Master of Public Health

Master de Santé Publique

Prevalence of Occupational Constraints among Healthcare Professionals and Associations with Employment Sustainability (Intentions to Stay) in the Hospital Sector: An Analysis from the 2019 French National Working Conditions Survey

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List of Abbreviations

ANSES	Agence Nationale de Sécurité Sanitaire de l'alimentation, de l'environnement et du Travail
WHO	World Health Organisation
PWFs	Psychosocial Work Factors
OCs	Occupational Constraints
HCPs	Healthcare Professionals
HCWs	Healthcare Workers
COVID-19	Corona Virus Disease 2019
EHESP	Ecole des Hautes Études en Santé Publique
COPSOQ	Copenhagen Psychosocial Questionnaire
OR	Odds Ratio
CI	Confidence Intervals
HR	Human Resources

Prevalence of Occupational Constraints among Healthcare Professionals and Associations with their Intentions to Stay in the Hospital Sector until Retirement

Abstract

Objectives: The healthcare sector faces significant sustainability challenges due to a worsening global shortage of healthcare professionals, with a critical imbalance between the demand for healthcare services and the availability of healthcare workers. Despite being the backbone of any functioning health system, healthcare workers frequently encounter occupational constraints that impact their well-being, job satisfaction and ultimately job retention, highlighting the urgent need to ensure their right to healthy and safe working conditions. The study aims to explore the prevalence of occupational constraints among healthcare workers by type of occupation and according to the type of establishments (public or private hospitals) and assess the association between healthcare workers' exposures to occupational constraints and their intentions to stay.

Methods: Data were collected from the French cross-sectional Working conditions survey conducted in 2019. We included 2,158 healthcare workers employed in public and private hospitals. Occupational constraints were assessed across five domains: psychosocial factors, physical constraints, biomechanical constraints, working-time constraints, and organisational work-change factors. Logistic regression models were used to analyze the association between these constraints and the intention to stay in the job, adjusting for sociodemographic factors and health characteristics.

Results: The prevalence of intention to stay until retirement varied across healthcare professionals but was similar overall in public hospitals and in private hospitals (47% and 42% respectively). Significant associations were observed between various occupational constraints and decreased intention to stay. Psychosocial factors such as high job insecurity (OR=0.78, 95% CI: 0.62-1.0), high emotional demands (OR=0.77, 95% CI: 0.60-1.0), and limited possibilities for development (OR=0.61, 95% CI: 0.48-0.77) were significantly associated with lower odds of intending to stay. Biomechanical exposures and organisational work-change factors also emerged as significant deterrents to job retention, particularly among nurses and nursing assistants.

Conclusion: The study highlights the complex nature of occupational constraints and their varying impacts on different healthcare occupational categories. Addressing psychosocial factors such as enhancing autonomy, ensuring job security, and providing opportunities for professional development could enhance job retention across healthcare professions and implementing ergonomic interventions could mitigate the impact of biomechanical constraints, particularly for nurses and nursing assistants. Tailored interventions that address the unique occupational constraints faced by each healthcare profession are crucial for promoting a sustainable healthcare workforce.

Résumé

Objectif: Le secteur de la santé est confronté à d'importants défis en matière de durabilité en raison d'une pénurie mondiale croissante de professionnels de santé, avec un déséquilibre critique entre la demande de services de santé et la disponibilité des professionnels de santé. Bien qu'ils constituent l'épine dorsale de tout système de santé fonctionnel, les travailleurs de la santé sont fréquemment confrontés à des contraintes professionnelles qui ont un impact sur leur santé, leur satisfaction au travail et, à terme, leur maintien dans l'emploi. Cette étude vise à explorer la prévalence d'exposition soignants du secteur hospitalier à diverses constraintes professionnelles, par type de profession et selon le type d'établissements (hôpitaux publics ou privés) puis à évaluer l'association entre ces expositions et leur intention de rester dans leur emploi.

Méthodes: Les données ont été collectées à partir de l'enquête transversale "Conditions de Travail" menée en 2019. Notre population d'étude a inclus 2,158 soignants des hôpitaux publics et privés. Les contraintes professionnelles mesurées ont été regroupées en 5 domaines: les facteurs psychosociaux, les contraintes physiques, les contraintes biomécaniques, les contraintes de temps de travail et les facteurs organisationnels. Des modèles de régressions logistiques ont été utilisés pour analyser l'association entre ces contraintes professionnelles et l'intention de rester dans l'emploi, en ajustant les facteurs sociodémographiques et les caractéristiques de santé.

Résultats: La prévalence de l'intention de rester en emploi jusqu'à l'âge de la retraite variait sensiblement selon la categories professionnelle des soignants mais était globalement similaire dans les hôpitaux publics et dans les hôpitaux privés (47% et 42% respectivement). Des associations significatives ont été observées entre diverses contraintes professionnelles et une diminution de l'intention de rester dans l'emploi. Les facteurs psychosociaux tels qu'une précarité d'emploi élevée (OR=0,78, IC à 95%: 0,62-1,0), des exigences émotionnelles élevées (OR=0,77, IC à 95 %: 0,60-1,0) et des possibilités de développement limitées (OR=0,61, 95% IC: 0,48-0,77) étaient significativement associés à une probabilité plus faible d'avoir l'intention de rester dans l'emploi. Les expositions biomécaniques, comme le travail debout et les postures inconfortables, sont également apparues comme des facteurs de dissuasion importants au maintien dans l'emploi, en particulier chez les infirmièr e.s et les aides soignant e.s.

Conclusion: L'étude met en évidence la multitude de contraintes professionnelles auxquelles les soignants secteur hospitalier font face et leurs impacts sur leur volonté et intention de rester dans leur emploi. Améliorer la flexibilité et l'autonomie, garantir la sécurité d'emploi et offrir des opportunités de développement professionnel pourrait améliorer le maintien en emploi dans les professions de santé. De même la mise en œuvre d'interventions ergonomiques pourrait atténuer l'impact des contraintes biomécaniques, en particulier pour les infirmièr e.s et les aides soiganat e.s. Des interventions sur mesure qui répondent aux contraintes professionnelles uniques auxquelles est confrontée chaque profession de santé sont essentielles pour le maintien en emploi du personnel soignant exerçant en milieu hospitalier.

Introduction

The healthcare sector faces significant challenges in ensuring the sustainability of its operations, particularly due to a dangerous shortage of workers. This worldwide problem is worsening, exacerbating the difficulties in maintaining an effective healthcare workforce(1) characterised by a critical imbalance between the demand for healthcare services and the availability of qualified healthcare professionals to provide them (2). This vulnerability of the healthcare system was recently exacerbated by the COVID-19 pandemic which tragically claimed the lives of over 115,000 healthcare workers and prompted many others to leave the profession due to hard working conditions, reluctance to vaccination, burnout, and inadequate support (1). Even before the pandemic, there was a substantial deficit of 4.3 million doctors in 2016 and 5.9 million nurses in 2020 worldwide, with the World Health Organisation (WHO) projecting an additional shortage of nearly 14 million healthcare workers by 2030 (3).

Healthcare workers, including medical professionals and support staff, are the backbone of any functioning health system delivering quality care (4). Yet, they frequently encounter diverse occupational constraints that affect their well-being, job satisfaction, and overall employment sustainability (4) (5). Therefore, ensuring their right to healthy and safe working conditions is imperative, especially as they contribute to universal access to healthcare.

Occupational Constraints Faced by Healthcare Professionals

Occupational constraints have been defined as the presence of a substance or risk factor in the work environment external to the worker (6) and negatively impacting their work performance (5). In some studies, occupational constraints have been described as inadequacies (7) or push factors (3) and have been directly linked to decreased work motivation (5), reduced work commitment (8) and job dissatisfaction (8, 9), job turnover (10,3) and intentions to quit (9, 11). The prevalence of exposure to occupational constraints, particularly in the hospital sector, and poor working conditions, have significantly contributed to the long-standing shortages in the healthcare workforce (12, 13). In countries like the United States and France, healthcare workers face significantly higher rates of occupational hazards or workplace exposure compared to other industries (14, 15).

In light of the increased emphasis on patient well-being and the quality of care within the healthcare sector, insufficient attention has been directed towards supporting healthcare workers in delivering comprehensive services. Factors such as understaffing, escalating workloads, extended shifts, heightened patient expectations, and specific workplace hazards contribute to

the susceptibility of healthcare professionals to health-related challenges. While many studies have focused on nursing staff, a study conducted in the United States revealed that doctors face elevated risks of mortality due to cerebrovascular disease, accidents, and suicide compared to other professional groups; highlighting the need for more research on the different categories of healthcare workers (16).

Healthcare professionals face a wide array of occupational constraints spanning several domains that can be regrouped as the following:

- Organisational Factors: They include elements within a workplace or institution that influence the overall functioning, structure, and culture of the organisation (17). They encompass aspects such as workload, supportive environments, staff shortages, and pay satisfaction, among others.
- Biomechanical Factors: These are workplace conditions that pose a risk of injury to the musculoskeletal system. They include repetitive motions, awkward postures, forceful exertions, heavy lifting, and prolonged standing (18).
- Physical Factors: They are environmental factors that can cause harm to the body without necessarily touching it, and include examples like extreme temperatures, radiation, trips and falls (18).
- Chemical Factors: These include substances that can cause harm when inhaled, ingested, injected or absorbed. Examples include aerosolized drugs, solvents, fumes, and antineoplastics etc. (18)
- Psychosocial Factors: These refer to the interactions within a workplace or institution that influence the overall functioning, structure, and culture of the organisation through perceptions and experiences. They include social integration and emotional support, job strain, work-life balance, schedule control, job insecurity, and management support (19).
- Infectious Factors: These refer to the potential exposure to pathogenic microorganisms (viruses, bacteria, fungi, parasites) that can cause infectious diseases in healthcare settings. Some of these include exposure to bloodborne, airborne and contact pathogens (20).

While all healthcare workers may be exposed to one or several of these stressors, certain healthcare occupations are more prone to higher levels of specific constraints. Some studies have shown that doctors and surgeons could have higher exposure to chemical hazards like hazardous drugs, anaesthetic gases, and disinfectants used in operating rooms (21). While nurses and nursing assistants may face greater biomechanical risks like heavy lifting, awkward postures, and

repetitive motions due to the physical nature of patient care (22). Also, Administrative and support staff could experience greater organisational stressors related to workload, lack of resources, and management practices (21). Emergency responders and critical care staff often deal with higher psychosocial demands, emotional labour, and traumatic events (23).

Research, including a report by the Agence Nationale de Sécurité Sanitaire de l'alimentation, de l'environnement et du Travail (ANSES) and a publication from the Ministry of Labor have shown that employees from the healthcare sector were among the most exposed to occupational constraints and the healthcare professionals working at the hospital faced the highest combination of occupational stressors spanning multiple domains (i.e. biomechanical, psychosocial etc.) on a daily basis (21). Those recent observations underscore the urgent need for comprehensive measures to address occupational hazards and protect the well-being of healthcare professionals throughout their careers (24)(25).

The COVID-19 pandemic has further exacerbated these challenges, highlighting the critical need to understand and address the multifaceted nature of constraints faced by healthcare professionals. Even as we navigate the post-pandemic era, it is imperative to delve into the patterns of exposure to such occupational constraints and evaluate their association with the long-term job sustainability of healthcare professionals (11).

Sustainability in Healthcare

The concept of sustainability transcends beyond the original definition of how people and institutions handle the environment (26). It has been defined in the past as the ability to meet the needs of the present without compromising the needs of the future generation (27). Linking this notion of sustainability to employment suggests that employers ought to structure work environments to nurture rather than exploit their human resources, thereby enabling these assets to be effectively utilised in the future (27). As such, sustainable employment refers to the extent to which workers are able and willing to remain working in their current roles both presently and in the forthcoming period.

Sustainability is an important target in the rapidly changing healthcare environment. It encompasses the ability of healthcare systems to maintain the long-term capability of delivering appropriate services while addressing evolving challenges (26). Originally framed within the context of employment sustainability, our study focused on a pivotal aspect: the "Healthcare workers' **intention to remain in their jobs until retirement age**" shedding light on multifaceted workplace constraints (such as the working conditions, organisational factors, employment

services, and personal characteristics), job satisfaction, retention strategies and the broader implications for the healthcare systems.

Ensuring workers' satisfaction is vital for any organisation, as it directly contributes to the sustainability of operations and the overall success of the enterprise, especially within the context of the healthcare sector (28). In today's dynamic work environment, where the concept of sustainability encompasses more than just financial stability, understanding factors limiting job maintenance plays a crucial role in upholding the long-term capability of healthcare service delivery (28). Previous research has shown that positive organisational factors can help alleviate occupational constraints, thereby increasing workers' intention to stay in their roles for longer periods. These positive factors include cultivating a safety culture within the organisation, ensuring safe working conditions, promoting job control, managing workloads effectively, providing supportive management, fostering team cohesion, maintaining a healthy work-life balance, and addressing pay satisfaction (3,8,28).

Occupational constraints associated with intention to stay, job retention/satisfaction

The impacts of occupational constraints on the well-being and retention of healthcare professionals are profound. Research shows that high levels of job-related constraints lead to increased risks of burnout, job dissatisfaction, absenteeism, and turnover, particularly among nurses, doctor assistants, and doctors (3) (29). Moreover, the psychological effects of COVID-19 further exacerbated these challenges. A global review conducted in 35 countries revealed high incidences of anxiety (from 22% to 33%) and depression (from 18% to 36%) among healthcare workers during the pandemic (30). During the COVID-19 crisis, hospitals were under additional pressure due to acute stress, frustration, isolation and the high risk of infection. This led to an increased desire among medical staff to quit their jobs and leave the healthcare sector (11). Studies also indicated that turnover intentions of nurses were higher during COVID-19 compared to before the crisis, suggesting potential long-term mental health implications and additional dropouts from the healthcare workforce (3).

Addressing these challenges is critical for ensuring the sustainability of the healthcare workforce. Understanding the nuanced patterns of exposure to occupational constraints is essential. Our study therefore aims to examine the influence of various occupational constraints on healthcare workers' intention to stay in their job at the hospital while taking into account their sociodemographic and health characteristics, and type of establishments. By doing so, we can

inform targeted interventions, policy decisions, and resource allocation strategies to enhance the well-being and retention of this vital workforce.

Research Gap (Justification of the Study)

Previous studies have often focused on a limited number of domains of occupational constraints, typically exploring only one or two domains (e.g., only biomechanical or psychosocial factors). Additionally, research has predominantly centered on a single category of healthcare workers, mainly nurses, with occasional studies on doctors. Unlike these studies, our research includes diverse types of healthcare workers and examines the constraints by the type of establishment (public vs. private hospitals), addressing a significant gap in the existing literature.

Objectives

- To explore the exposures to occupational constraints among HCWs working at the hospital according to their type of occupation (doctors, nurse managers, midwives, nurses, and nurses' assistants and their type of establishment (private or public hospitals).
- To assess the association between HCWs' exposure to occupational constraints at the hospital and their intention to stay while taking into account their sociodemographic and health characteristics.

Secondary Objective

- To examine the effect modification of occupational constraints on intention to stay by the types of occupation (stratify analyses by category of healthcare workers).

This study was conducted at the École des Hautes Études en Santé Publique (EHESP) building, under the sponsorship of the Centre National de la Recherche Scientifique (CNRS) Rennes and the direction of Professor Mélanie Bertin. All data manipulation, analysis, and writing were carried out by Sandra Chiamaka Chimezie with guidance from her professional supervisor. Professor Mélanie Bertin, a lecturer in the Department of Quantitative Methods in Public Health (Métis) at EHESP and researcher at CNRS Arènes§ UMR Inserm 1309 – Researcher sur les services at management en santé, provided invaluable support throughout this research.

Methods and Materials

Study Population

This study is based on the French National Working Conditions survey “Enquête conditions de travail”, a cross-sectional survey conducted periodically by the Ministry of Labour. This survey included a French nationally representative sample set up in 2013 and followed up in 2016 and 2019. New participants were included in 2016 to correct for attrition and ensure the representativeness of the survey sample over time. The survey was designed to provide a comprehensive understanding of various aspects of work, including its organisation and conditions, from multiple perspectives such as schedules, work rhythms, physical efforts or risks, work organisation, safety measures, and cooperation dynamics, among others. The survey implemented a two-stage data collection process. Initially, data collection occurred at the "Employers" level, primarily conducted via mail with an option for the establishment director or HR manager to respond online. Subsequently, the survey proceeded to the "individual" level, where face-to-face interviews were conducted to gather additional information. At the end, a self-completed section using headphones was offered for the most sensitive questions.

For this study purpose, we used only the data collected in 2019 that included 24,951 individuals currently employed at the time of the survey. The study population was restricted to healthcare professionals (doctors, nurses, midwives, nurse managers, interns, hospital cleaners/stretcher bearers, nursing assistants and nursery nursing assistants) working in the hospitals. We excluded participants who were not healthcare professionals and further excluded healthcare workers not working in public or private health establishments (n=896), resulting in a sample of 2158 respondents (Figure 1) including 310 men and 1848 women (Table1).

Due to the limited frequency of two categories of healthcare workers in private hospitals in our sample (i.e., 0 interns and only 5 nursery nurse assistants), we decided to exclude interns and nursery nurse assistants from both sectors in the descriptive analyses presenting occupational constraints by type of occupation (Table 2 and 3). Therefore, descriptive analyses by type of occupation included only five categories of healthcare workers: Doctors, Nurse managers, Midwives, Nurses and Nurse assistants in both public and private hospitals leading to a new sample size N = [2058]: Public hospitals n = [1474] and Private hospitals n = [584].

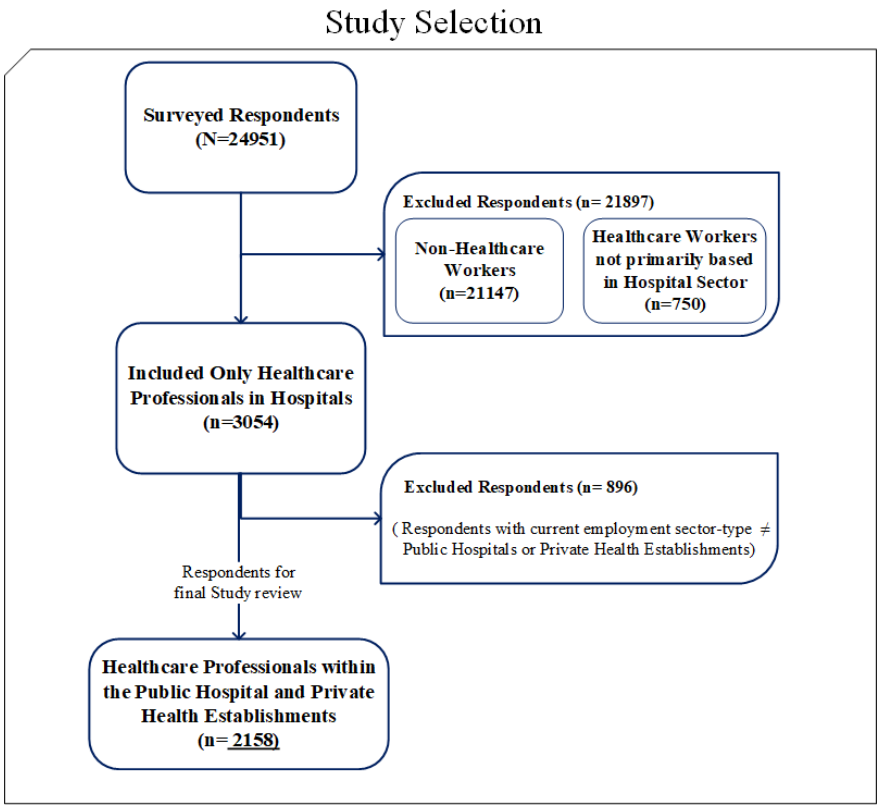

***Figure 1*: Flow-chart of the Study Population**

Assessment of Occupational Constraints

Psychosocial Work Factors

Psychosocial work factors are defined as aspects of the interaction between the work environment or conditions and worker competencies and needs within the job content of an organisation, potentially influencing health (31). PWFs were assessed using an internationally validated scale known as the Copenhagen Psychosocial Questionnaire (COPSOQ) (32). Several items (i.e., variables) from the Working Conditions survey were grouped into 17 scales/ dimensions (see Table 2) to match as much as possible with each of the COPSOQ dimensions. The median was used as a cut-off classifying workers into low or high-exposure groups for each of the 17 PWFs' dimensions selected.

Organisational Work Change, Physical Constraints, Biomechanical Constraints and Working-time Constraints

The other types of exposures were related to organisational-work change (5 factors), physical (9 factors), biomechanical (7 factors) and working time (5 factors) (see supplementary Table 1 for list of factors comprising each type of these exposures). Each of these four domains of occupational constraints were then categorized in three categories: not exposed, one exposure and multiple exposure (≧ 2 exposures). While infectious and chemical exposures (18) are undoubtedly important occupational hazards for HCWs working at the hospital, the data used in the study did not capture specific questions or variables related to infectious or chemical exposures.

Assessment of Other Occupational Characteristics

Additionally, we considered employment sector types (public hospitals and private health establishments), contract type in four categories (apprentice/intern; fixed-term contract and temporary work; permanent contract or public servant; no contract) and size of the hospital (i.e., number of workers) in four categories (less than 50; 50-499; 500-999; ≥ 1000).

Sociodemographic and Health Characteristics

Sociodemographic characteristics included in the study were sex, age in four categories (20-34; 35-49; 50-64; 65+); educational level in five categories (none, basic, secondary, higher, advanced); family situations in five categories (single; single with child; couple; couple with at least one child; other types of households) and income in three categories (less than 1500; 1500-2500; 2500+). It is worth noting that income was described in the study's description but not included in the models due to a correlation with the type of occupation and high number of missing values.

Health characteristics were assessed using the WHO-5 Psychological Well-Being Index (a validated scale to assess well-being) (33), with poor well-being being defined as a WHO-5 total score below 13. Self-rated health in five categories (very good; good; fairly good; bad; very bad) and reporting a chronic disease (yes/no) were also used to assess health characteristics.

Intention to Stay's Measurement

The 'Intention to stay in the job until retirement' was analyzed using a single self-reported dichotomized question that measured whether HCWs had the capacity to continue working in the hospitals for a longer period (yes/no).

Statistical Analyses

Descriptive Analyses

Descriptive Analyses were performed on weighted data to extrapolate the results to the French healthcare workers working at hospitals/clinics (salaried healthcare workers). Sociodemographic weighted prevalence was described and compared by type of establishment (public and private). The weighted prevalence of occupational constraints was described by type of establishment and type of occupation. Also, the chi-square of Fisher tests was used to compare sociodemographic and health characteristics by type of establishment and occupational constraints by type of occupation.

Statistical Models

Bivariate logistic regressions were first initially used to examine the associations between each sociodemographic factor, health characteristics, establishment's characteristic and occupational constraints with intention to stay. Then, we performed a multivariate logistic model that included physical, biomechanical, organisational and working-time/hours constraints while controlling for the potential influence of sociodemographic and health characteristics, and type of establishment (public/private) (Model 1). A second multivariate logistic model (Model 2) was performed including all 17 PWF dimensions adjusted for sociodemographic and health characteristics, and type of establishment (public/private). Finally, all occupational constraints initially included in Model 1 and Model 2 were added in a third multivariate model (model 3) controlling also for sociodemographic and health characteristics and type of establishment (public/private).

Bivariate, model 1 and model 3 were further stratified according to the types of occupation to explore whether the occupational factors associated with intention to stay were the same within each occupational category. Due to limited sample for midwives and nurse managers, stratified analyses could only be performed on doctors, nurses and nurses' assistants.

Bivariate and multivariate models were performed on complete cases due to a limited number of missing values. Still, further sensitive analyses will have to be performed using multiple imputation approaches to confirm the initial results of the study.

Sensitivity analyses were conducted, incorporating job satisfaction as a confounding factor in multivariate models to address the mediating effect of job satisfaction on the relationship between multiple occupational constraints and the intention to stay in the job.

All analyses were conducted on weighted data and conducted using the R software (version 4.3.2), ensuring robust and rigorous statistical methodology in line with the objectives of the study.

Results

Sociodemographic and Health Characteristics of Study Participants

The age distribution of participants differed significantly (p = 0.012) between public and private hospitals with a higher proportion of older healthcare workers (50-64) in private hospitals compared to public ones (38.78% vs. 32.78%) (Table 1). HCWs were mainly females in both types of establishments, but a higher proportion was observed in private hospitals (89.97% vs. 85.67%). Public hospitals had more workers with advanced educational levels (16.33% vs. 9.69%) and a higher proportion of HCWs with higher incomes than private hospitals (2.36% vs. 2.04%). Other differences between public and private hospitals include the Type of contract, with public hospitals having more temporary staff (7.59% vs 4.42%, p<0001). However, similar health indicators (WHO-Index, self-rated health, chronic disease), and job satisfaction (59.76% vs. 60.37%, p=0.7) were observed in both types of establishments.

***Table 1*: Sociodemographic and Health Characteristics of the Study Population (Healthcare workers) by Status of the Establishment (Public vs. Private Hospitals)**

	N=2158			Establishment Sector						
	n (%)			Public Hospitals [n = 1569, (% weighted, % unweighted)]			Private Hospitals [n = 589, (% weighted, % unweighted)]			*P*
Sociodemographic Characteristics										
Age										0.012
20–34	578	26.80%	26.78%	414	26.40%	26.39%	164	27.89%	27.84%	
35–49	827	38.34%	38.32%	632	40.31%	40.28%	195	33.16%	33.11%	
50–64	742	34.40%	34.38%	514	32.78%	32.76%	228	38.78%	38.71%	
65+	11	0.51%	0.51%	9	0.57%	0.57%	2	0.34%	0.34%	
Sex										<0.001
Male	310	14.37%	14.37%	250	15.94%	15.93%	60	10.20%	10.19%	
Female	1848	85.67%	85.63%	1,319	84.12%	84.07%	529	89.97%	89.81%	
Diploma										0.002
No diploma	45	2.09%	2.09%	32	2.04%	2.04%	13	2.21%	2.21%	
Basic education level	501	23.23%	23.22%	369	23.53%	23.52%	132	22.45%	22.41%	
Secondary education level	299	13.86%	13.86%	210	13.39%	13.38%	89	15.14%	15.11%	
Higher education level	994	46.08%	46.06%	697	44.45%	44.42%	297	50.51%	50.42%	
Advanced education level	313	14.51%	14.50%	256	16.33%	16.32%	57	9.69%	9.68%	
Missing	6			5			1			
Monthly Income										0.004
Less than 1500	36	1.67%	1.67%	18	1.15%	1.15%	18	3.06%	3.06%	
1500–2500	138	6.40%	6.39%	107	6.82%	6.82%	31	5.27%	5.26%	
2500+	49	2.27%	2.27%	37	2.36%	2.36%	12	2.04%	2.04%	
Missing	1935			1,407			528			
Type of Household										0.4
Single	314	14.56%	14.55%	229	14.60%	14.60%	85	14.46%	14.43%	
Single-parent	213	9.87%	9.87%	152	9.69%	9.69%	61	10.37%	10.36%	
Couple without children	437	20.26%	20.25%	303	19.32%	19.31%	134	22.79%	22.75%	
Couple with at least one child	1133	52.53%	52.50%	838	53.44%	53.41%	295	50.17%	50.08%	
Other types	61	2.83%	2.83%	47	3.00%	3.00%	14	2.38%	2.38%	
Type of Occupation										<0.001
Doctors	160	7.42%	7.41%	128	8.16%	8.16%	32	5.44%	5.43%	

Interns	46	2.13%	2.13%	46	2.93%	2.93%		0.00%	0.00%	
Nurse managers	94	4.36%	4.36%	73	4.66%	4.65%	21	3.57%	3.57%	
Midwives	53	2.46%	2.46%	40	2.55%	2.55%	13	2.21%	2.21%	
Nurses	913	42.33%	42.31%	639	40.75%	40.73%	274	46.60%	46.52%	
Nurse assistants	838	38.85%	38.83%	594	37.88%	37.86%	244	41.50%	41.43%	
Nursery nurse assistant	54	2.50%	2.50%	49	3.13%	3.12%	5	0.85%	0.85%	
Type of Job Contract										<0.001
Apprentice or Paid Intern	18	0.83%	0.83%	18	1.15%	1.15%	0	0.00%	0.00%	
Fixed-term contract & temporary work	145	6.72%	6.72%	119	7.59%	7.58%	26	4.42%	4.41%	
Permanent Contract & Public Servant	1987	92.12%	92.08%	1,424	90.82%	90.76%	563	95.75%	95.59%	
No contract	8	0.37%	0.37%	8	0.51%	0.51%	0	0.00%	0.00%	
Ability to do the same job as now until retirement										0.2
Yes	989	45.85%	45.83%	739	47.13%	47.10%	250	42.52%	42.44%	
No	1037	48.08%	48.05%	738	47.07%	47.04%	299	50.85%	50.76%	
Missing	132			92			40			
Satisfied with your professional life										0.7
Low Job satisfaction	748	34.68%	34.66%	535	34.12%	34.10%	213	36.22%	36.16%	
High Job satisfaction	1292	59.90%	59.87%	937	59.76%	59.72%	355	60.37%	60.27%	
Missing	118			97			21			
Health Characteristics							-			
WHO Well-being Score										0.083
Poor well-being	698	32.36%	32.34%	525	33.48%	33.46%	173	29.42%	29.37%	
Good well-being	1398	64.81%	64.78%	1,000	63.78%	63.73%	398	67.69%	67.57%	
Missing	62			44			18			
Self-rated Health Status										0.5
Very good	430	19.94%	19.93%	312	19.90%	19.89%	118	20.07%	20.03%	
Good	1046	48.49%	48.47%	768	48.98%	48.95%	278	47.28%	47.20%	
Fairly good	535	24.80%	24.79%	385	24.55%	24.54%	150	25.51%	25.47%	
Bad	130	6.03%	6.02%	95	6.06%	6.05%	35	5.95%	5.94%	
Very bad	15	0.70%	0.70%	8	0.51%	0.51%	7	1.19%	1.19%	
Missing	2			1			1			
Chronic illness										0.6
Yes	721	33.43%	33.41%	518	33.04%	33.01%	203	34.52%	34.47%	
No	1433	66.43%	66.40%	1,047	66.77%	66.73%	386	65.65%	65.53%	
Missing	4			4						

**p-value for Chi2 test or Fisher test (if <5 observations)*

HCWs' Exposures to Psychosocial Work Factors

The prevalence of HCWs' exposure to PWFs was similar in both public and private hospitals, except for five dimensions (high quantitative demands, high work pace, high work-life conflicts, high cognitive demands and low quality of leadership), with the highest proportions of exposure observed among HCWs in public hospitals (Table 2). Midwives and nurses exhibited the highest proportions of high quantitative demands and high work pace (80% in both types of establishments for midwives, and 67% and 71%, respectively, for nurses). Cognitive demands were highest among midwives (78% in public vs. 69% in private), nurses (83% in public vs. 77% in private), and nurse assistants (74% vs. 64%). Perceptions of low-quality leadership were highest among midwives (78%), nurses (65%), and nurse assistants (42%) in public hospitals. Midwives across both type of establishments were the HCWs with the highest proportions of poor

autonomy at work (83% in public and 100% in private) and job insecurity (65% in public and 62% in private). Conversely, they had the highest sense of community. On the contrary, doctors and nurse managers in both establishments reported the highest proportions of work-life conflicts (87% and 69% in public, and 78% and 62% in private hospitals respectively). Nurse managers in both public and private hospitals reported the highest proportions of low sense of community (74% and 62%, respectively) and role conflicts (70% and 57%, respectively) while being the occupational category with the highest influence at work (low influence at work: 19% and 9.5%, respectively). Low social support from superiors/colleagues was similar overall in both public and private establishments, but a substantial difference was noted between midwives in public hospitals and their counterparts working in private hospitals (79% vs. 38%). Low organizational justice was highest among nurses (53% and 55%) and nurse assistants (57% and 53%) in both types of establishments.

HCWs' Exposures to Organisational-work change, Physical, Biomechanical and Working-Time constraints.

The prevalence of physical exposure was higher in public hospitals than the private (72% vs. 65% in private hospitals - Table 3). Across all categories of healthcare professionals in public hospitals, the majority experience two or more physical exposures, with midwives, nurses and nurse assistants in public hospitals having the highest prevalence (68%, 75% and 80% respectively). Exposure to workplaces with bad odours was the most prevalent physical factor (Supplementary Table 3). Proportions of multiple biomechanical exposures were the highest in midwives (80% in public vs. 92% in private), nurses (86% in public vs. 84% in private) and nurse assistants (97% in both establishments). Multiple working-time exposures were similar in public and private hospitals (57% and 53%, respectively), with midwives (70% in public vs. 77% in private), nurse assistants (64% in public vs. 62% in private), and nurses (56% in public vs. 47% in private) being the most exposed. Organizational work-change exposures were generally similar across types of establishments and across HCWs types of occupation, except for nurse managers in public hospitals who exhibited a higher proportion of exposure to organizational changes than their private counterparts (42% vs. 29%).

***Table 2*: Healthcare Workers' Exposures to Psychosocial Work Factors (PWFs) in Public and Private Hospitals (n=2058)**

Psychosocial Work Factors	Type of Occupation											
Scales	**Public Hospitals (N=1474)**	**Private Hospitals (N=584)**	**Doctors**		**Nurse Managers**		**Midwives**		**Nurses**		**Nurse Assistants**	
			Public hospital n=128	Private hospital n=32	Public hospital n=73	Private hospital n=21	Public hospital n=40	Private hospital n=13	Public hospital n=639	Private hospital n=274	Public hospital n=594	Private hospital n=244
High Quantitative demands	875 (58%)	285 (49%)	80 (63%)	22 (69%)	49 (67%)	16 (76%)	32 (80%)	6 (46%)	426 (67%)	140 (51%)	288 (48%)	101 (41%)
High Work pace	927 (63%)	327 (56%)	78 (61%)	22 (69%)	45 (62%)	12 (57%)	32 (80%)	10 (77%)	453 (71%)	165 (60%)	319 (54%)	118 (48%)
High Cognitive demands	1,119 (76%)	407 (70%)	81 (63%)	18 (56%)	40 (55%)	13 (62%)	31 (78%)	9 (69%)	530 (83%)	212 (77%)	437 (74%)	155 (64%)
High Work-Life Conflict	882 (60%)	279 (47%)	111 (87%)	22 (69%)	57 (78%)	13 (62%)	29 (73%)	7 (54%)	400 (63%)	138 (50%)	285 (48%)	99 (41%)
Low Work Influence	866 (59%)	356 (61%)	44 (34%)	16 (50%)	14 (19%)	2 (9.5%)	23 (58%)	9 (69%)	409 (64%)	170 (62%)	376 (63%)	159 (65%)
Low Social support from supervisor/colleague	982 (65%)	363 (62%)	79 (62%)	20 (63%)	37 (51%)	11 (52%)	29 (73%)	5 (38%)	440 (69%)	166 (61%)	397 (67%)	161 (66%)
High Role conflicts	769 (52%)	275 (47%)	43 (34%)	11 (34%)	51 (70%)	12 (57%)	22 (55%)	6 (46%)	385 (60%)	138 (50%)	268 (45%)	108 (44%)
Low Possibility for Development	781 (52%)	346 (59%)	41 (32%)	9 (28%)	35 (48%)	9 (43%)	15 (38%)	5 (38%)	338 (53%)	157 (57%)	352 (59%)	166 (68%)
Low Organisational Justice	767 (53%)	299 (51%)	41 (32%)	8 (25%)	27 (37%)	5 (24%)	17 (43%)	4 (31%)	341 (53%)	152 (55%)	341 (57%)	130 (53%)
Low Sense of Community at Work	820 (55%)	331 (56%)	51 (40%)	21 (66%)	54 (74%)	13 (62%)	17 (43%)	5 (38%)	378 (59%)	157 (57%)	320 (54%)	135 (55%)
High Job insecurity	776 (52%)	277 (47%)	22 (17%)	8 (25%)	25 (34%)	8 (38%)	26 (65%)	8 (62%)	339 (53%)	132 (48%)	364 (61%)	121 (50%)
High Emotional demands	935 (64%)	353 (60%)	72 (56%)	20 (63%)	40 (55%)	12 (57%)	22 (55%)	9 (69%)	454 (71%)	171 (62%)	347 (58%)	141 (58%)
Low Predictability	1,274 (86%)	484 (83%)	106 (83%)	22 (69%)	68 (93%)	16 (76%)	35 (88%)	10 (77%)	579 (91%)	239 (87%)	486 (82%)	197 (81%)

Low Meaning in Work	774 (52%)	295 (50%)	48 (38%)	12 (38%)	42 (58%)	10 (48%)	23 (58%)	5 (38%)	362 (57%)	144 (53%)	299 (50%)	124 (51%)
Low Degree of Freedom	886 (60%)	350 (59%)	55 (43%)	14 (44%)	19 (26%)	4 (19%)	33 (83%)	13 (100%)	446 (70%)	171 (62%)	333 (56%)	148 (61%)
High Hiding Emotions	1,226 (85%)	479 (84%)	106 (86%)	21 (72%)	64 (88%)	14 (70%)	33 (83%)	12 (92%)	554 (88%)	236 (87%)	469 (82%)	196 (82%)
Low Leadership Quality	814 (56%)	265 (46%)	82 (67%)	21 (72%)	48 (66%)	12 (60%)	31 (78%)	7 (54%)	411 (65%)	133 (49%)	242 (42%)	92 (39%)

***Table 3*: Healthcare Workers' Exposures to Physical, Biomechanical, Working-Time and Organisational-Work Change Factors in Public and Private Hospitals (n=2058)**

Exposures	Public Hospitals, N = 1,474	Private Hospitals, N = 584	Doctors		Nurse managers		Midwives		Nurses		Nurse assistants	
			Public N=128	Private N=32	Public N=73	Private N=21	Public N=40	Private N=13	Public N=639	Private N=274	Public N=594	Private N=244
Physical Exposures												
0	190 (13%)	97 (17%)	34 (27%)	10 (31%)	28 (38%)	10 (48%)	6 (15%)	6 (46%)	67 (10%)	46 (17%)	55 (9.3%)	25 (10%)
1	212 (15%)	110 (19%)	33 (26%)	9 (28%)	17 (23%)	7 (33%)	7 (18%)	0 (0%)	91 (14%)	54 (20%)	64 (11%)	40 (16%)
≥2	1,072 (72%)	377 (65%)	61 (48%)	13 (41%)	28 (38%)	4 (19%)	27 (68%)	7 (54%)	481 (75%)	174 (64%)	475 (80%)	179 (73%)
Biomechanical Exposures												
0	129 (8.7%)	52 (8.8%)	44 (34%)	13 (41%)	27 (37%)	9 (43%)	3 (7.5%)	1 (7.7%)	48 (7.5%)	28 (10%)	7 (1.2%)	1 (0.4%)
1	108 (7.8%)	31 (5.3%)	30 (23%)	4 (13%)	24 (33%)	4 (19%)	5 (13%)	0 (0%)	39 (6.1%)	17 (6.2%)	10 (1.7%)	6 (2.5%)
≥2	1,237 (83%)	501 (86%)	54 (42%)	15 (47%)	22 (30%)	8 (38%)	32 (80%)	12 (92%)	552 (86%)	229 (84%)	577 (97%)	237 (97%)
Working-Time Exposures												
0	100 (6.9%)	28 (4.8%)	12 (9.4%)	2 (6.3%)	1 (1.4%)	0 (0%)	0 (0%)	0 (0%)	43 (6.7%)	14 (5.1%)	44 (7.4%)	12 (4.9%)
1	521 (36%)	246 (42%)	53 (41%)	18 (56%)	50 (68%)	13 (62%)	12 (30%)	3 (23%)	238 (37%)	131 (48%)	168 (28%)	81 (33%)
≥2	853 (57%)	310 (53%)	63 (49%)	12 (38%)	22 (30%)	8 (38%)	28 (70%)	10 (77%)	358 (56%)	129 (47%)	382 (64%)	151 (62%)

Organisational-Work Change Exposures												
0	692 (48%)	268 (46%)	68 (53%)	17 (53%)	31 (42%)	9 (43%)	22 (55%)	8 (62%)	290 (45%)	119 (43%)	281 (47%)	115 (47%)
1	324 (22%)	141 (24%)	32 (25%)	4 (13%)	11 (15%)	6 (29%)	5 (13%)	1 (7.7%)	141 (22%)	75 (27%)	135 (23%)	55 (23%)
≥2	458 (30%)	175 (30%)	28 (22%)	11 (34%)	31 (42%)	6 (29%)	13 (33%)	4 (31%)	208 (33%)	80 (29%)	178 (30%)	74 (30%)

The overall proportions of intention to stay in the job until retirement was similar among HCWs working in public and private hospitals (47.13% vs. 42.52%, p=0.2 - Table 1), except for nurse managers of public hospitals who had a much lower proportion of intent to stay in their job than their counterparts in private hospitals (55% vs. 76%). The proportion of intention to stay varied between different types of HCWs' occupation (Figure 2). The doctors and nurse managers reported a higher proportion of intention to stay in their jobs (63% of doctors in public hospitals and 66% in private hospitals) than midwives (38% and 31%), nurses (40% and 38%) and nurse assistants (48% and 41%) who had relatively lower proportions of intention to stay. For these latter three categories, the HCWs in public hospitals expressed a higher intention to stay than those in private hospitals, conversely to doctors and nurse managers where the proportions of intention to stay were higher in private establishments (no statistical differences observed).

Prevalence of Intention to Stay

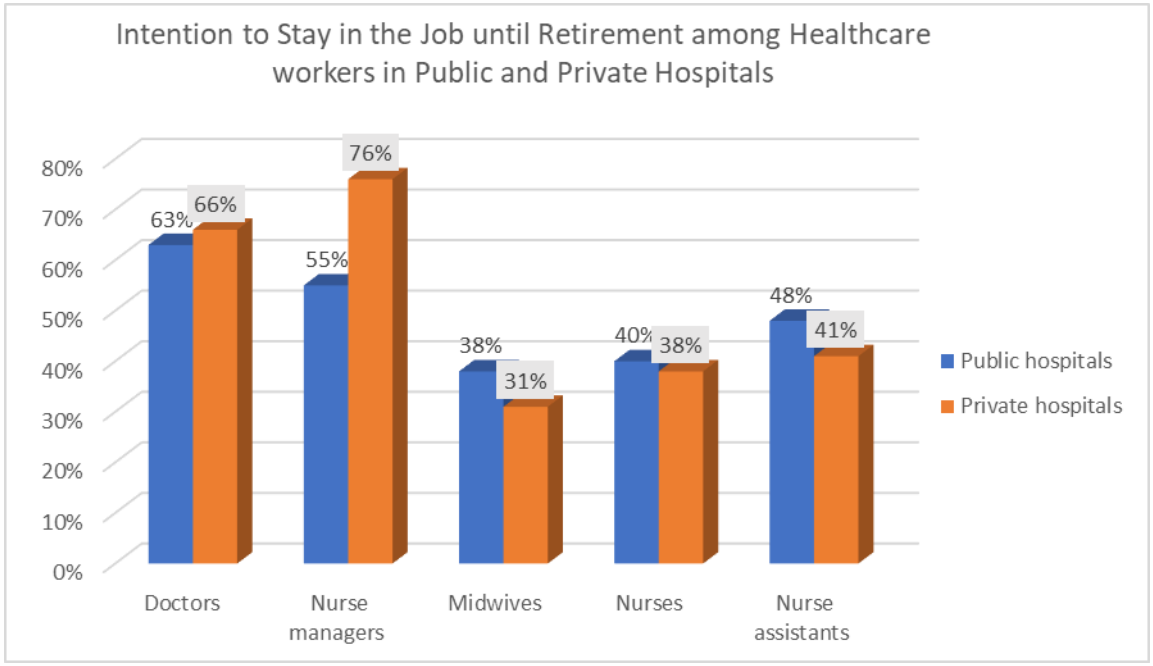

***Figure 2*: Comparison of Intention to Stay in Job among Healthcare Workers in Public and Private Hospitals (Bar Plot)**

***Table 4*: Occupational and Sociodemographic Factors Association with Intention to Stay in the Job – Univariate and Multivariate Models**

Characteristics	Bivariate			M1 (n=1870)			M2 (n=1868)			M3 (n=1868)		
	OR	**95% CI**	**p-value**	**OR**	**95% CI**	**p-value**	**OR**	**95% CI**	**p-value**	**OR**	**95% CI**	**p-value**
Sociodemographic Characteristics												
Age												
20-34	Ref	Ref		Ref	Ref		Ref	Ref		Ref	Ref	
35-49	2.54	1.91,3.39	<0.001	2.37	1.77,3.18	<0.001	2.5	1.85,3.39	<0.001	2.47	1.83,3.35	<0.001
50-64	10.7	7.89,14.8	<0.001	9.83	7.17,13.6	<0.001	10.6	7.66,14.8	<0.001	10.3	7.44,14.5	<0.001
Sex												
Male	Ref	Ref		Ref	Ref		Ref	Ref		Ref	Ref	
Female	0.57	0.41,0.78	<0.001	0.53	0.38,0.74	<0.001	0.6	0.43,0.85	0.003	0.58	0.41,0.82	0.002
Diploma												
No diploma	Ref	Ref		Ref	Ref		Ref	Ref		Ref	Ref	
Basic education level	1.19	0.55,2.49	0.6	1.14	0.52,2.42	0.7	1.37	0.61,3.01	0.4	1.27	0.56,2.80	0.6
Secondary education level	0.62	0.28,1.33	0.2	0.58	0.26,1.27	0.2	0.69	0.30,1.56	0.4	0.63	0.27,1.43	0.3
Higher education level	0.43	0.18,0.98	0.048	0.41	0.17,0.95	0.041	0.51	0.21,1.23	0.14	0.47	0.19,1.14	0.1
Advanced education level	0.51	0.20,1.31	0.2	0.52	0.20,1.34	0.2	0.62	0.23,1.68	0.4	0.58	0.21,1.57	0.3
Type of Household												
Single	Ref	Ref		Ref	Ref		Ref	Ref		Ref	Ref	
Single-parent	1.12	0.72,1.77	0.6	1.08	0.68,1.72	0.7	1.01	0.63,1.62	>0.9	0.99	0.61,1.60	>0.9
Couple without children	0.9	0.61,1.31	0.6	0.85	0.57,1.26	0.4	0.87	0.58,1.30	0.5	0.86	0.57,1.28	0.4

Couple with at least one child	0.92	0.66,1.30	0.6	0.9	0.64,1.28	0.6	0.88	0.62,1.26	0.5	0.88	0.61,1.26	0.5
Other types	2.13	1.04,4.51	0.042	2.1	1.01,4.51	0.051	2.17	1.02,4.74	0.048	2.12	1.00,4.66	0.055
Type of Occupation												
Doctors	Ref	Ref		Ref	Ref		Ref	Ref		Ref	Ref	
Nurse managers	1.11	0.56,2.22	0.8	1.05	0.51 2.15	0.9	1.05	0.51,2.19	0.9	1.01	0.48,2.14	>0.9
Midwives	0.63	0.29,1.35	0.2	0.88	0.39,1.97	0.8	0.92	0.40,2.07	0.8	1.06	0.45,2.44	0.9
Nurses	0.81	0.44,1.47	0.5	1.22	0.65,2.31	0.5	1.11	0.59,2.10	0.7	1.32	0.68,2.54	0.4
Nurse assistants	0.45	0.22,0.93	0.003	0.79	0.37,1.68	0.5	0.6	0.28,1.29	0.2	0.78	0.35,1.73	0.5
Employment Sector												
Public Hospital	Ref	Ref		Ref	Ref		Ref	Ref		Ref	Ref	
Private Hospital	0.83	0.66,1.05	0.13	0.79	0.62,1.00	0.052	0.77	0.60,0.98	0.035	0.76	0.59,0.97	0.029
WHO-5 Wellbeing Index												
Good well-being	Ref	Ref		Ref	Ref		Ref	Ref				
Poor well-being	0.46	0.36,0.59	<0.001	0.49	0.38,0.64	<0.001	0.56	0.42,0.73	<0.001	0.56	0.43,0.73	<0.001
Self-Rated Health												
Very good	Ref	Ref		Ref	Ref		Ref	Ref		Ref	Ref	
Good	0.75	0.56,0.99	0.41	0.77	0.57,1.02	0.068	0.82	0.61,1.10	0.2	0.82	0.61,1.11	0.2
Fairly good	0.43	0.31,0.61	<0.001	0.45	0.32,0.64	<0.001	0.49	0.34,0.70	<0.001	0.49	0.34,0.70	<0.001
Bad	0.22	0.12,0.38	<0.001	0.24	0.14,0.42	<0.001	0.27	0.15,0.48	<0.001	0.28	0.15,0.50	<0.001
Very bad	0.18	0.04,0.72	0.022	0.23	0.05,0.92	0.05	0.26	0.05,1.02	0.067	0.27	0.05,1.08	0.079
Occupational Constraints												
High Quantitative demands	0.94	0.75,1.17	0.6				0.88	0.68,1.13	0.3	0.92	0.71,1.20	0.5
High Work pace	0.63	0.50,0.79	<0.001				0.72	0.56, .94	0.015	0.77	0.59,1.00	0.052

High Cognitive demands	0.9	0.71,1.14	0.4	1.01	0.77,1.32	>0.9	1.15	0.87,1.52	0.3
High Work-Life Conflict	0.87	0.70,1.09	0.2	0.98	0.76,1.27	0.9	0.98	0.76,1.27	0.9
Low Work Influence	0.77	0.63,0.94	0.012	0.85	0.67,1.08	0.2	0.9	0.71,1.14	0.4
Absence of social support from supervisor/colleague	0.85	0.69,1.06	0.2	0.77	0.60,0.99	0.041	0.78	0.61,1.01	0.059
High Role conflicts	0.89	0.72,1.10	0.3	1.01	0.79,1.28	>0.9	1.03	0.81,1.31	0.8
Low Possibility of Development	0.6	0.49,0.73	<0.001	0.59	0.46,0.74	<0.001	0.61	0.48,0.77	<0.001
Low Organisational Justice	0.85	0.69,1.05	0.13	0.89	0.71,1.13	0.3	0.92	0.72,1.16	0.5
Low Sense of community at work	1.19	0.96,1.47	0.12	1.19	0.93,1.52	0.2	1.23	0.96,1.58	0.1
High Job insecurity	0.63	0.52,0.77	<0.001	0.76	0.60,0.97	0.025	0.78	0.62,1.00	0.049
High Emotional demands	0.76	0.61,0.94	0.011	0.76	0.59,0.97	0.03	0.77	0.60,1.00	0.046
High Unpredictability	0.83	0.60,1.14	0.2	0.79	0.55,1.13	0.2	0.79	0.54,1.13	0.2
Low Meaning in Work	0.82	0.67,1.00	0.52	0.83	0.66,1.05	0.12	0.84	0.67,1.06	0.2
Low Degree of Freedom	0.69	0.56,0.85	<0.001	0.75	0.59,0.95	0.018	0.76	0.60,0.97	0.026
High Hiding Emotions	1.08	0.80,1.44	0.6	1.1	0.79,1.52	0.6	1.09	0.78,1.52	0.6
Low Quality of leadership	0.8	0.63,1.02	0.066	0.84	0.63,1.10	0.2	0.83	0.63,1.09	0.2

Physical Exposures									
0	Ref	Ref		Ref	Ref		Ref		
1	0.8	0.56,1.14	0.2	0.8	0.54,1.21	0.3	0.85	0.56,1.30	0.5
≥2	0.62	0.46,0.84	0.002	0.66	0.47,0.94	0.022	0.81	0.56,1.17	0.3
Biomechanical Exposures									
0	Ref	Ref		Ref	Ref		Ref	Ref	
1	0.51	0.31,0.84	0.009	0.59	0.33,1.03	0.064	0.62	0.34,1.10	0.1
≥2	0.35	0.23,0.51	<0.001	0.42	0.26,0.67	<0.001	0.54	0.33,0.90	0.018
Working-time Exposures									
0	Ref	Ref		Ref	Ref		Ref	Ref	
1	1.61	1.08,2.42	0.021	1.85	1.16,2.97	0.01	1.63	1.01,2.65	0.045
≥2	1.27	0.86,1.89	0.2	1.53	0.97,2.42	0.068	1.49	0.94,2.39	0.095
Organisational Work Change Exposures									
0	Ref	Ref		Ref	Ref		Ref	Ref	
1	0.91	0.72,1.15	0.4	0.94	0.71,1.24	0.7	1.04	0.79,1.39	0.8
≥2	0.53	0.43,0.66	<0.001	0.65	0.50,0.84	<0.001	0.81	0.62,1.06	0.13

OR** = Odds Ratio**, CI** = 95% Confidence Interval, significance level set at **p < 0.05.

***Univariate** analysis was performed stay' across all sociodemographic, health & occupational factors.*

***M1** - Multivariate analysis assessing the impact of physical, biomechanical, working-time and organisational work-change constraints adjusted for the sociodemographic factors, establishment & health characteristics.*

***M2** - Multivariate analysis assessing the impact of psychosocial factors on intention to stay adjusted for the sociodemographic factors and health characteristics.*

***M3** - Multivariate analysis assessing the impact of all occupational constraints (physical, biomechanical, working-time, organisational work-change and PWFs) on intention to stay adjusted for the sociodemographic factors and health characteristics.*

Association between Sociodemographic, Establishment and Health Characteristics and Intention to Stay

All associations (bivariate, models 1 to 3) are presented in Table 4. HCWs in the highest age groups (35-49 and 50-64) had higher odds of staying in the job until retirement (aOR: 2.47, 95% CI: 1.83,3.35 aOR: 10.3; 95% CI: 7.44, 14.5, respectively) as compared to the youngest ones. Other household types had significantly higher odds of intending to stay (OR: 2.17, 95% CI: 1.02, 4.74) compared to single HCWs. This association remained significant only for nurse assistants in stratified analyses (aOR:3.05, 95% CI: 1.01, 9.65, Supplementary Tables *S2a* to *S2c*). The type of occupation was not significantly associated with intention to stay in a job in both univariate and multivariate models, except for nurse assistants that had lower odds of intention to stay (only univariate model – OR: 0.45, 95% CI: 0.22, 0.93). HCWs working in private hospitals were less likely to stay in their jobs than their public counterparts (model 3: aOR: 0.76, 95% CI: 0.59, 0.97). In stratified analyses, this association was observed only among nurses and nurse assistants (model 3: aOR: 0.64, 95% CI: 0.43, 0.95 and aOR: 0.63, 95% CI: 0.41, 0.97, respectively). There were significantly lower odds of intending to stay among HCWs with poor well-being (model 3 aOR: 0.56, 95% CI: 0.43, 0.73), bad and very bad self-rated health status (aOR: 0.28, 95% CI: 0.15, 0.50, aOR: 0.27, 95% CI: 0.05, 1.08). These associations were also observed in the three categories of HCWs (i.e., doctors, nurses and nurse assistants, Supplementary Tables *S2a* to *S2c*).

Association between Physical, Biomechanical, Working-Time and Organisational Work-Change Exposures and Intention to Stay

All associations (bivariate, models 1 to 3) are presented in Table 4. HCWs with multiple (two or more) physical exposures were less likely to intend to stay in their job than their non-exposed counterparts (aOR:0.66, 95% CI: 0.47,0.94, model 2). This tendency remained in model 3 adjusted for PWFs but was no more significant (aOR:0.81, 95% CI: 0.56, 1.17). Similarly, HCWs exposed to multiple biomechanical exposures had significantly lower odds (model 3: aOR:0.54, 95% CI: 0.33,0.90) of the intention to stay in their jobs compared to those with no exposures. HCWs with one work-time exposure had significantly higher odds (model 3: aOR:1.63, 95% CI: 1.01, 2.65) of intending to stay in the job compared to those with no exposure. Lastly, there were lower odds of intending to stay among HCWs exposed to multiple organisational work-change constraints (model 2: aOR: 0.65, 95% CI: 0.50, 0.84) but these results were not more significant in model 3 adjusted on PFWs. In stratified analyses (Supplementary Tables *S2a* to *S2c*, similar

tendencies were observed for all types of occupations but remained significant only in nurses (physical constraints: aOR:0.32, 95% CI: 0.32-1.02, biomechanical constraints: aOR:0.46, 95% CI: 0.21, 0.99, working-time constraints: aOR:2.73, 95% CI: 1.26, 6.24, organisational-change constraints: aOR: 0.65, 95% CI: 0.42, 0.99).

Association between PWFs and intention to stay

All associations (bivariate, models 1 to 3) are presented in Table 4. The following PWFs: having a high work pace (aOR:0.77, CI:0.59, 1.00), a low social support from supervisors/ colleagues (aOR: 0.78, CI: 0.61,1.01), a low possibility for development (aOR:0.59, CI:0.46, 0.74), high job insecurity (aOR:0.78, CI:0.62, 1.00), high emotional demands (aOR:0.77, CI:0.60, 1.00) and low degree of freedom aOR:0.76, CI:0.60, 0.97) were all negatively associated with intention to stay in bivariate and fully adjusted models (model 2 and model3). Having a low work influence was significantly associated with lower odds of intention to stay in the bivariate model (OR:0.77, 95% CI: 0.63,0.94) but was no more significant in models 2 and 3. In stratified analyses (Supplementary Tables *S2a* to *S2c*), similar tendencies were observed for all types of occupations (i.e. doctors, nurses and nurses assistants), but the associations remained significant only in nurses exposed to low social support from supervisors and colleagues and low degree of freedom (aOR 0.68, 95% CI: 0.46, 0.99, aOR 0.7, 95% CI: 0.49,1.01, respectively) and in nurses assistants exposed to high work pace and high emotional demand (aOR 0.58, 95% CI: 0.37,0.89, OR 0.6, 95% CI: 0.43, 0.83, respectively).

Sensitivity Analyses

Job satisfaction was associated with higher odds of intention to stay in their job in bivariate and multivariate models (model 3 - aOR 1.88, 95% CI: 1.45, 2.45 – supplementary table XV). All other associations observed initially for sociodemographic and health characteristics and occupational constraints remained in models controlled for job satisfaction (supplementary table XV).

Discussion

In line with the WHO's recently declared healthcare workforce five-year policy priority, the health workforce crisis has been linked to several causes over the years(34). Among these, insufficient investment, structural inadequacy, and low recruitment stand out as significant contributors(35). However, while these systemic issues are widely recognized, the 'human side' of the crisis—the impact of day-to-day working conditions and threats to mental health—despite being closely connected remains poorly addressed (36). Despite urgent international policy recommendations, the implementation and impact of these recommendations are hampered by low political interest and governance gaps at various levels of health systems (34). Furthermore, healthcare workers worldwide face significant exposure to multiple occupational constraints(3). In France, previous results based on the working conditions survey conducted in 2019, have shown that HCWs working at the hospital were more exposed to multiple occupational constraints (biomechanical, physical, organisational, psychosocial factors) than other workers (25). These adverse conditions contribute to the exacerbation of staff shortages, further challenging the sustainability of healthcare services (37). These factors, combined with the increasing demand for healthcare services, create an environment where healthcare workers may seek better opportunities, leading to workforce shortages (11) in public healthcare facilities and potentially leaving the profession(12).

Our findings highlight the extensive and varied exposures of HCWs to occupational constraints. We examined these exposures in detail, including 17 dimensions of PWFs and organisational work-change factors by category of occupation and by type of establishment (public versus private). Given the critical issue of healthcare shortages and the challenges of retaining the healthcare workforce in hospitals, we also assessed the impact of these multiple occupational constraints on healthcare workers' intention to remain in their current jobs.

In our study, PWFs such as high job insecurity, high emotional demands, limited autonomy (flexibility), and low development opportunities were associated with decreased intention to stay across multiple healthcare professions, and particularly among nurses and nurse assistants. These findings align with previous research by Dall'Ora et al. (2020), which identified various predictors of burnout in nurses including low schedule flexibility, time pressure, high job and psychological demands, low task variety, low autonomy, negative nurse-physician relationships, poor supervisor/leader support, poor leadership and job insecurity. Moreover, in the same study, burnout was also assessed with poor quality of care, reduced job performance, and intention to leave.

Our study's results also align with previous research suggesting the detrimental health effects of psychosocial and other occupational stressors (22)(38)(39) which can in turn influence one's job satisfaction and retention among healthcare workers (29). A systematic review by Vries et al. (2023) and Halter et al. (2017) found that high job demands, low control, and lack of social support were significant predictors of burnout and turnover intentions, especially among nurses (3)(40). Similarly, a meta-analysis by Gomez-Urquiza et al. (2017) reported a strong association between emotional exhaustion and intention to leave in nursing professionals (41). Results from our study align with these reviews as it revealed a significant decrease in intention to stay among HCWs exposed to high work pace, high emotional demands, low social support, low degree of freedom and no possibility for development, especially among nurses and nurse assistants.

Similarly, organisational work-change factors were associated with a decreased intention to stay, highlighting the harmful impact of changes in organisational structure and HR practices. This aligns with previous studies that showed how restructuring or downsizing initiatives, centralisation of decision-making (42), and changes in performance management systems can lead to high turnover intentions among employees (43). However, after adjusting for psychosocial work factors (PWFs) (model 3), the association between organisational work change factors and the intention to stay was no more significant, suggesting possible mechanisms and correlations between PWFs and organisational work-change factors. Further explorations of these potential mechanisms are warranted (e.g., mediating the effect of PWFs on the relationship between organisational work-change factors and job retention).

Multiple biomechanical exposures, including repetitive motions and awkward postures, were significantly associated with lower job retention. This was particularly evident in our study among nurses and nurse assistants, who experienced the highest prevalence of multiple biomechanical exposures. These types of constraints have been linked to various health issues, including a high prevalence of musculoskeletal disorders, with nurses and nurses 'assistants experiencing the highest incidences which may explain their intention to quit their jobs. Nurses and nurse assistants had also the greatest exposure to high emotional demands, high work pace, poor organizational justice, limited influence at work, and low social support which were all associated with a decreased intention to stay. In previous research, focused on nursing staff, the detrimental effects of these occupational constraints were also observed on job satisfaction, well-being, and job retention (28).

Furthermore, we observed that moderate exposure to working-time constraints (i.e., one working-time exposure) was linked to higher odds of intending to stay, potentially reflecting a preference

for some flexibility in scheduling. This finding aligns with Bernstrøm and Harris et al research, reporting that extended working hours among healthcare personnel increased flexibility, reduced work-family conflict, improved satisfaction with social and family time, and provided opportunities for professional development, especially among nurses (44)(45). Conversely, other studies Dall'Ora et al. (2020) found that long working hours and irregular shifts were linked to higher turnover rates in healthcare workers, specifically among nurses (37). This discrepancy in the results could be attributed to differences in workplace regulations regarding working hours and shifts, cultural or sociodemographic differences, varying definitions of "moderate" exposure, or the specific healthcare workers' ability to cope with demanding work schedules contexts examined (personal motivation or resilience).

Doctors working at the hospitals were less exposed to occupational constraints and their intention to stay was higher than other types of HCWs. However, our findings suggested that their intention to stay was significantly lower when they were exposed to low possibilities for development or role conflicts.

In addition, our findings also suggest that HCWs working in public hospitals were on average more often exposed to occupational constraints, especially multiple biomechanical and physical exposures, multiple working-time exposures and some PWFs such as high quantitative demands, high work pace, high work-life conflicts, high cognitive demands and low quality of leadership. Regardless, the job satisfaction rate was similar in public and private hospitals and HCWs from private hospitals were less likely to stay in their job than HCWs in public hospitals which raises questions about what specific aspects of working in private hospitals lead to lower retention rates.

Our study also found a significant difference in the age distribution of the HCWs between public and private hospitals. Specifically, there was a higher proportion of older HCWs (aged 50-64) employed in private hospitals. HCWs nearing retirement age may choose to transition to private hospitals as a step towards eventual retirement for a more conducive environment with financial incentives and potentially reduced workloads (46). Some studies have previously shown that private hospitals and independent consulting often offer higher salaries and more attractive benefits packages, luring healthcare workers away from public facilities with relatively lower pay scales (12). Additionally, the higher prevalence of permanent contracts in private hospitals compared to public facilities could be an attractive factor for older HCWs prioritizing job security and stability as they approach retirement.

High job satisfaction was associated with greater intention to stay in the job, even after controlling for all occupational and personal constraints. While job satisfaction may be a mediator of the relation between occupational constraints and job retention, these findings also suggested that occupational constraints may have an independent impact on the intention to stay. Further mediation analyses would be required to assess the different pathways through which occupational constraints influence job retention. This recognition aligns with the growing emphasis on tailored interventions to address the unique occupational constraints faced by different healthcare professions, as highlighted in a systematic review by Halter et al. (2017). The importance of addressing specific job demands and resources of various healthcare roles to promote job satisfaction and retention underscores the need for further exploration to the role of job satisfaction in future research.

The study's findings have practical implications for healthcare organisations and policymakers. Addressing psychosocial factors, such as fostering a supportive work environment, promoting work-life balance, and providing opportunities for professional development, could enhance job satisfaction and retention across healthcare professions (22). Additionally, implementing ergonomic interventions and appropriate staffing levels could mitigate the impact of biomechanical and workload constraints, particularly for nurses and nursing assistants. Many studies have also shown that dissatisfaction with bureaucracy (47), lack of decision-making power (48), and perceived mismanagement (49), within public healthcare systems can compel healthcare workers to explore alternative employment opportunities (11). This dissatisfaction may also manifest in poor conditions of hospital infrastructure, insufficient allocation of resources and inadequate ergonomic adaptations for healthcare workers. Such deficiencies can result in compromised patient care quality and heightened workplace stress levels among healthcare staff (37).

The study also underscores the importance of considering the unique occupational constraints faced by different healthcare roles when developing retention strategies. A one-size-fits-all approach may be ineffective, as the specific challenges and stressors vary across professions. Tailored interventions that address the distinct needs of each healthcare occupation could enhance job satisfaction, well-being, and ultimately, the sustainability of the healthcare workforce.

Strengths and Limitations

Our study has several strengths. First, we assessed HCWs' exposure to multiple occupational constraints across various types of occupations (doctors, nurse managers, midwives, nurses and nurses' assistants). Our study included a broader range of healthcare professions whereas most previous studies focused solely on hospital nursing staff. Second, we examined the prevalence of HCWs' exposure to occupational constraints by type of establishment (public and private). Third, we assessed and controlled for various occupational constraints while many studies focused on one category only. Fourth, the use of the comprehensive Copenhagen Psychosocial Questionnaire provided an intricate assessment of psychosocial factors at work, stress, and the well-being of employees and some personality factors. Additionally, our analyses were adjusted for both health and sociodemographic factors, which helped to limit confounding bias. Finally, the different categories of occupational hazards were also assessed, examining how multiple constraints influence these workers' intention to stay in their roles. However, it is important to note that our study did not fully explore the identification of patterns of occupational constraints and the interactions between personal and occupational exposures. These interactions could provide deeper insights into how different occupational constraints intersect to impact healthcare workers' job retention.

As a limitation, the study's cross-sectional design limits the ability to establish causality between dependent (occupational constraints) and independent variables (intention to stay in the job). Also, the personal differences in how work and occupational constraints were perceived might influence the results (self-reported questionnaire). In addition, due to a limited sample of interns and nursery nurse assistants, these two categories were excluded from the stratified analyses limiting our analyses and perspectives for these categories. Lastly, interns could not be regrouped with doctors due to significant differences in occupational constraints exposures, notably PWFs between these two occupational categories (i.e., interns being much more exposed than doctors).

Conclusion and Recommendations

This study highlights the complex interplay between occupational constraints and healthcare workers' intention to stay in their jobs. Key findings reveal that physical and biomechanical exposures are ubiquitous in the hospital sector, with midwives, nurses, and nurse assistants facing the highest levels of exposure. The study also showed significant associations between personal factors (age, gender, education level, household type, job type, WHO well-being Index and self-rated health status), and various workplace exposures with the intention to stay in the job until retirement. HCWs demonstrated a decreased likelihood to remain in their jobs with increased exposure to some occupational constraints (particularly physical, biomechanical factors and some PWFs) that varied according to the type of occupation. HCWs in public hospitals are particularly exposed to these constraints compared to their counterparts working in private hospitals but interestingly were more likely to stay in their jobs than in private ones.

We strongly recommend that strategies such as ergonomic adjustments, the use of assistive devices, flexible work schedules, stress management programs, customised interventions based on specific job roles (nurses, midwives, nurse assistants), and regular assessments of workplace safety be made to minimise occupational exposures and address unique challenges. By addressing these key areas, healthcare institutions can create a more supportive and sustainable work environment, ultimately improving retention rates and ensuring a stable, experienced workforce to meet the demands of the healthcare sector.

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List of Supplementary Tables

Table S1: Proportions of HCWs Exposed to factors related to the Physical, Biomechanical, Working-Time and Organisational Work Change categorized by their Types of Occupation in Public and Private Hospitals (n=2058)

Physical Constraints	**Type of Occupation**											
	Public Hospitals (N=1474)	**Private Hospitals (N=583)**	**Doctors**		**Nurse Managers**		**Midwives**		**Nurses**		**Nurse Assistants**	
			Public hospital n=128	Private hospital n=32	Public hospital n=73	Private hospital n=21	Public hospital n=40	Private hospital n=13	Public hospital n=639	Private hospital n=273	Public hospital n=594	Private hospital n=244
Work or workplace with dirt												
Yes	581 (38%)	169 (29%)	19 (15%)	3 (9.4%)	9 (12%)	1 (4.8%)	13 (33%)	3 (23%)	232 (36%)	71 (26%)	308 (52%)	91 (37%)
No	891 (62%)	413 (71%)	109 (85%)	28 (90%)	64 (88%)	20 (95%)	27 (68%)	10 (77%)	406 (64%)	202 (74%)	285 (48%)	153 (63%)
Unknown	2	1	0	1	0	0	0	0	1	0	1	0
Work or workplace with humidity												
Yes	255 (17%)	80 (14%)	8 (6.3%)	1 (3.1%)	5 (6.8%)	0 (0%)	1 (2.5%)	0 (0%)	89 (14%)	33 (12%)	152 (26%)	46 (19%)
No	1,217 (83%)	503 (86%)	120 (94%)	31 (97%)	68 (93%)	21 (100%)	39 (98%)	13 (100%)	549 (86%)	240 (88%)	441 (74%)	198 (81%)
Unknown	2	0	0	0	0	0	0	0	1	0	1	0
Work or workplace exhibiting drafts												
Yes	501 (33%)	163 (28%)	22 (17%)	4 (13%)	11 (15%)	0 (0%)	9 (23%)	1 (7.7%)	208 (33%)	72 (27%)	251 (42%)	86 (35%)
No	972 (67%)	420 (72%)	106 (83%)	28 (88%)	62 (85%)	21 (100%)	31 (78%)	12 (92%)	430 (67%)	201 (73%)	343 (58%)	158 (65%)
Work or workplace with bad odours												
Yes	997 (67%)	375 (64%)	50 (39%)	15 (47%)	23 (32%)	3 (14%)	18 (45%)	3 (23%)	444 (69%)	169 (62%)	462 (78%)	185 (76%)
No	476 (33%)	208 (36%)	78 (61%)	17 (53%)	50 (68%)	18 (86%)	22 (55%)	10 (77%)	195 (31%)	104 (38%)	131 (22%)	59 (24%)
Work or workplace exhibiting high-temperature												
Yes	732 (49%)	250 (43%)	39 (30%)	7 (22%)	21 (29%)	4 (19%)	20 (50%)	3 (23%)	311 (49%)	110 (40%)	341 (57%)	126 (52%)

No	741 (51%)	333 (57%)	89 (70%)	25 (78%)	52 (71%)	17 (81%)	20 (50%)	10 (77%)	328 (51%)	163 (60%)	252 (42%)	118 (48%)
Work or workplace with low temperature												
Yes	511 (35%)	158 (27%)	30 (23%)	6 (19%)	16 (22%)	1 (4.8%)	9 (23%)	1 (7.7%)	238 (37%)	87 (32%)	218 (37%)	63 (26%)
No	963 (65%)	425 (73%)	98 (77%)	26 (81%)	57 (78%)	20 (95%)	31 (78%)	12 (92%)	401 (63%)	186 (68%)	376 (63%)	181 (74%)
Absence or poor condition of sanitary facilities												
Yes	308 (21%)	70 (12%)	14 (11%)	4 (13%)	7 (9.6%)	1 (4.8%)	4 (10%)	3 (23%)	126 (20%)	29 (11%)	157 (26%)	33 (14%)
No	1,163 (79%)	513 (88%)	113 (88%)	28 (88%)	66 (90%)	20 (95%)	36 (90%)	10 (77%)	513 (80%)	244 (89%)	435 (73%)	211 (86%)
Unknown	3		1		0		0		0		2	
Lack of views of the outside												
Yes	389 (27%)	116 (20%)	48 (38%)	8 (25%)	9 (12%)	7 (33%)	22 (55%)	5 (38%)	186 (29%)	70 (26%)	124 (21%)	26 (11%)
No	1,085 (73%)	465 (80%)	80 (63%)	24 (75%)	64 (88%)	14 (67%)	18 (45%)	8 (62%)	453 (71%)	202 (74%)	470 (79%)	217 (89%)
An office without partitions or open space												
Yes	129 (17%)	45 (16%)	18 (20%)	2 (6.3%)	5 (6.8%)	1 (4.8%)	6 (15%)	2 (15%)	71 (11%)	33 (12%)	29 (4.9%)	7 (2.9%)
No	880 (83%)	342 (84%)	91 (80%)	25 (93%)	66 (90%)	17 (95%)	30 (85%)	9 (85%)	384 (89%)	166 (88%)	309 (95%)	125 (97%)
Unknown	465	196	19	5	2	3	4	2	184	74	256	112
Biomechanical Constraints												
Working in a standing position												
Yes	1,158 (78%)	478 (82%)	52 (41%)	12 (38%)	14 (19%)	4 (19%)	32 (80%)	12 (92%)	510 (80%)	214 (78%)	550 (93%)	236 (97%)
No	315 (22%)	105 (18%)	75 (59%)	20 (63%)	59 (81%)	17 (81%)	8 (20%)	1 (7.7%)	129 (20%)	59 (22%)	44 (7.4%)	8 (3.3%)
Working in a strenuous or tiring posture in the long run												
Yes	736 (50%)	284 (49%)	31 (24%)	6 (19%)	13 (18%)	4 (19%)	17 (43%)	6 (46%)	306 (48%)	118 (43%)	369 (62%)	150 (61%)
No	738 (50%)	298 (51%)	97 (76%)	25 (78%)	60 (82%)	17 (81%)	23 (58%)	7 (54%)	333 (52%)	155 (57%)	225 (38%)	94 (39%)

Obligation to carry or move heavy loads												
Yes	1,069 (71%)	435 (74%)	24 (19%)	9 (28%)	12 (16%)	5 (24%)	27 (68%)	7 (54%)	492 (77%)	202 (74%)	514 (87%)	212 (87%)
No	405 (29%)	148 (26%)	104 (81%)	23 (72%)	61 (84%)	16 (76%)	13 (33%)	6 (46%)	147 (23%)	71 (26%)	80 (13%)	32 (13%)
Requirement to make long or frequent walks												
Yes	1,053 (71%)	421 (72%)	49 (38%)	13 (41%)	32 (44%)	8 (38%)	32 (80%)	9 (69%)	456 (71%)	198 (73%)	484 (81%)	193 (79%)
No	421 (29%)	162 (28%)	79 (62%)	19 (59%)	41 (56%)	13 (62%)	8 (20%)	4 (31%)	183 (29%)	75 (27%)	110 (19%)	51 (21%)
Forced to perform painful or tiring movements												
Yes	1,003 (67%)	413 (70%)	21 (16%)	6 (19%)	11 (15%)	3 (14%)	25 (63%)	8 (62%)	428 (67%)	186 (68%)	518 (87%)	210 (86%)
No	471 (33%)	170 (29%)	107 (84%)	26 (81%)	62 (85%)	18 (86%)	15 (38%)	5 (38%)	211 (33%)	87 (32%)	76 (13%)	34 (14%)
Shaking or vibration during work												
Yes	236 (15%)	58 (9.9%)	5 (3.9%)	1 (3.1%)	1 (1.4%)	1 (4.8%)	1 (2.5%)	0 (0%)	83 (13%)	18 (6.6%)	146 (25%)	38 (16%)
No	1,327 (85%)	530 (90%)	123 (96%)	31 (97%)	72 (99%)	20 (95%)	39 (98%)	13 (100%)	556 (87%)	255 (93%)	448 (75%)	206 (84%)
Continually repeating the same gestures or operations												
Yes	711 (47%)	299 (51%)	18 (14%)	4 (13%)	5 (6.8%)	1 (4.8%)	7 (17%)	3 (23%)	229 (36%)	103 (38%)	452 (76%)	188 (77%)
No	759 (53%)	284 (49%)	110 (86%)	28 (88%)	68 (93%)	20 (95%)	33 (83%)	10 (77%)	408 (64%)	170 (62%)	140 (24%)	56 (23%)
Working-Time Constraints												
Variability in daily schedules												
Same ones every day	559 (38%)	286 (49%)	77 (60%)	21 (66%)	47 (64%)	12 (57%)	7 (18%)	3 (23%)	230 (36%)	130 (48%)	198 (33%)	120 (49%)
Alternating 2x8 (teams, brigades)	253 (17%)	91 (15%)	0 (0%)	2 (6.3%)	1 (1.4%)	1 (4.8%)	5 (13%)	1 (7.7%)	111 (17%)	40 (15%)	136 (23%)	47 (19%)

Alternates 3x8	106 (6.9%)	28 (4.8%)	1 (0.8%)	0 (0%)	0 (0%)	0 (0%)	4 (10%)	2 (15%)	61 (9.5%)	12 (4.4%)	40 (6.7%)	14 (5.7%)
Variable from one day	554 (38%)	178 (31%)	50 (39%)	9 (28%)	25 (34%)	8 (38%)	24 (60%)	7 (54%)	237 (37%)	91 (33%)	218 (37%)	63 (26%)
Consecutive hours of rest (at least 48hrs/week)												
Yes	970 (66%)	461 (79%)	67 (53%)	18 (56%)	70 (96%)	20 (95%)	33 (83%)	13 (100%)	429 (67%)	223 (82%)	371 (63%)	187 (77%)
No	492 (34%)	116 (20%)	59 (47%)	12 (38%)	3 (4.1%)	1 (4.8%)	7 (18%)	0 (0%)	203 (32%)	49 (18%)	220 (37%)	54 (22%)
Unknown	8	6	2	2	0	0	0	0	3	1	3	3
Number of Saturdays worked per year												
Working on Saturday at most 20 times/year	468 (40%)	170 (37%)	88 (77%)	22 (76%)	42 (98%)	5 (71%)	14 (41%)	6 (50%)	183 (36%)	78 (40%)	141 (28%)	59 (28%)
Working on Saturday ≥ 21 times/year	730 (60%)	286 (63%)	26 (23%)	7 (24%)	1 (2.3%)	2 (29%)	20 (59%)	6 (50%)	319 (64%)	118 (60%)	364 (72%)	153 (72%)
Unknown	276	127	14	3	30	14	6	1	137	77	89	32
Number of Sundays worked per year												
Working on Sunday at most 20 times/year	452 (41%)	166 (40%)	83 (86%)	22 (85%)	35 (97%)	5 (71%)	15 (44%)	7 (58%)	186 (37%)	77 (45%)	133 (27%)	55 (28%)

Working on Sunday ≥ 21 times/year	708 (59%)	252 (60%)	14 (14%)	4 (15%)	1 (2.8%)	2 (29%)	19 (56%)	5 (42%)	311 (63%)	96 (55%)	363 (73%)	145 (73%)
Unknown	314	166	31	6	37	14	6	1	142	101	98	44
Number of nights worked per year												
Worked between midnight & 5am < 50 nights/year	307 (51%)	65 (37%)	52 (69%)	9 (56%)	3 (75%)	4 (80%)	9 (31%)	2 (20%)	163 (52%)	35 (40%)	80 (42%)	15 (26%)
Worked between midnight & 5am ≥ 50 nights/year	309 (49%)	111 (63%)	25 (31%)	7 (44%)	1 (25%)	1 (20%)	20 (69%)	8 (80%)	152 (48%)	53 (60%)	111 (58%)	42 (74%)
Unknown	855	408	48	16	69	16	11	3	324	186	403	187
Number of hours worked per week												
≤ 48 hours/week	1,333 (91%)	542 (94%)	57 (45%)	19 (59.3)	50 (68%)	15 (71%)	38 (97%)	11 (84.6%)	614 (98%)	264 (96.7%)	574 (99%)	233 (95.5)
More than 48 hours/week	114 (9.0%)	31 (5.4%)	70 (55%)	12 (39%)	23 (32%)	6 (29%)	1 (2.6%)	1 (8.3%)	13 (2.1%)	5 (1.9%)	7 (1.2%)	7 (2.9%)
Unknown	27	10	1	1	0	0	1	1	12	4	13	4
Organisational Work-change Factors												
Modified change in your position or function												
Yes	298 (19%)	100 (17%)	17 (13%)	5 (16%)	18 (25%)	4 (19%)	8 (20%)	2 (15%)	126 (20%)	47 (17%)	112 (19%)	42 (17%)

No	1,269 (81%)	481 (82%)	110 (86%)	27 (84%)	55 (75%)	17 (81%)	32 (80%)	11 (85%)	512 (80%)	225 (82%)	482 (81%)	201 (82%)
Unknown	1	2	0	0	0	0	0	0	1	1	0	1
Modified change in the techniques used												
Yes	232 (15%)	80 (14%)	14 (11%)	1 (3.1%)	6 (8.2%)	1 (4.8%)	3 (7.5%)	2 (15%)	111 (17%)	43 (16%)	87 (15%)	32 (13%)
No	1,335 (85%)	503 (86%)	113 (88%)	31 (97%)	67 (92%)	20 (95%)	37 (93%)	11 (85%)	527 (82%)	229 (84%)	507 (85%)	211 (86%)
Unknown	2	2	1	0	0	0	0	0	1	1	0	1
Modified restructuring or relocation of the establishment, company or administration where you work												
Yes	317 (20%)	93 (16%)	20 (16%)	5 (16%)	21 (29%)	4 (19%)	7 (18%)	3 (23%)	133 (21%)	48 (18%)	127 (21%)	32 (13%)
No	1,249 (80%)	490 (84%)	107 (84%)	27 (84%)	52 (71%)	17 (81%)	33 (83%)	10 (77%)	505 (79%)	224 (82%)	467 (79%)	211 (86%)
Unknown	3	2	1	0	0	0	0	0	1	1	0	1
Modified change in the organisation of work within the establishment												
Yes	524 (33%)	182 (31%)	28 (22%)	0 (0%)	29 (40%)	0 (0%)	14 (35%)	0 (0%)	228 (36%)	1 (0.4%)	205 (35%)	1 (0.4%)
No	1,042 (66%)	401 (68%)	98 (77%)	11 (34%)	44 (60%)	6 (29%)	26 (65%)	4 (31%)	410 (64%)	83 (30%)	389 (65%)	79 (32%)
Unknown	3	3	2	21 (66%)	0	15 (71%)	0	9 (69%)	1	189 (69%)	0	163 (67%)
Takeover or a change in the management team				0		0		0		1		2
Yes	305 (19%)	153 (26%)	17 (13%)		21 (29%)		3 (7.5%)		129 (20%)		125 (21%)	
No	1,248 (80%)	430 (73%)	109 (85%)	7 (22%)	52 (71%)	5 (24%)	35 (88%)	1 (7.7%)	503 (79%)	71 (26%)	467 (79%)	68 (28%)
Unknown	16	3	2	25 (78%)	0	16 (76%)	2	12 (92%)	7	200 (73%)	2	175 (72%)
Change in the work environment for any other reason				0		0		0		2		1
Yes	149 (9.5%)	58 (9.9%)	20 (16%)		10 (14%)		5 (13%)		55 (8.6%)		51 (8.6%)	
No	1,417 (90%)	525 (90%)	106 (83%)	5 (16%)	63 (86%)	2 (9.5%)	35 (88%)	2 (15%)	583 (91%)	29 (11%)	543 (91%)	20 (8.2%)
Unknown	3		2	27 (84%)	0	19 (90%)	0	11 (85%)	1	243 (89%)	0	223 (91%)

Assessments of changes												
Rather positive	187 (12%)	80 (14%)	11 (8.6%)	3 (9.4%)	10 (14%)	7 (33%)	2 (5.0%)	1 (7.7%)	78 (12%)	31 (11%)	69 (12%)	38 (16%)
Rather negative	398 (25%)	130 (23%)	34 (27%)	8 (25%)	19 (26%)	3 (14%)	12 (30%)	2 (15%)	172 (28%)	69 (25%)	148 (25%)	51 (21%)
Positive and negative aspects compensate	966 (61%)	102 (18%)	81 (63%)	4 (13%)	44 (60%)	3 (14%)	26 (65%)	2 (15%)	113 (39%)	55 (20%)	100 (17%)	40 (16%)
Unknown	18	270	2	17	0	8	0	8	6	118	10	115

Table S2a: Association between Sociodemographic, Health and Occupational Factors and Intention to Stay – Doctors (n=146)

	DOCTORS								
	BIVARIATE			M1			M3		
Characteristic	OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value
Age categories									
20-34	—	—		—	—		—	—	
35-49	2.35	0.62, 9.62	0.2	2.47	0.60, 11.1	0.2	6.57	0.91, 61.9	0.076
50-64	3.79	1.07, 14.7	0.045	5.24	1.33, 23.6	0.022	29.4	4.29, 311	0.002
Sex									
Male	—	—		—	—		—	—	
Female	0.38	0.16, 0.86	0.022	0.34	0.13, 0.83	0.02	0.17	0.04, 0.57	0.007
Type of Household									
Single	—	—		—	—		—	—	
Single-parent	1.39	0.24, 9.21	0.7	1.17	0.19, 8.15	0.9	1.36	0.14, 15.0	0.8
Couple without children	0.53	0.12, 2.20	0.4	0.56	0.11, 2.66	0.5	0.37	0.05, 2.66	0.3
Couple with at least one child	0.61	0.19, 1.85	0.4	0.85	0.25, 2.81	0.8	0.48	0.08, 2.76	0.4
Other types	2.05	0.22, 46.3	0.6	1.85	0.20, 41.8	0.6	3.18	0.16, 146	0.5
Employment Sector									
Public Hospital	—	—		—	—		—	—	
Private Hospital	1.16	0.44, 3.21	0.8	1.32	0.46, 4.03	0.6	2.8	0.60, 15.6	0.2
WHO-5 Wellbeing Index									
Good well-being	—	—		—	—		—	—	
Poor well-being	0.39	0.16, 0.93	0.035	0.5	0.18, 1.34	0.2	2.19	0.52, 11.0	0.3
Self-Rated Health									
Very good	—	—		—	—		—	—	
Good	0.36	0.13, 0.95	0.045	0.35	0.11, 0.99	0.055	0.25	0.05, 1.00	0.065
Fairly good	0.47	0.13, 1.71	0.3	0.64	0.15, 2.59	0.5	0.26	0.04, 1.58	0.2
Bad	0.14	0.00, 4.91	0.2	0.06	0.00, 2.40	0.11	0	0.00, 0.65	0.043
Physical Exposures									
0	—	—		—	—		—	—	
1	2.17	0.75, 6.65	0.2	2.8	0.78, 11.0	0.12	20.4	2.86, 207	0.005
≥2	0.69	0.26, 1.79	0.4	0.53	0.16, 1.65	0.3	0.55	0.07, 3.91	0.6
Biomechanical Exposures									
0	—	—		—	—		—	—	
1	0.76	0.27, 2.21	0.6	0.44	0.12, 1.53	0.2	0.38	0.06, 2.18	0.3
≥2	0.45	0.17, 1.14	0.1	0.6	0.19, 1.85	0.4	0.56	0.08, 3.40	0.5
Working-time Exposures									
0	—	—		—	—		—	—	
1	0.61	0.12, 2.42	0.5	0.39	0.06, 1.85	0.3	0.12	0.01, 1.11	0.083

≥2	0.53	0.10, 2.13	0.4	0.36	0.06, 1.76	0.2	0.09	0.00, 1.01	0.071
Organisational Exposures									
0	—	—		—	—		—	—	
1	1.07	0.44, 2.72	0.9	0.92	0.30, 2.92	0.9	0.86	0.15, 4.65	0.9
≥2	0.66	0.27, 1.57	0.3	0.64	0.21, 1.90	0.4	0.5	0.10, 2.31	0.4
High Quantitative demands	1.54	0.59, 4.05	0.4				3.06	0.67, 15.5	0.2
High Work pace	0.63	0.23, 1.63	0.3				1.58	0.31, 8.19	0.6
High Cognitive demands	1.11	0.44, 2.80	0.8				2.39	0.47, 13.9	0.3
High Work -Life conflict	1.41	0.38, 5.01	0.6				6.17	1.00, 43.8	0.055
Limited Work Influence	0.61	0.25, 1.47	0.3				0.37	0.10, 1.25	0.12
Low social support from supervisor/colleague	0.78	0.31, 1.93	0.6				1.53	0.42, 6.10	0.5
High Role conflicts	0.31	0.12, 0.79	0.016				0.2	0.04, 0.90	0.044
Low Possibility for Development	0.48	0.20, 1.18	0.11				0.23	0.05, 0.90	0.044
Organisational Injustice	0.64	0.24, 1.73	0.4				0.27	0.06, 1.18	0.089
Low Sense of community at work	1.44	0.57, 3.81	0.5				2.15	0.59, 8.39	0.3
High Job insecurity	1.2	0.45, 3.29	0.7				1.15	0.25, 5.44	0.9
High Emotional demands	0.8	0.28, 2.31	0.7				0.95	0.19, 4.64	>0.9
Low Predictability	1.33	0.55, 3.31	0.5				3.36	0.84, 16.1	0.1
Low Meaning in Work	1.19	0.34, 3.91	0.8				1.84	0.35, 10.1	0.5
Limited Degree of Freedom	0.49	0.22, 1.08	0.078				0.45	0.13, 1.41	0.2
High Hiding Emotions	0.47	0.11, 1.71	0.3				0.23	0.02, 1.72	0.2
Low Quality of leadership	0.41	0.13, 1.22	0.12				0.06	0.01, 0.37	0.007

Table S3b: Association between Sociodemographic, Health and Occupational Factors and Intention to Stay - Nurses (n=838)

	BIVARIATE			M1			M3		
Characteristics	**OR**	**95% CI**	**p-value**	**OR**	**95% CI**	**p-value**	**OR**	**95% CI**	**p-value**
Age categories									
20-34	—	—		—	—		—	—	
35-49	2.21	1.48, 3.35	<0.001	2.16	1.42, 3.32	<0.001	2.42	1.55, 3.84	<0.001
50-64	14.9	9.34, 24.5	<0.001	14.1	8.63, 23.7	<0.001	16.2	9.60, 28.0	<0.001
Sex									
Male	—	—		—	—		—	—	
Female	0.59	0.35, 0.97	0.04	0.56	0.33, 0.95	0.031	0.6	0.34, 1.03	0.063
Type of Household									
Single	—	—		—	—		—	—	
Single-parent	1.07	0.51, 2.28	0.9	1.11	0.51, 2.44	0.8	1.01	0.45, 2.30	>0.9
Couple without children	0.56	0.31, 1.04	0.065	0.52	0.27, 0.98	0.044	0.53	0.27, 1.03	0.06
Couple with at least one child	0.94	0.55, 1.61	0.8	0.87	0.50, 1.53	0.6	0.83	0.47, 1.49	0.5
Other types	1.04	0.31, 3.63	>0.9	1.13	0.31, 4.13	0.9	1.09	0.29, 4.28	>0.9
Employment Sector									
Public Hospital	—	—		—	—		—	—	
Private Hospital	0.83	0.59, 1.19	0.3	0.75	0.52, 1.08	0.12	0.64	0.43, 0.95	0.029
WHO-5 Wellbeing Index									
Good well-being	—	—		—	—		—	—	
Poor well-being	0.36	0.24, 0.52	<0.001	0.39	0.26, 0.58	<0.001	0.52	0.34, 0.79	0.002
Self-Rated Health									
Very good	—	—		—	—		—	—	
Good	0.81	0.55, 1.21	0.3	0.81	0.54, 1.23	0.3	0.93	0.60, 1.44	0.7
Fairly good	0.47	0.29, 0.78	0.003	0.46	0.27, 0.77	0.004	0.48	0.27, 0.84	0.011
Bad	0.26	0.10, 0.61	0.003	0.32	0.12, 0.77	0.014	0.38	0.14, 0.99	0.055
Physical Exposures									
0	—	—		—	—		—	—	
1	0.71	0.41, 1.23	0.2	0.68	0.36, 1.28	0.2	0.68	0.35, 1.32	0.3
≥2	0.56	0.35, 0.90	0.018	0.54	0.31, 0.93	0.027	0.57	0.32, 1.02	0.056
Biomechanical Exposures									
0	—	—		—	—		—	—	
1	0.46	0.21, 1.00	0.052	0.62	0.25, 1.50	0.3	0.58	0.23, 1.49	0.3
≥2	0.3	0.16, 0.55	<0.001	0.39	0.19, 0.77	0.007	0.46	0.21, 0.99	0.048
Working-time Exposures									
0	—	—		—	—		—	—	
1	2.46	1.28, 4.97	0.009	3.19	1.49, 7.21	0.004	3.08	1.42, 7.05	0.006
≥2	1.76	0.92, 3.53	0.1	2.42	1.14, 5.43	0.026	2.73	1.26, 6.24	0.013
Organisational Exposures									
0	—	—		—	—		—	—	
1	1.03	0.72, 1.46	0.9	1	0.66, 1.51	>0.9	1.23	0.80, 1.90	0.3
≥2	0.5	0.35, 0.70	<0.001	0.52	0.35, 0.78	0.001	0.65	0.42, 0.99	0.046

High Quantitative demands	0.89	0.63, 1.25	0.5	0.94	0.63, 1.40	0.7
High Work pace	0.62	0.43, 0.90	0.011	0.82	0.53, 1.26	0.4
High Cognitive demands	0.84	0.57, 1.25	0.4	1.01	0.62, 1.67	>0.9
High Work -Life conflict	0.78	0.56, 1.09	0.14	0.92	0.63, 1.35	0.7
Limited Work Influence	1.11	0.81, 1.54	0.5	1.58	1.08, 2.35	0.021
Low social support from supervisor/colleague	0.69	0.50, 0.96	0.027	0.68	0.46, 0.99	0.045
High Role conflicts	0.67	0.48, 0.94	0.021	0.59	0.40, 0.88	0.01
Low Possibility for Development	0.99	0.72, 1.37	>0.9	1.23	0.85, 1.80	0.3
Organisational Injustice	0.63	0.46, 0.86	0.004	0.71	0.49, 1.03	0.07
Low Sense of community at work	0.78	0.57, 1.08	0.13	0.93	0.64, 1.36	0.7
High Job insecurity	1.09	0.79, 1.50	0.6	1.29	0.89, 1.89	0.2
High Emotional demands	0.64	0.47, 0.88	0.005	0.69	0.47, 1.00	0.047
Low Predictability	0.67	0.48, 0.93	0.018	0.63	0.42, 0.96	0.031
Low Meaning in Work	0.81	0.46, 1.42	0.5	0.97	0.50, 1.87	>0.9
Limited Degree of Freedom	0.88	0.65, 1.20	0.4	0.7	0.49, 1.01	0.057
High Hiding Emotions	1.11	0.69, 1.79	0.7	1.06	0.62, 1.83	0.8
Low Quality of leadership	0.86	0.60, 1.24	0.4	0.86	0.57, 1.30	0.5

Table S4c: Association between Sociodemographic, Health and Occupational Factors and Intention to Stay – Nurse Assistants (n=746)

	BIVARAIATE			M1			M3		
Characteristic	**OR**	**95% CI**	**p-value**	**OR**	**95% CI**	**p-value**	**OR**	**95% CI**	**p-value**
Age categories									
20-34	—	—		—	—		—	—	
35-49	3.39	2.07, 5.66	<0.001	3.09	1.87, 5.19	<0.001	3.52	2.05, 6.19	<0.001
50-64	13.9	8.24, 24.3	<0.001	13	7.60, 22.8	<0.001	18.5	10.2, 34.7	<0.001
Sex									
Male	—	—		—	—		—	—	
Female	0.74	0.42, 1.30	0.3	0.71	0.40, 1.27	0.3	0.76	0.40, 1.44	0.4
Type of Household									
Single	—	—		—	—		—	—	
Single-parent	1.3	0.65, 2.62	0.5	1.18	0.58, 2.40	0.6	1.19	0.56, 2.52	0.7
Couple without children	1.36	0.73, 2.53	0.3	1.28	0.68, 2.41	0.4	1.18	0.61, 2.32	0.6
Couple with at least one child	1.14	0.64, 2.02	0.7	1.1	0.62, 1.97	0.7	1.12	0.61, 2.07	0.7
Other types	3.05	1.01, 9.65	0.052	3.04	0.99, 9.79	0.056	3.3	0.97, 11.8	0.059
Employment Sector									
Public Hospital	—	—		—	—		—	—	
Private Hospital	0.67	0.45, 0.99	0.046	0.67	0.45, 0.99	0.046	0.63	0.41, 0.97	0.036
WHO-5 Wellbeing Index									
Good well-being	—	—		—	—		—	—	
Poor well-being	0.37	0.25, 0.55	<0.001	0.38	0.25, 0.58	<0.001	0.42	0.27, 0.66	<0.001
Self-Rated Health									
Very good	—	—		—	—		—	—	
Good	0.8	0.47, 1.36	0.4	0.79	0.46, 1.34	0.4	0.76	0.43, 1.35	0.3
Fairly good	0.4	0.22, 0.71	0.002	0.39	0.22, 0.71	0.002	0.38	0.20, 0.71	0.003
Bad	0.16	0.07, 0.36	<0.001	0.16	0.06, 0.36	<0.001	0.14	0.05, 0.35	<0.001
Physical Exposures									
0	—	—		—	—		—	—	
1	0.66	0.35, 1.23	0.2	0.77	0.35, 1.66	0.5	0.96	0.42, 2.17	>0.9
≥2	0.62	0.36, 1.03	0.066	0.89	0.46, 1.67	0.7	1.4	0.70, 2.78	0.3
Biomechanical Exposures									
0	—	—		—	—		—	—	
1	0.27	0.01, 2.31	0.3	1.54	0.06, 18.2	0.7	1.37	0.05, 19.0	0.8
≥2	0.18	0.01, 1.10	0.12	0.61	0.03, 3.91	0.7	0.64	0.03, 4.85	0.7
Working-time Exposures									
0	—	—		—	—		—	—	
1	1.41	0.78, 2.60	0.3	1.51	0.72, 3.19	0.3	1.35	0.61, 3.03	0.5
≥2	1.14	0.65, 2.03	0.6	1.39	0.69, 2.82	0.4	1.36	0.64, 2.94	0.4
Organisational Exposures									
0	—	—		—	—		—	—	
1	0.77	0.54, 1.12	0.2	0.76	0.48, 1.19	0.2	0.82	0.50, 1.34	0.4
≥2	0.52	0.37, 0.73	<0.001	0.7	0.46, 1.06	0.09	1.01	0.63, 1.61	>0.9

High Quantitative demands	0.82	0.58, 1.16	0.3	0.73	0.48, 1.13	0.2
High Work pace	0.65	0.47, 0.92	0.014	0.58	0.37, 0.89	0.012
High Cognitive demands	1.05	0.73, 1.49	0.8	1.2	0.77, 1.88	0.4
High Work -Life conflict	0.88	0.61, 1.26	0.5	1.28	0.83, 1.99	0.3
Limited Work Influence	0.67	0.48, 0.93	0.016	0.56	0.37, 0.85	0.006
Low social support from supervisor/colleague	0.74	0.53, 1.02	0.066	0.78	0.53, 1.17	0.2
High Role conflicts	1.15	0.80, 1.65	0.5	1.05	0.68, 1.63	0.8
Low Possibility for Development	0.93	0.66, 1.31	0.7	1.11	0.73, 1.69	0.6
Organisational Injustice	0.54	0.39, 0.75	<0.001	0.46	0.30, 0.69	<0.001
Low Sense of community at work	0.99	0.71, 1.37	>0.9	0.86	0.57, 1.29	0.5
High Job insecurity	1.25	0.89, 1.76	0.2	1.47	0.97, 2.27	0.074
High Emotional demands	0.6	0.43, 0.83	0.002	0.73	0.48, 1.10	0.13
Low Predictability	0.78	0.56, 1.09	0.14	0.63	0.41, 0.97	0.035
Low Meaning in Work	0.79	0.49, 1.25	0.3	0.74	0.42, 1.28	0.3
Limited Degree of Freedom	0.87	0.64, 1.20	0.4	1.04	0.70, 1.56	0.8
High Hiding Emotions	1.21	0.78, 1.88	0.4	1.6	0.94, 2.74	0.087
Low Quality of leadership	0.69	0.47, 1.02	0.062	0.69	0.42, 1.11	0.12

Table S5: Occupational and Sociodemographic Factors Association with Intention to Stay in the Job – Adjusted for Job Satisfaction

Characteristics	Bivariate			M1 (n=1849)			M2 (n=1847)			M3 (n=1847)		
	OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value	OR	95% CI	p-value
Age categories												
20-34												
35-49	2.6	1.94, 3.50	<0.001	2.43	1.81, 3.28	<0.001	2.47	1.82, 3.36	<0.001	2.51	1.85, 3.42	<0.001
50-64	11	8.02, 15.3	<0.001	10.1	7.30, 14.1	<0.001	10.7	7.67, 15.1	<0.001	10.6	7.55, 14.9	<0.001
Sex												
Male												
Female	0.54	0.39, 0.76	<0.001	0.52	0.37, 0.72	<0.001	0.59	0.42, 0.83	0.003	0.56	0.40, 0.80	0.001
Diploma												
No diploma												
Basic education level	1.08	0.49, 2.29	0.8	1.03	0.47, 2.22	>0.9	1.28	0.56, 2.84	0.6	1.18	0.52, 2.63	0.7
Secondary education level	0.54	0.24, 1.19	0.13	0.51	0.22, 1.13	0.1	0.63	0.27, 1.45	0.3	0.58	0.25, 1.33	0.2
Higher education level	0.38	0.16, 0.89	0.028	0.37	0.15, 0.86	0.024	0.46	0.18, 1.11	0.088	0.44	0.17, 1.06	0.071
Advanced education level	0.5	0.19, 1.30	0.2	0.49	0.18, 1.29	0.2	0.59	0.21, 1.62	0.3	0.57	0.21, 1.58	0.3
Type of Household												
Single												
Single-parent	1.17	0.74, 1.87	0.5	1.13	0.71, 1.81	0.6	1.07	0.66, 1.73	0.8	1.05	0.65, 1.71	0.8
Couple without children	0.97	0.65, 1.44	0.9	0.92	0.62, 1.38	0.7	0.95	0.63, 1.44	0.8	0.92	0.61, 1.39	0.7
Couple with at least one child	1	0.70, 1.43	>0.9	0.98	0.69, 1.40	>0.9	0.96	0.67, 1.39	0.8	0.94	0.65, 1.36	0.8
Other types	2.14	1.02, 4.61	0.048	2.16	1.01, 4.74	0.049	2.01	0.93, 4.44	0.08	2.08	0.96, 4.64	0.068
Type of Occupation												
Doctors												
Nurse managers	1.49	0.73, 3.06	0.3	1.35	0.64, 2.85	0.4	1.3	0.61, 2.76	0.5	1.25	0.58, 2.71	0.6
Midwives	0.75	0.33, 1.64	0.5	0.98	0.42, 2.22	>0.9	1.04	0.44, 2.38	>0.9	1.12	0.47, 2.63	0.8
Nurses	1.09	0.58, 2.06	0.8	1.52	0.79, 2.96	0.2	1.4	0.72, 2.74	0.3	1.6	0.81, 3.18	0.2
Nurse assistants	0.68	0.32, 1.45	0.3	1.05	0.48, 2.32	0.9	0.79	0.36, 1.74	0.6	1.01	0.45, 2.29	>0.9

Employment Sector												
Public Hospital												
Private Hospital	0.83	0.65, 1.06	0.13	0.79	0.62, 1.02	0.068	0.75	0.59, 0.97	0.029	0.77	0.60, 0.99	0.046
WHO-5 Wellbeing Index												
Poor well-being												
Good well-being	2.17	1.68, 2.81	<0.001	2.04	1.57, 2.65	<0.001	1.73	1.32, 2.28	<0.001	1.79	1.36, 2.35	<0.001
Self-Rated Health												
Very good												
Good	0.8	0.60, 1.07	0.13	0.82	0.61, 1.09	0.2	0.85	0.63, 1.15	0.3	0.85	0.63, 1.15	0.3
Fairly good	0.48	0.34, 0.67	<0.001	0.49	0.35, 0.70	<0.001	0.52	0.36, 0.74	<0.001	0.52	0.36, 0.74	<0.001
Bad	0.26	0.14, 0.45	<0.001	0.28	0.15, 0.49	<0.001	0.32	0.17, 0.57	<0.001	0.3	0.16, 0.54	<0.001
Very bad	0.22	0.04, 0.93	0.052	0.27	0.05, 1.11	0.086	0.33	0.06, 1.37	0.15	0.29	0.05, 1.18	0.1
Job Satisfaction												
Low												
High	2.41	1.90, 3.06	<0.001	2.28	1.79, 2.91	<0.001	1.86	1.43, 2.41	<0.001	1.88	1.45, 2.45	<0.001
Physical Exposures												
0												
1				0.8	0.53, 1.22	0.3				0.84	0.55, 1.29	0.4
≥2				0.68	0.47, 0.96	0.031				0.8	0.55, 1.17	0.2
Biomechanical Exposures												
0												
1				0.6	0.34, 1.07	0.084				0.64	0.35, 1.15	0.14
≥2				0.45	0.28, 0.72	<0.001				0.56	0.34, 0.93	0.026
Working-time Exposures												
0												
1				1.7	1.06, 2.75	0.028				1.54	0.95, 2.51	0.079
≥2				1.5	0.95, 2.39	0.084				1.49	0.93, 2.39	0.1
Organisational Exposures												
0												
1				0.99	0.75, 1.31	>0.9				1.07	0.80, 1.43	0.6
≥2				0.7	0.54, 0.91	0.007				0.83	0.63, 1.09	0.2

High Quantitative demands	0.92	0.71, 1.20	0.5	0.96	0.74, 1.25	0.8
High Work pace	0.73	0.56, 0.96	0.022	0.77	0.59, 1.01	0.06
High Cognitive demands	0.97	0.74, 1.27	0.8	1.13	0.85, 1.51	0.4
High Work -Life conflict	1	0.77, 1.31	>0.9	1	0.77, 1.30	>0.9
Limited Work Influence	0.84	0.66, 1.07	0.15	0.88	0.69, 1.13	0.3
Low social support from supervisor/colleague	0.79	0.61, 1.02	0.067	0.8	0.62, 1.03	0.083
High Role conflicts	1.06	0.83, 1.36	0.6	1.05	0.82, 1.35	0.7
Low Possibility for Development	0.66	0.52, 0.84	<0.001	0.67	0.52, 0.85	0.001
High Organisational injustice	0.91	0.72, 1.16	0.5	0.92	0.72, 1.17	0.5
Low Sense of community at work - atmosphere	1.18	0.92, 1.52	0.2	1.22	0.95, 1.58	0.11
High Job insecurity	0.8	0.63, 1.02	0.073	0.84	0.66, 1.08	0.2
High Emotional demands	0.75	0.58, 0.96	0.024	0.75	0.58, 0.97	0.031
Low Predictability	0.78	0.54, 1.12	0.2	0.76	0.52, 1.09	0.14
Low Meaning of Work	0.96	0.76, 1.22	0.7	0.95	0.75, 1.21	0.7
Low Degree of Freedom	0.78	0.61, 0.99	0.044	0.78	0.61, 0.99	0.044
High Hiding Emotions	1.15	0.83, 1.61	0.4	1.11	0.79, 1.55	0.6
Low Quality of leadership	0.87	0.65, 1.15	0.3	0.84	0.64, 1.12	0.2