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Nurses Under Pressure: The Demands of Professional Performance and Their Management Through the Use of Medication

Hélder Raposo[1,2], Catarina Egreja[3], & Noémia Lopes[1,3]

1. Iscte—Instituto Universitário de Lisboa, CIES-Iscte, Lisbon, Portugal.
2. ESTeSL—Escola Superior de Tecnologia da Saúde de Lisboa, H&TRC—ESTeSL—Health and Technology Research Center, Lisbon, Portugal.
3. Egas Moniz School of Health and Science, CiiEM—Egas Moniz Interdisciplinary Research Center, Caparica, Portugal.

Contact: Hélder Raposo, Iscte—Instituto Universitário de Lisboa, CIES-Iscte, Lisbon, Portugal; ESTeSL—Escola Superior de Tecnologia da Saúde de Lisboa, H&TRC—ESTeSL—Health and Technology Research Center, Lisbon, Portugal. helder.raposo@estesl.ipl.pt

Abstract

This article discusses the relationship between the demands on nurses' professional performance and adherence to the use of medicines and supplements for their management. This approach allows us to analyze the transformations of nursing work and how nurses use various natural and pharmaceutical resources to cope with the pressures they face in their professional activities. To understand the interconnection between the transformations in nursing work and what we refer to here as the process of pharmaceuticalisation of work contexts, we use the results of a sociological mixed methods study on the use of medicines and food supplements for managing professional performance. The results show some of the main pressure factors in nursing work and how the increase in professional pressure substantially affects performance-related medicine use, as these become more frequent when nurses perceive their work as more intense, demanding, and exposed to risks.

Keywords

Nursing, organizational demands, performance consumptions, pharmaceuticalisation, pressure factors, professional performance

Introduction

Professionals in modern healthcare systems are part of organizations that are undergoing significant changes, adopting principles, practices, and processes based on management strategies, new accounting models, and market mechanisms (Carvalho, 2014; Leicht & Fennell, 1997; van Schothorst-van Roekel et al., 2020).

Within these new organizational dynamics, some changes have occurred in work, involving new forms of pressure and demands requiring greater versatility and functional efficiency. In contexts where the focus is now on the need for greater productivity and efficiency (Moffatt et al., 2014), work becomes more intense in volume and pace. It also involves greater accountability, with regular scrutiny, resulting in increased pressure on performance (Tavares et al., 2022) to meet new demands and expectations.

Although these changes assume a transversal scope in professional work, their impact is more significant in professional groups whose work ties them to more demanding and immediate performance levels. As we will see, the case of nursing is a clear example of this reality, given the need for permanent adaptation to multifaceted and non-routine forms of work. The volume of patients, the demands of clinical prioritization due to the increasing complexity and intensity of patient care, heavy workloads, and time pressures are, therefore, integral parts of nursing's organizational work (Aiken et al., 2001; Allen, 2014).

Work planning is particularly complex in hospital settings due to the unpredictability of the number of patients and the range of diseases susceptible to sudden complications requiring a series of unscheduled tasks and a wide range of skills (Hall & Kiesners, 2005; Furåker, 2009). In this regard, although extendable to several other contexts and areas of nursing intervention, the work in emergency services assumes a particular relevance here since the levels of indeterminacy associated with the organizational management of the clinical complexity of patients accentuate uncertainties and pose difficulties in planning care activities. Therefore, nursing encompasses not only the traditional tasks of movement, positioning, hygiene, and clinical assessment of individual patient needs (Lopes, 2001), but also data recording, case selection, prioritization, clinical and organizational information management and monitoring. Moreover, this happens in a context where the high number of patients per nurse (Aiken et al., 2001; Hall & Kiesners, 2005; Furåker, 2009) and divergences between the holistic requirements of care and compliance with standardized organizational rules and procedures make nurses' professional practice particularly complex (Allen, 2014; Rankin, 2015). As Campbell and Rankin (2017) argue, nursing has shifted from being a close engagement with the patient as a "whole person" to what they characterize as organizing work.

Considering the performance pressure factors associated with the nature of their work, namely a pattern of unpredictability, the immediacy of the responses or actions to take, and the intensity of work rhythms, we have developed an analysis of how nurses manage those performance demands. Our research is based on a sociological project on the use of medicines and food supplements for performance management (referred to as "performance consumptions" in this study), carried out in Portugal[1] using focus groups, questionnaires, and interviews. Through this research, we explore how the transformations in professional nursing work generate different forms of pressure and how the main factors of this work pressure are associated with patterns of use of medicines and supplements to manage professional performance.

Given this framework, our paper draws on the concept of pharmaceuticalisation to analyze how nurses mobilize medicines and food supplements for performance management, particularly professional performance. Originally understood as "the transformation of human conditions, capacities or capabilities into pharmaceutical matters of treatment or enhancement" (Williams et al., 2009, p. 37), the concept of pharmaceuticalisation highlights a set of changes in people's relationships with medicines and their use far beyond their original therapeutic and preventive functions. The shift away from their strictly therapeutic purposes to other modalities of use also encompasses purposes of management and improvement of personal performance.

This theoretical framework allows us to assess the expansion and expression of the use of medicines and food supplements to manage physical, intellectual, or relational performance in the work contexts of nurses, as well as the social dispositions of adherence to these resources. The acceptance of the presence of medicines in daily life and their transformation into instruments to help respond to work requirements (Egreja & Lopes, 2021) is indeed significant, as it reveals a cultural disposition towards medication for purposes beyond the field of health (Smith & Land, 2014; Ballantyne, 2021). In this sense, we can ask to what extent therapeutic resources tend to become increasingly necessary by assuming themselves as important performance aids as the rhythms, pressures, and increasing demands in the daily life of nursing professional contexts intensify.

In this line of analysis, our approach aims to deepen the pharmaceuticalisation in work contexts. Through this lens, we explore the reciprocal effect between work-related pressure factors and the pharmaceuticalisation of work performance. Given this framework, the approach developed in this article seeks to respond to two main objectives. The first is to analyze how changes in aspects of work translate into increased pressure on performance, which involves

[1] The results presented in this article are part of a wider sociological research project on occupations under high pressure to perform, funded by the Portuguese Foundation for Science and Technology (FCT) under Grant PTDC/SOC-SOC/30734/2017 and hosted by CIES-Iscte research center, in partnership with IUEM—Instituto Universitário Egas Moniz and IS-UP—Instituto de Sociologia da Universidade do Porto.

identifying the pressure factors inherent to the nature of nurses' work in terms of the pace of work, specific demands of the professional activity, and degree of risk exposure. The second is to analyze the practices and social provisions of using different types of natural and pharmaceutical resources to meet professional demands. This involves assessing the extent of performance consumption among nurses and considering the social pressure factors identified and analyzed. In the discussion about medicine use to manage work performance, we show its actual extent, the primary purposes of use and the investments associated with it, its correlation with pressure factors, and the inclination towards its use based on the resulting forms of acceptance or rejection.

The pressure to perform and changes in the nature of work

As previously mentioned, professional work is changing, and the more professionals are forced to adapt to new organizational bureaucratic realities, the more noticeable and consequential are the changes.

The introduction of new organisational realities leads to a redefinition of the normative values underlying professional discourse. However, this need not necessarily result in an explicit tension between what can be called "occupational professionalism" and "organizational professionalism" (Evetts, 2013) because the current reconfigurations of professionalism go beyond the logic of the conflictual model that underlies all-or-nothing perspectives on these changes (Gaglio, 2014; Noordegraaf, 2015).

In contrast to polarized notions of professionals' compliance or resistance to management requirements, it is essential to recognize the dynamic and resilient nature that professional groups develop within the political, regulatory, or organizational frameworks in which they operate. Therefore, some mitigation of these disruptive trends in the profession's identity may arise from what some authors call hybrid professionalism (Carvalho, 2014; van Schothorst-van Roekel et al., 2020), which, in the case of nursing, tends to lead to a reconceptualization of care itself. Nursing work may involve articulation between clinical knowledge and organizational skills to manage better the different types of care for which nurses are responsible (Allen, 2014).

Indeed, despite recognizing the combination of distinct logics in organizational work contexts and the production of forms of professionalism aligned with performance imperatives, analyses focused on the evaluation of shifting contexts (cf. Noordegraaf, 2015) and their respective impacts on changes in professional work highlight the need to go beyond hybridization. As professional practices evolve, they become more aligned with new principles, such as time pressure, and criteria, such as efficiency. To this extent, the current theoretical debates about the permanent reconfigurations of professionalism sustain the need to consider the organizational dimension as a constitutive element of professional work (organizing

professionalism) to the extent that organizing becomes part of professional work. Professionalism is connected to the professional and refers to the work process (Gaglio, 2014; Noordegraaf, 2015).

Considering this framework, we are interested in exploring how the performance demands accompanying organizational restructuring imply changes in work models and, by extension, in professional practices. Our line of argument will highlight to what extent the most structuring transformations in the nature and models of work organization are generating work intensification processes favorable to pharmaceuticalisation in work contexts, which means that the changes in the nature of nursing work and their impact on work paces and pressures generate a dynamic that promotes greater openness to and adherence to therapeutic resources as privileged solutions to manage new or increasing work demands (i.e., non-therapeutic purposes). Medication use thus participates in new forms of adjustment to multiple social pressures, becoming a privileged resource for managing cognitive, physical, or relational performance raised by the demands of professional work.

Methodology

The study's target population refers to nurses working in hospitals in Portugal's two main cities (Lisbon and Porto). It was important to have a relatively homogeneous population as a reference in terms of the nature of their work to avoid the risk of dispersion of the analysis. Nurses working in hospital settings, particularly in emergency services, were chosen due to the unpredictable situations they face professionally and the pressing workload and high-paced rhythms.

Within the framework of a mixed-methods research in which qualitative and quantitative methods were used, we sequentially conducted focus groups, a questionnaire, and interviews with nurses. We chose this methodology because obtaining information from various sources is an advantage in knowledge production about the regularity of variables and indicators, combining quantified and measurable data and the reasons underlying the perceptions and practices in work contexts (Creswell, 2021; Saks & Allsop, 2019).

In the project's initial phase, the focus groups aimed to gather information on the subject and contribute to the subsequent phases, including the questionnaire design. Three focus groups were conducted between February and June 2019, involving thirteen nurses working in emergency departments. The focus groups addressed the following main topics: highest physical, cognitive, and relational demands of the profession; advantages and disadvantages of working in emergency services compared to other hospital services; work-life balance; performance consumption; and changes in the profession. These sessions were fully transcribed, and content analysis was performed to construct the analytical categories. The data were then coded with MAXQDA.

Based on the analytical content systematized from the focus groups, we developed a questionnaire and applied it online (via Qualtrics) to obtain quantitative information on nurses' perceptions and practices of their work and ways of managing performance. These two dimensions were addressed in tailor-made indicators and questions about their jobs (daily working hours, employment status, work pace, demands of work), strategies for managing performance (medication use to manage daily wear and pressure, circuits of information on this medication use) and sociodemographic data (age, gender, region, years of service). These autonomous topics were analyzed statistically to understand whether they were linked.

We distributed the questionnaire[2] to nurses recruited mainly through collaboration agreements with the Portuguese Nurses' Union, which sent it to members working in hospital services. Initially, we created an online form to collect contact details of possible respondents by sending an invitation to participate in the study. If they agreed to participate, they entered their email addresses in the form. As a result, the contact details of 338 willing participants were collected, and the research team sent them the questionnaire.

Between January and December 2020, 199 complete responses were received, including nurses from emergency departments (n=68) and others (n=131), mainly in hospital settings. More women than men answered the questionnaire (70.9%), and the age distribution was concentrated in the 35–49 age range (46.7%). Nurses working in emergency departments represented 34.2% of the total and were generally much younger than those working in other departments (48.5% were 34 years old or younger, while only 18.3% were in this range in the other departments). The answers were analyzed statistically using SPSS (Statistical Package for Social Sciences). In addition to descriptive and correlation analyses, we performed multivariate analyses and constructed new measures from a combination of the initial variables. While the non-probability sampling technique does not allow for the extrapolation of the results, it does not hinder the research, as it is still possible to conduct an exploratory analysis of the obtained data.

Following the previous systematization done by the focus groups and the questionnaire, semi-structured interviews (n=14) were conducted in June 2021 with those respondents who agreed to be interviewed to deepen the information obtained in the questionnaire. The interviews were conducted online using videoconferencing platforms. Anonymity was also ensured, and only the audio was recorded. The interview script was divided into two parts: professional practices and pressure factors (daily work, main pressure and wear and tear factors, work-life balance), strategies for managing professional pressure (perceptions of medication use for performance, use of medication to manage performance). Individual interviews allow researchers to gain rich and detailed data from the participants' words and expressions, revealing their feelings, motivations, and meanings with much more depth. All interviewees

[2] The questionnaire was pre-tested (n=16) and obtained the approval of the Ethics Committee of Egas Moniz (protocol code CE 857, February, 2020).

who worked in emergency departments were divided evenly between men and women, and their ages ranged from 28 to 56. The interviews were fully transcribed and underwent categorical content analysis, leading to the construction of analytical categories informed by the literature and empirical data. The data were then coded using MAXQDA.

Results and discussion

Pressure factors in nursing work

One of the main goals of this study, reflected in the indicators in the questionnaire and the interview script, was the need to clearly understand the structural characteristics of nursing work and its main recent changes. We focused on analyzing three dimensions of particular importance: the pace of work, the work demands, and the risk exposure, which are essential in understanding increases in pressure factors for performance (Tavares et al., 2022).

Pace of work and working hours

Nurses were asked about specific aspects of their work, particularly regarding the pace of work and the daily demands. In general, nurses tended to classify their daily work pace as highly or too intense (76.4%; the global mean being 3.91 on a scale from 1 - Not at all intense to 5 - Too intense). This was even more noticeable among emergency nurses (92.6%) compared to nurses in other departments (67.9%). Comparing the mean pace of work by age groups, we found that it was higher (4.07) among younger people (aged up to 34 years) than older people aged 50 years or over (3.67), and this difference was statistically significant ($p<0.050$; one-way ANOVA). The pace of work was also described as more intense by respondents who had been in the profession for ten years or fewer. The pace of work was one of the aspects analyzed in depth during the interviews, and the nurses confirmed that it was of high intensity.

> Normally, the pace in emergency departments, both in terms of demand and new technologies, a lot of new things every day, is very intense for all professionals working there, whether or not they're nurses [...]. Every day things are changing; it's really very stressful. (N12, Male, 44 years old)

Working hours are closely related to the perception of work demands and personal stress (Tavares et al., 2022). Our study found that the nurses mostly worked in shifts (65.9%), especially in the Emergency Department, where the percentage was 92.6%. Despite being regarded as a part of the organization of work and something that nurses knew they had to do, shift work impacted their private lives regarding work-life balance, fatigue, and sleep. This type of schedule exacerbated these problems as the years went by.

Daily demands of professional activity

Concerning the daily demands of their professional activity (represented by the nine items listed in Table 1), the nurses felt that it was strongly reflected in concentration (91.5%) and

emotional control (91.5%), followed by communication skills (87.9%), mental agility (86.9%), conflict management (85.9%) and memorization (79.9%). Looking at the mean scores, we found that nurses in emergency departments rated all aspects as more demanding than nurses in other services, with statistically significant differences in most cases (Table 1).

Table 1

Daily demands of the professional activity (% and means)

	Total sample (%)			Total	Emergency	Others
	Not at all / a little	Normal	Very / Extremely	Mean		
Physical strength	16,1	39,2	44,7	3.31	3.66*	3.12
Physical resistance	10,1	36,7	53,3	3.46	3.71*	3.33
Physical agility	10,1	49,7	40,2	3.32	3.41	3.27
Concentration	-	8,5	**91,5**	4.32	4.41	4.27
Memorisation	1,5	18,6	**79,9**	4.10	4.25*	4.02
Mental agility	1,5	11,6	**86,9**	4.23	4.38*	4.15
Emotional control	1,0	7,5	**91,5**	4.43	4.60*	4.34
Conflict management	3,0	11,1	**85,9**	4.35	4.57*	4.23
Communication skills	0,5	11,6	**87,9**	4.41	4.49	4.37

Scale: 1 – Not at all demanding to 5 – Extremely demanding

* $p<0,050$; t-test

New variables were based on these items, and the various demand indicators were grouped into three core components according to their nature: physical demand, intellectual demand, and emotional demand[3] (Table 2). The overall mean scores in each index showed first that, regardless of the type of demand, it was always relatively high, reflected in the mean value of the overall level of demand (3.99). Even so, it is important to highlight two aspects. The first was that emotional demand was always the predominant type, both in total and in each group analyzed individually. The second aspect was that the level of demand experienced by emergency nurses was always higher than that experienced by nurses in other departments, thereby showing the high impact of the emotional demand of their work.

[3] A Principal Component Analysis (PCA) indicated the possibility of three new variables (KMO=0.832): physical demand (items 1 to 3; alpha 0.862), intellectual demand (items 4 to 6; alpha 0.898) and emotional demand (items 7 to 9; alpha 0.799).

Table 2

Means of the specific and overall demand indexes

Index	Total	Emergency	Other services
Physical demand	3.36	3.59*	3.24
Intellectual demand	4.22	4.35*	4.15
Emotional demand	4.40	4.55*	4.31
Global demand	3.99	4.17*	3.90

Scale: 1 – Not at all demanding to 5 – Extremely demanding

* p<0,050; t-test

In the interviews, the nurses emphasized features of their experience that fell into the categories of physical demand due to the need to handle patients and be constantly on their feet, with little opportunity to rest, and also emotional demand related to the frailty and suffering of patients in critical clinical condition. The existence of multifaceted situations that nurses had to deal with took a physical or emotional toll on them, as each of the following excerpts illustrates, respectively.

> I think that our legs are one of our worst complaints, because we spend a lot of time standing, we spend a lot of time walking. We put a lot of strain on our back and arms, really physical effort, but mainly the fact that we have very little time to rest. We only sit down occasionally to write up notes. (N4, Male, 44 years old)

> I bring my work home a little, as I usually say, because there are situations that affect me, that shouldn't affect me, but that still do, and I'm still thinking about them when I get home. (N3, Female, 28 years old)

Exposure to risks at work

We also tried to ascertain the degree of exposure to certain types of risks listed in Table 3. More than half of the nurses reported a very or extremely high degree of exposure to diseases (55.8%), physical wear and tear (54.3%), physical fatigue (51.3%), and pressure to achieve results (53.3%). Some interesting particularities emerged if we looked at the means and compared emergency nurses to others. They were at high risk of exposure to disease and subject to extreme physical wear and tear, as well as a higher risk of aggression from patients and their family members. The degree of risk exposure was consistently higher among emergency nurses, and, in most cases, the differences were statistically significant (Table 3).

Table 3

Classification of the degree of exposure to risks and/or conditions while working as a nurse (% and means)

	Total nursing sample (%)				Total	Emergency	Others
	None	Low / Not high	High	Very / Extremely high	Mean		
Injuries/accidents due to transport or positioning of patients	3,5	24,6	34,7	37,2	4.08	4.59*	3.82
Contagion/exposure to harmful substances	0,5	24,6	27,1	47,7	4.31	4.72*	4.09
Exposure to diseases	-	15,6	28,6	**55,8**	**4.66**	**5.10***	**4.44**
Physical attrition (hours standing)	0,5	16,6	28,6	**54,3**	**4.59**	**5.18***	4.29
Physical fatigue (reduced break times)	-	17,1	31,7	**51,3**	**4.52**	4.93*	**4.31**
Aggressiveness of patients	4,5	33,2	23,6	38,7	4.01	**4.94***	3.52
Aggressiveness of relatives	3,5	32,7	27,1	36,7	4.03	**4.94***	3.55
Pressure to obtain results (number of patients attended, etc.)	1,5	16,1	29,1	**53,3**	4.51	4.69	**4.41**
Competitiveness between colleagues	2,5	46,2	25,6	25,6	3.69	3.84	3.61

Scale: 1 – None to 6 – Extremely high

* p<0,050; t-test

New variables were created based on the items shown in Table 3[4]. Once again, all mean scores were higher among emergency nurses than the others, revealing a higher degree of risk exposure in this group (Table 4). The statistically significant differences were particularly striking concerning the risk of aggression.

[4] A PCA indicated the possibility of grouping the items into three components (KMO=0.843) - "Physical and health risks" (items 1 to 5; alpha of 0.902); "Risks of aggression" (items 6 and 7; alpha of 0.932); and "Pressure and competitiveness" (items 8 and 9; alpha of 0.565). However, due to the relatively low level of reliability of the last composite variable, it was not used in further analyses. The overall risk exposure index, created from the mean of all items after a consistency measurement of the variable, indicated a high level of reliability (alpha of 0.893).

Table 4

Means of the indexes of specific and global risks

	Total	Emergency	Others
Physical and health risks	4,43	4,90*	4,19
Aggressiveness Risks	4,02	4,94*	3,53
Global risk exposure index	4,27	4,77*	4,00

Scale: 1 – None to 6 – Extremely high

* $p<0,050$; t-test

Tests were also carried out to determine differences in means, according to age group, for each new composite variable and the overall index for the total sample. Looking at the means by age groups, the differences between groups were statistically significant in all cases. Perception of risk tended to be consistently higher among the younger groups. Once again, the fact that younger age and working in emergency departments were strongly associated helped to explain these results. The perception of risk was also higher among nurses working for less time.

In the interviews, the nurses underscored interactions with patients or their families as one of the highest risks. They expressed the exposure to adverse physical or verbal reactions because of long waiting times or diagnoses with which patients might disagree. The interaction with the public is one of the main pressure factors in their duties. The emphasis on the relational component was quite an expressive dimension in the present study. The following excerpt highlights the underlying tensions and hardships stemming from managing relationships with patients and families.

> But what generates most of the stress in the Emergency Department is the relationship between nurse and patient and nurse and family. These are the most difficult situations to deal with. Trying to explain waiting times, reasons why situations have not yet been resolved, or the fact that people can't always be with their relatives are the situations that generate the most stress for us. (N4, Male, 44 years old)

Overall, the results reinforced the conclusions of other studies that associate nurses with more significant pressure on professional performance within a global context of social transformations, which are also reflected in organizational contexts (Tavares et al., 2022; van Schothorst-van Roekel et al., 2020). A growing workload marks the hospital environment and unpredictability due to the diversity of patients and rapid changes in their clinical status, requiring nurses to possess a wide variety of skills to perform their jobs (Furåker, 2009; Hall & Kiesners, 2005) and adapt to a higher intensity in volume and pace driven by the need for greater productivity and efficiency (Moffat et al., 2014). This results section exemplified how

transformations in the work organization's nature and models generate work intensification processes.

The social uses of medicines in professional performance management

The increasing use of medicines and supplements for performance management is not just about work contexts. It is a socially pervasive process in everyday life, expressed in the increasing social adherence to medicines for personal performance management (Abraham, 2010; Lopes et al., 2010; Lopes et al., 2015; Williams et al., 2009). However, work contexts of professional groups subject to high social pressure to perform create conducive conditions for social adherence to the new uses of medicines, shaping new performance cultures.

Nursing is one of the professional groups in which daily work pressures have been increasing, as discussed in the previous section, and the use of medicines and food supplements to manage daily professional and personal performance appears as a regular practice.

The scope of performance consumption

This study identified performance-related medicine use from a set of ten purposes for using medicines and supplements included in the questionnaire, which we shaped into two broader categories based on the scope of use: (i) cognitive and relational purposes—sleep, staying awake, concentration, memory, relaxation, and mood improvement; (ii) physical purposes—increase in physical energy, weight loss, sexual performance, and muscle mass increase. In turn, each purpose was broken down into "use of medicines" and "use of supplements/natural products" to ascertain the adherence to each of these categories in the different purposes of use.

The overall prevalence of consumption and its purposes was assessed with simple indicators (referring to each purpose) and composite indicators (resulting from aggregating different purposes). The results show significantly widespread use. Under the overall use indicator, 78% of the nurses indicated that they "had already used or usually used" medicines or supplements for one or more purposes listed. Of those, 44% indicated they were currently using. Also, 60% of those who consumed had already done so for four or more purposes.

The data also show that use for cognitive-relational purposes was higher (71.4%) than for physical purposes (50.3%). These results align with the pressure factors already identified above (Table 1), where the overall mean of regularity/intensity of physical factors was proportionally lower than that attributed to factors of a cognitive-relational nature.

Moving from the overall indicators to a finer level of analysis gives us a more accurate view of the preponderance of each of the purposes in the general framework of performance consumption. Table 5 shows the percentage of respondents associated with use for each purpose. In the cognitive-relational domain, sleep (49.2%), relaxation (42.2%), concentration

(37.2%), and memory (34.2%) are the principal reasons; in the physical domain, physical energy (33.2%) and weight loss (29.6%) are the highest.

Table 5

Consumption purposes (medicines and supplements) and total by purpose

	Consumption
Purpose	Total
Sleep	49,2%
Staying awake	12,1%
Concentration	37,2%
Memory	34,2%
Relaxing/calming down	42,2%
Mood improvement	26,6%
Physical energy	33,2%
Weight loss	29,6%
Sexual performance	2,5%
Muscle mass	15,6%

The duration of consumption, based on the last time the medicine or supplement was used and measured through the questionnaire question "For how long did you use it, the last time," is another indicator we shall consider[5]. It reveals the adjustment of medicine use to a more occasional or prolonged nature of performance needs. In occasional use (one to three days), those for sleep (47%) and relaxing/calming down (43%) prevailed. In longer-lasting use (more than one month), those for concentration (66.7%), mood improvement (55.6%), weight loss (72%), and muscle mass (67%) were the highest.

These consumptions included medicines and supplements, which were used alternatively or complementarily and, less frequently, exclusively. More than half of the nurses (59.2%) who resorted to cognitive-relational consumption used medicines and supplements. A higher proportion of nurses (69%) used both categories for physical purposes. These results confirm the growing association between pharmacological and natural, which characterizes the universe of performance-enhancing use found in previous studies (Lopes et al., 2015; Rodrigues et al., 2019). These consumption patterns constitute forms of therapeutic pluralism (Lopes et al., 2010), which coexist with the growing pharmaceuticalisation of everyday life (Williams et al., 2009). The logic of alternation between the two types of resources induces this coexistence, in which the expansion and progressive social adherence to therapeutic resources for daily performance management is embodied.

[5] All percentages of the duration of consumption were calculated by reference to the total number of respondents who "used or usually use" therapeutic resources for each of the purposes.

The generational component in these consumptions, as assessed in the age variable (up to 34 years, 35–49 years, 50 years or more), shows unequal prevalence in the different purposes of use. The youngest age group was the one with the highest use for concentration purposes (47.4%), followed by other high rates of use, such as sleeping (52.6%) and relaxing/calming down (40.4%). The oldest age group was the one with the highest use for sleeping (55.1%), relaxing/calming down (51%), and memory (40.8%). This generational variation reflects the unequal exposure to workplace and/or personal life pressures and differing performance demands and goals. Such variation is also evident in the distinct social and cultural dispositions toward using medication for performance management, as will be seen later.

Performance consumption and pressure factors

In addition to the high level of performance consumption in nurses' daily lives, the data obtained also points to a close association between this consumption and the pressure factors mentioned above, as seen in the following table.

Table 6

Intensity of the pressure factors (global indicators) and variation in performance consumption

		EMERGENCY			OTHERS		
Pressure factors (means)	Performance consumptions	Mean**	Standard deviation	Sig. t-test	Mean**	Standard deviation	Sig. t-test
Work rhythms	With consumption	4,30	0,548	*p*=0,048	3,80	0,608	*p*=0,056
	Without consumption	4,00	0,894		3,57	0,728	
Professional activity demand	With consumption	4,20	0,411	*p*=0,149	3,93	0,523	*p*=0,082
	Without consumption	4,09	0,354		3,76	0,600	
Exposure to risks	With consumption	4,84	0,665	*p*=0,104	4,07	0,912	*p*=0,040
	Without consumption	4,61	0,703		3,69	1,043	

*** scales previously identified in tables 2 and 4.*

Summarizing the results in Table 6, two levels of analysis stand out. On the one hand, the overall mean scores of the three pressure factors—the pace of work, demands of professional activity, and exposure to risks—are higher among the nurses who use performance-enhancing medicines than those who do not. This association is consistent even when comparing departments with unequal pressure patterns, as is the case when comparing "Emergency" and "Other" services.

On the other hand, analysis of each factor shows greater intensity in the pace of work as the factor in which performance-related medicine use is more generalized in both types of services. The high overall means for both professional demands and risk exposure indicate that medicines and supplements are used as "performance aids" in managing daily working life. These results are similar to those found in previous studies addressing the relationship between work and medicine/supplement consumption (Egreja & Lopes, 2021; Leon et al., 2019; Lopes et al., 2010; Lopes et al., 2015; Sales et al., 2019).

Performance consumption: between acceptance, rejection, and invisibility

Despite the prevalence of medicines and supplements for performance management in nurses' daily practice, their relationship with consumption is somewhat ambivalent.

A set of statements in the questionnaire assessed social acceptance and/or rejection of the consumption under analysis, as well as the nurses' perception of how widespread the use was, as shown in Table 7. As seen, use for managing physical, intellectual, and interaction demands—Statements 1, 2, and 3—shows a mean distribution at the agreement threshold for physical and intellectual demands and clearly below agreement for interaction demands. This points to a hierarchy of legitimacy for consumption, which favors demands intrinsic to the nature of the work and the use of resources that facilitate nurses' capacity to respond to these demands. Therefore, interaction demands, generally perceived as extrinsic to the nature of the work, are (culturally) less eligible for the legitimacy of consumption. These results corroborate similar analyses from other studies (Leon et al., 2019; Sales et al., 2019).

This hierarchy of legitimacy in performance consumption presents generational variations. Younger individuals (up to 34 years old) show a higher mean level of agreement [statements: 1 (3.35), 2 (3.45), 3 (3.09)]. Older individuals (50 years and above) show means closer to disagreement [statements: 1 (2.84), 2 (2.80), 3 (2.57)]. As previously mentioned, this indicates a generational mark in cultural dispositions between accepting and rejecting these consumptions.

Table 7

Dispositions and Perceptions on Performance Consumptions

"Please, signal the degree to which you (dis)agree with the following statements":	Disagreement (total/partial) (%)	Agreement (total/partial) (%)	Total	Mean
1. The **physical demands** of nursing work make it acceptable to resort to medicines and/or supplements to **boost one's energy.**	51,8%	48,2%	100,0% (195)	3,09
2. The **intellectual demands** of nursing work make it acceptable to resort to medicines and/or supplements to **enhance one's performance**	52,8%	47,2%	100,0% (195)	3,09
3. The **interaction demands** of nursing work make it acceptable to resort to medicines and/or supplements to **manage your relationship with others**.	63,6%	36,4%	100,0% (195)	2,82
4. Only a **small number** of nurses resort to medicines and/or supplements to **enhance his/hers professional and/or personal performance.**	59,8%	40,2%	100,0% (169)	3,14
5. In workplaces, in general, there is **some reluctance** among nurses to talk about any medicines/supplements they may take to **manage their professional and/or personal performance.**	19,3%	80,7%	100,0% (181)	4,51

Scale: Totally disagree (1) to Totally agree (6); midpoint: 3,5

Regarding the perception of the dissemination of these consumptions among nurses—Statement 4 of the table—we found that the idea that it was relatively widespread prevailed (59.8%), as expressed in disagreement with the statement "Only a small number of nurses resort to medicines/supplements use". In this case, disagreement was more pronounced among those who did use medication (62.2 %) than those who did not (50%), with a statistically significant association (p=0.000).

The interviews also express the perception that these consumption habits are not rare.

> Nowadays, this resource (relaxants) is more commonplace. It's more unusual when someone says they don't take them [...]. Many people take at least a little something. But, as I say, more for post [work] relaxation [...]. But I am aware that it is a common practice among professionals. It's common practice even among younger people. They regard it as normal, more so than older colleagues. (N1, Female, 41 years old)

Along with the perception of the dissemination of these types of consumption, there is also a perception of some social invisibility about them—Statement 5. There is a high level of agreement (80.7%) that nurses are relatively reluctant to talk about their use of medicines/supplements in the workplace.

Among the reasons that may constrain sharing this information, there is a conflict between professional image and the use of performance-enhancing medicines. These consumptions may be associated with an image of personal insufficiency, impacting professional identity itself (Cooper, 2021), even though these exact consumptions, in other work contexts, might be culturally promoted and valued. The interviews also express this conflict, as follows.

> People are always reluctant to say it [using relaxants/sedatives] openly for fear of being seen as vulnerable or less trustworthy and that this will spill over to the professional side. (N7, Male, 35 years old).

> Outside the team, maybe talking to other people, you don't like to admit that kind of thing. Why? I think that, especially in the Emergency Department, we often take them because they are usually relaxants, sedatives, sleep inducers [...]. Some colleagues end up not admitting that they take them so as not to be branded that way. (N1, Female, 41 years old)

This invisibility disappears in more closed circuits of sociability, which are sources of information and validation of the options and purposes of consumption in the context of professional performance.

> If we have been working for some time, we talk about it, yes; if someone new comes, we don't talk. But normally we talk. (N9, Female, 46 years old)

> There is a lot of sharing of effects [...] and results, and people use this a lot, in search of the same results. But medication is very easy to get. (N4, Male, 44 years old)

As the data show, the more widespread use of performance consumption to manage the pressures of everyday life coexists with relative discretion when sharing this information in the work context. Such discretion also coexists with broad social recognition of these consumptions as "performance aids", manifested in the statistical evidence of the association between factors of work pressure and performance consumption and in the corroboration of this association expressed in the interviewees' discourse.

Conclusion

Against a backdrop of new service logic in which organizing becomes part of professional work, incorporating new principles such as time pressure and efficiency shows that professionals need to adapt to social changes and, consequently, to the demands of new organizational realities (Noordegraaf, 2015). Those demands placed on professionals call for

greater flexibility and functional efficiency within a framework of more significant pressure expressed in more intense paces of work, long, rotating working hours, complex demands on professional activities, and greater exposure to different risks.

Although we are reporting on a relatively general trend within professional work that goes far beyond nursing, the results of the study indicate that the case of this occupation is an illustration of the extent of the pressure on performance and the need for permanent adaptation to forms of intense, multipurpose, and non-routine work. This means that nurses' openness to these organizational pressures exacerbates the effects of a growing workload and pace of work. The new demands require the utilization of more skills and, above all, a more remarkable ability to adapt to the different responses required by changes in nursing work. Their professional identity is, therefore, no longer strictly committed to the patient as a whole person but is increasingly linked to organizational work (Allen, 2014; Campbell & Rankin, 2017).

In the context of the study aims, there are two ways nurse work and performance under pressure can be conceptualized. On the one hand, work contexts are conducive to provisions and practices for managing or improving performance. On the other hand, the professional and social pressure faced by nurses fosters the need to manage work demands, leading to the consumption of performance in work contexts.

Therefore, it was analytically interesting to understand how the strategies to manage this pressure on performance refer to the mobilization of medication. The use of therapeutic resources as auxiliary tools to cope with pressure factors is relevant empirical evidence that further explores the heuristic potentialities of pharmaceuticalisation in analytical contexts focused on the transformations in the nature of professional work.

More concretely, we found that consuming medicines and/or food supplements is more frequent as nurses perceive their professional activity to be more intense, demanding, and exposed to more significant risks, which is more evident in emergency services contexts. We also found that professional demands were focused mainly on emotional and intellectual components. In the emotional domain, "emotional control" and "communication skills" were the most demanding. In the intellectual domain, "concentration" and "mental agility" stood out.

Based on these findings, we were interested in exploring how nurses dealt with new or increasing work demands and how they tended to manage the performance imperatives intrinsic to the changing nature of their work. The use of medicines in daily life and their transformation into a tool to help respond to work requirements (Ballantyne, 2021; Egreja & Lopes, 2021; Smith & Land, 2014) was significant, denoting a cultural willingness to use medicines for purposes beyond the health field and shows that work contexts and their totalizing impact on social life are powerful indicators of the diffusion of pharmaceuticalisation. They highlight

new forms of social use of medicines in managing essential spheres of everyday life, such as the demands of professional work.

To conclude, we would like to underscore that the results of our research show how, in the context of a growing social and cultural dissemination of medicines in various spheres of social life, the study of the effects of work intensification processes provides a good illustration of what we have called the pharmaceuticalisation of work contexts. By showing that these contexts are conducive to the development of performance management dispositions and practices, the analytical approach adopted here has made it possible to articulate issues relating to the transformations of professional work with pertinent issues in the sociology of health, namely those relating to the increase and diversification of the social uses of medicines. However, the scarcity of studies on nursing professionals on this topic suggests the need for future international comparative studies that explore the reciprocity of effects between pressure factors in nursing work and the widespread pharmaceuticalisation of work performance.

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