Adequate Human Resources to Ensure the Quality of Care", Table 3 shows that 88.9% of the nurses agreed with the item "Sufficient nurses make the work more concrete" ($\bar{x}=3.2$). In the same line, 84.4% agreed that "Enough nurses ensure the quality of care" ($\bar{x}=3.1$). On the contrary, 48.9% of the sample disagreed with the fact that "Nurses are involved in the internal management of the hospital" ($\bar{x}=2.5$). Overall, this factor has the second-highest level of disagreement among the respondents, with a total mean of $\bar{x}=3.0$.

Table 1. Sociodemographic profile of respondents

	Response options	n	%	\bar{x}	σ
The Chief Nurse supports the nursing team.	Totally agree	46	51.1	3.489	0.5486
	I agree	42	46.7		
	I disagree	2	2.2		
	Totally disagree	0	0		
Head Nurse is a good manager and leader.	Totally agree	48	53.3	3.489	0.5886
	I agree	38	42.2		
	I disagree	4	4.4		
	Totally disagree	0	0		
Nurse Manager supports the nursing team in decision-making, even when the conflict is with a physician.	Totally agree	36	40.0	3.356	0.5703
	I agree	50	55.6		
	I disagree	4	4.4		
	Totally disagree	0	0		
Nurse Supervisors use the error as an opportunity for learning and not for criticism.	Totally agree	14	15.6	3.067	0.4954
	I agree	68	75.6		
	I disagree	8	8.9		
	Totally disagree	0	0		
Chief Nurse consults with nurses regarding daily problems and procedures.	Totally agree	16	17.8	3.044	0.5623
	I agree	62	68.9		
	I disagree	12	13.3		
	Totally disagree	0	0		
Time and opportunities to discuss patient care with other nurses.	Totally agree	12	13.3	3.044	0.4746
	I agree	70	77.8		
	I disagree	8	8.9		
	Totally disagree	0	0		

According to Table 4, Factor III “Nurse-Physician Relationship” presents an overall mean of $\bar{x}=3.0$. It emerges as the third dimension with the highest level of agreement among respondents, with the item “Doctors and nurses have a good working

relationship” with a 97.7% rate of agreement. Next, the items “A lot of teamwork between physicians and nurses” and “Joint work between physicians and nurses” were found with an average of $\bar{x}=3.0$, respectively with 84.4% and 86.7% of agreed answers.

Table 3. Factor II “Adequate human resources to ensure the quality of care”

	Response options	n	%	\bar{x}	σ
Sufficient nurses ensure quality care.	Totally agree	28	31.1	3.111	0.7752
	I agree	48	53.3		
	I disagree	10	11.1		
	Totally disagree	4	4.4		
Enough nurses get the job done.	Totally agree	28	31.1	3.178	0.6839
	I agree	52	57.8		
	I disagree	8	8.9		
	Totally disagree	2	2.2		
Active staff development or continuing education programs for nurses.	Totally agree	10	11.1	3.000	0.4767
	I agree	70	77.8		
	I disagree	10	11.1		
	Totally disagree	0	0		
Nurses involved in the internal management of the hospital.	Totally agree	4	4.4	2.467	0.7261
	I agree	42	46.7		
	I disagree	36	40.0		
	Totally disagree	8	8.9		
Merit and recognition for work well done.	Totally agree	18	20.0	3.022	0.6212
	I agree	56	62.2		
	I disagree	16	17.8		
	Totally disagree	0	0		
Active quality assurance program.	Totally agree	14	15.6	3.000	0.5641
	I agree	62	68.9		
	I disagree	14	15.6		
	Totally disagree	0	0		

Table 4. Factor III “Nurse-Physician relationship”

	Response options	n	%	\bar{x}	σ
Lots of teamwork between doctors and nurses.	Totally agree	12	13.3	2.956	0.6013
	I agree	64	71.1		
	I disagree	12	13.3		
	Totally disagree	2	2.2		
Joint work between doctors and nurses.	Totally agree	10	11.1	2.956	0.5623
	I agree	68	75.6		
	I disagree	10	11.1		
	Totally disagree	2	2.2		
Doctors and nurses have a good working relationship.	Totally agree	12	13.3	3.111	0.3827
	I agree	76	84.4		
	I disagree	2	2.2		
	Totally disagree	0	0		
Nurse-Director possesses power and authority equivalent to other executives.	Totally agree	8	8.9	2.933	0.4954
	I agree	68	75.6		
	I disagree	14	15.6		
	Totally disagree	0	0		
Welcome program for recently hired nurses.	Totally agree	14	15.6	2.933	0.6876
	I agree	60	66.7		
	I disagree	12	13.3		
	Totally disagree	4	4.4		
Nurse Manager accessible and visible to workers.	Totally agree	14	15.6	2.933	0.6179
	I agree	56	62.2		
	I disagree	20	22.2		
	Totally disagree	0	0		

Factor IV "Nurses' participation in Hospital Affairs" had a score of $\bar{x}=2.8$, which proved to be the dimension with the highest level of disagreement among the respondents (Table 5). Even so, according to the cut-off line proposed by Ferreira & Amendoeira, it cannot be considered a negative result, a situation that is only identified in situations in which the mean is below $\bar{x}=2.5$. Thus, less positive results were obtained in the item "Opportunity for nurses to participate in policy decisions" with "I disagree" and "I totally disagree" prevailing among 37.8% of the respondents. Next, with the second-highest level of disagreement ($\bar{x}=2.7$; 31.1%), was the item "Management listens and responds to the workers' concerns".

On the other hand, the highest level of agreement among the respondents is the items "Opportunity for career advancement" and "Opportunity for advancement", both with $\bar{x}=2.9$ and with a rate of agreement of 75.5%.

Concerning the last Factor V "Fundamentals of Nursing based on Quality of Care", the total mean value found was $\bar{x}=3.1$, which stands out as the factor with the highest level of agreement among respondents. The item "Works with clinically competent nurses" had 100% agreement. The second-highest score of positive answers among respondents ($\bar{x}=3.2$) is the item

Table 5. Factor IV "Nurses' Participation in Hospital Affairs"

	Response options	n	%	\bar{x}	σ
Opportunity to move up the career ladder.	Totally agree	12	13.3	2.889	0.6113
	I agree	56	62.2		
	I disagree	22	24.4		
	Totally disagree	0	0		
Opportunity for progression.	Totally agree	14	15.6	2.889	0.6816
	I agree	54	60.0		
	I disagree	20	22.2		
	Totally disagree	2	2.2		
Opportunity for nurses to participate in policy decisions.	Totally agree	4	4.4	2.600	0.6876
	I agree	52	57.8		
	I disagree	28	31.1		
	Totally disagree	6	6.7		
Administration listens and responds to workers' concerns.	Totally agree	6	6.7	2.689	0.7014
	I agree	56	62.2		
	I disagree	22	24.4		
	Totally disagree	6	6.7		

Table 6. Factor V "Nursing Fundamentals based on the Quality of Care"

	Response options	n	%	\bar{x}	σ
Written and updated care plan for all clients.	Totally agree	20	22.2	3.133	0.5477
	I agree	62	68.9		
	I disagree	8	8.9		
	Totally disagree	0	0		
Use of nursing diagnosis.	Totally agree	12	13.3	3.022	0.5431
	I agree	70	77.8		
	I disagree	6	6.7		
	Totally disagree	2	2.2		
Care management promotes continuity of care.	Totally agree	10	11.1	3.000	0.4767
	I agree	70	77.8		
	I disagree	10	11.1		
	Totally disagree	0	0		
Works with clinically competent nurses.	Totally agree	30	33.3	3.333	0.4767
	I agree	60	66.7		
	I disagree	0	0		
	Totally disagree	0	0		
Nursing care is based on a nursing model	Totally agree	22	24.4	3.222	0.4714
	I agree	66	73.3		
	I disagree	2	2.2		
	Totally disagree	0	0		
Opportunity for nurses to participate in committees and departments.	Totally agree	6	6.7	2.778	0.5988
	I agree	60	66.7		
	I disagree	22	24.4		
	Totally disagree	2	2.2		

"Nursing care is based on a nursing model". The highest level of disagreement ($\bar{x}=2.8$) is the item "Opportunity for nurses to participate in committees and departments" with 26.6% of respondents stating their disagreement.

Discussion

The results found in this study reveal a trend that is corroborated with previous studies, namely regarding the predominance of the female gender (87%) of the sample, the mean age of 26 years, and the nurses' marital status itself, a profile also identified by the statistics presented by Portuguese Nurses Order (2018).

As regards the level of education, most of them have a Bachelor's degree (84.4), only 4.4% have a specialty, 8.9% have a Master's degree and 2.2% have a Ph.D. There is a need to raise the awareness of these professionals to invest in continuous training to contribute to the development of competencies.

Most respondents (33.3%) work in the Long-term Care Unit and MSI. Similarly to the years of service, on average, the respondents have 2.4 years of professional experience among most nurses, and 37.8% have only 1 year of service. These data show a young team with little professional experience, which demonstrates the need to promote the retention of these professionals in the service, providing them with career development, continuing education, and job satisfaction (Nowrouzi-Kia & Fox, 2020).

The factor corresponding to the "Management and leadership of the Head Nurse" had a mean value of $\bar{x}3.3$, being the axis with the best assessment. About the "Fundamentals of nursing based on the quality of care", this was the second-best factor, with a mean value of $\bar{x}3.1$. The leader plays a key role in the team satisfaction process. The leader must create the conditions for the team to become self-directed and self-motivated (Batista et al., 2016).

The factor "Nurse-Physician Relationship" emerged with a mean value of $\bar{x}3.0$ and "Adequate Human Resources to ensure the Quality of Care" with a mean value of $\bar{x}3.0$. The two axes presented have an intermediate mean, i.e. they do not have the best perceptions among the respondents' answers. However, they should be considered satisfactory taking into account the cut-off line proposed by Ferreira & Amendoeira (2014). The relational factors in the work environment include a range of interactions, such as the promotion of collaborative interprofessional relationships within the team, transparent and open lines of communication, accessible employees, feeling valued by the organization, opportunities to participate in decision-making, and personal and professional growth (Cusack et al., 2016).

The axis with less encouraging results is "Nurses' participation in hospital affairs", with a mean of $\bar{x}2.8$. Although it has a mean higher than 2.5 (cutoff line), it is the factor that is closest to it, and its intervention is a priority.

In this context, it is necessary to intervene precisely in the promotion of nurses' participation in hospital affairs, to ensure a greater opportunity for career advancement, progression opportunities, and a more active voice in hospital affairs, to ensure their significance in their motivation, daily practice, and profession (Cusack et al., 2016; Håkan et al., 2020).

Conclusion

The promotion of a healthy environment is an essential condition for maintaining the professionals' health, preventing adverse consequences on their health, and, consequently, their performance, which is directly related to the individual practices that contribute to maintaining and protecting nurses' health. When health professionals join an organization, they have certain expectations, such as good working relationships, teamwork, assertive and effective communication, adequate resources, professional *status*, and safety. Therefore, it is expected that these expectations are met to promote motivation, satisfaction, and a good work environment.

Although generally satisfactory, the results still express the need to carefully intervene and assess each dimension from an integrated perspective, intending to promote a healthy work environment and the employees' well-being. They demonstrate the critical importance of being in a harmonious, understandable and manageable work environment that supports nurses in maintaining their professional identity. We found that the nurses' work environment is still an issue under investigation and that, increasingly, salutogenesis is becoming essential in a healthcare institution aligning with national and international guidelines.

As a result, in this study, the respondents' answers were positive, fully reflecting a favourable work environment. There are, in fact, within each domain, casual issues that require intervention, to contribute to healthy work environments, by adopting strategies for professionals to stay healthy, contributing to their recognition, well-being, motivation, satisfaction, quality of life, and individual empowerment essential for the promotion of their health. The salutogenic approach in work contexts allows people to experience a feeling of productive life, active in the control of personal adversities and the work environment.

The results found encourage the need to take care of the nurse's work environment, since its imbalance may negatively

affect quality of their work, impacting the quality of health care provided to the user. In addition, these results should be understood as an important factor to be considered in the design of future care teams. Regarding future research, it would be important to consider large samples and deepen the topic explored among different departments in the health care facilities.

References

- Agosti, M. T., Andersson, I., Ejlertsson, G., & Janlöv, A. C. (2015). Shift work to balance everyday life - a salutogenic nursing perspective in home help service in Sweden. *BMC Nursing*, 14(1). <https://doi.org/10.1186/s12912-014-0054-6>
- Batista, N. P. de O., Kilimnik, Z. M., & Neto, M. T. R. (2016). Influência dos estilos de liderança na satisfação no trabalho: um estudo em uma entidade de fins não econômicos. *Navus*, 6(3), 24–39.
- Becker, C. M., Glascoff, M. A., & Felts, W. M. (2010). Salutogenesis 30 Years Later: Where Do We Go from here? *International Electronic Journal of Health Education*, 13, 25–32.
- Bentes, F. M., Teixeira, E. M., & Marques, A. C. G. (2018). A prevenção como estratégia nos ambientes de trabalho. *Revista Tecnológica Da Universidade Santa Úrsula*, 1(1), 142–150.
- Bonanato, K., Branco, D. B. T., Mota, J. P. T., Ramos-Jorge, M. L., Paiva, S. M., Pordeus, I. A., & Kaeppler, K. C. (2009). Trans-Cultural Adaptation and Psychometric Properties of the 'Sense of Coherence Scale' in Mothers of Preschool Children. *Revista Interamericana de Psicología/ Interamerican Journal of Psychology*, 43(1), 144–153.
- Burton, J. (2010). *WHO Healthy Workplace Framework and Model: Background and Supporting Literature and Practices*. World Health Organization. https://www.who.int/occupational_health/healthy_workplace_framework.pdf
- Cusack, L., Smith, M., Hegney, D., Rees, C. S., Breen, L. J., Witt, R. R., Rogers, C., Williams, A., Cross, W., & Cheung, K. (2016). Exploring environmental factors in nursing workplaces that promote psychological resilience: Constructing a unified theoretical model. *Frontiers in Psychology*, 7(MAY). <https://doi.org/10.3389/fpsyg.2016.00600>
- Das Neves Borges, E. M., Queirós, C. M. L., Da Silva Neves De Abreu, M., Mosteiro-Diaz, M. P., Baldonado-Mosteiro, M., Baptista, P. C. P., Felli, V. E. A., Dos Santos Almeida, M. C., & Silva, S. M. (2021). Burnout among nurses: A multicentric comparative study. *Revista Latino-Americana de Enfermagem*, 29. <https://doi.org/10.1590/1518-8345.4320.3432>
- Ferreira, M., & Ferreira, C. (2014). Carga mental e carga psíquica em profissionais de enfermagem. *Revista Portuguesa de Enfermagem de Saúde Mental, Ed. Esp.* 1, 47–52.
- Ferreira, M. R. S. do C. F., & Martins, J. J. P. A. (2014). Study of adaptation and validation of the Practice Environment Scale of the Nursing Work Index for the Portuguese reality. *Revista Da Escola de Enfermagem*, 48(4), 691–698. <https://doi.org/10.1590/s0080-623420140000400017>
- Håkan, N., Monica, E., Ayman, O., Lisbeth, H., Anh, T., & Sandra, P. (2020). Salutary factors and hospital work environments: a qualitative descriptive study of nurses in Sweden. *BMC Nursing*, 19(1). <https://doi.org/10.1186/s12912-020-00521-y>
- Hämmig, O. (2018). Explaining burnout and the intention to leave the profession among health professionals - A cross-sectional study in a hospital setting in Switzerland. *BMC Health Services Research*, 18(1). <https://doi.org/10.1186/s12913-018-3556-1>
- Marçal, C. C. B., Heidemann, I. T. S. B., Fernandes, G. C. M., Rumor, P. C. F., & De Oliveira, L. S. (2018). The salutogenesis in health research: An integrative review. *Revista Enfermagem*, 26. <https://doi.org/10.12957/reuerj.2018.37954>
- Neves, M. M. A. M. da C. e. (2012). O papel dos enfermeiros na equipa multidisciplinar em Cuidados de Saúde Primários – Revisão sistemática da literatura. *Revista de Enfermagem Referência*, 3(8), 125–134.
- Nowrouzi-Kia, B., & Fox, M. T. (2020). Factors Associated With Intent to Leave in Registered Nurses Working in Acute Care Hospitals: A Cross-Sectional Study in Ontario, Canada. *Workplace Health and Safety*, 68(3), 121–128. <https://doi.org/10.1177/2165079919884956>
- Ordem dos Enfermeiros. (2018). *Membros ativos*. https://www.ordemenfermeiros.pt/media/11135/cópia-de-2018_acumulado_dadosestatisticos_nacional.pdf
- Seguel Palma, F., Valenzuela Suazo, S., & Sanhueza Alvarado, O. (2015). El trabajo del profesional de enfermería: Revisión de la literatura. *Ciencia y Enfermería*, 21(2), 11–20. <https://doi.org/10.4067/S0717-95532015000200002>
- Viterbo, L. M. F., Costa, A. S., & Dinis, M. A. P. (2018). Interdisciplinarity: an articulating movement in the field of worker's health. In L. M. Viniegra, S. M. Chávez, & E. M. Rodrigo (Eds.), *La comunicación ante el ciudadano* (pp. 323–334). Editorial GEDISA.
- Viterbo, L. M. F., Dinis, M. A. P., Vidal, D. G., & Costa, A. S. (2019). Implementation of an Interdisciplinary Approach to Promote Workers' Global Health Status in the Oil Industry, Brazil (2006-2015). *International Journal of Environmental Research and Public Health*, 16(12), 1–16. <https://doi.org/10.3390/ijerph16122148>

ABOUT THE AUTHORS



André Rafael Coutinho FARIA, RN, postgraduate, is an intensive care nurse at the University Hospital Fernando Pessoa. He obtained his degree in Nursing from the Fernando Pessoa University in Porto and a postgraduate degree in Anesthesiology and Pain Control from CESPU in Famalicão, all in Portugal. His research and publication interests are primarily in the field of staff and nurse health.



Jani de Oliveira CARVALHO, B.Sc., PgDip. She obtained her B.Sc. in nursing from the University Fernando Pessoa and her PgDip in anesthesiology and surgical instrumentation from Instituto Piaget, all in Porto, Portugal. She is a nurse at the Hospital Dr. Francisco Zagalo, Ovar, Portugal.



Maria Margarida Silva Vieira FERREIRA, MSc, PhD is a Researcher at CINTESIS@RISE and Instituto Piaget. She holds a Masters in Public Health with a specialization in Occupational Health from the University of Porto, obtained on December 3, 2001, and a PhD in Applied Research, Preventive Medicine, Public Health and Surgery from the University of Santiago de Compostela, Spain. Her research and publishing interests focus primarily on the field of Occupational Health, Occupational Nursing, Human Resources Leadership and Infection Control.



Diogo Guedes VIDAL, BSc, MSc, PhD, Sociologist with a PhD in Ecology and Environmental Health. He is Invited Assistant Researcher at Centre for Functional Ecology, Department of Life Sciences of the University of Coimbra. His research interests focus primarily on the field of Society-Nature relations, urban nature, socioecology, sustainability and environmental Health.



Joana Margarida Pinheiro TEIXEIRA, PhD, MSc, CMSRN, Graduated in Nursing at Fernando Pessoa University, completed the Master's Degree in Oncology Nursing and the PhD in Nursing at the Abel Salazar Institute of Biomedical Sciences. She currently works as Nurse Director of the Hospital Escola Fernando Pessoa. His research interests and publications are mainly in the field of life's quality of cancer patients.



“Nursing is all about touching lives, and Lives touching yours along the way”

author unknown