ORIGINAL ARTICLE

Factors associated with work performance among the health personnel at Hospital Materno Infantil Carlos Showing Ferrari, Huánuco, 2022

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ABSTRACT

Objective: To determine the factors associated with work performance among the health personnel at Hospital Materno Infantil Carlos Showing Ferrari, Huánuco, in 2022.
Materials and methods: An observational, correlational and prospective study conducted on a population of 146 health professionals and a sample size of 86 individuals. The information was collected through a questionnaire, where the variable *work performance* was evaluated with the Individual Work Performance Questionnaire by Koopmans et al. and validated with Cronbach's alpha greater than 0.8. The factors analyzed encompassed sociodemographic, work-related and academic variables. The statistical analysis was conducted using the chi-square test and the data were analyzed with IBM SPSS Statistics V25.
Results: Most health professionals showed a very high-level work performance (60.47 %). Inferentially, sociodemographic factors such as age 31 to 45 years (p = 0.027) and 46 to 60 years (p = 0.045) were significantly associated with a very high-level work performance. Concerning work-related factors, having 21 years or more of work experience (p = 0.049) was the only factor significantly associated with a very high-level work performance. There was no association between academic factors and a very high-level work performance (p > 0.05).
Conclusions: The factors significantly associated with a very high-level work performance among the health personnel were age 31 to 45 years and 46 to 60 years and having 21 years or more of work experience.

Keywords: Health Personnel; Employee Performance Appraisal; Risk Factors (Source: MeSH NLM).

INTRODUCTION

Health facilities consider their health personnel as a fundamental component for achieving goals and objectives. Therefore, they will provide optimal and satisfactory services when supported by quality human resources. This aspect is important to fulfill the demands for quality healthcare, which includes providing compassionate care and meeting patients' expectations and desires [1]. Given that health workers play a key role in maintaining a country's health, their work performance must be high.

According to the Organisation for Economic Co-operation and Development (OECD), by 2050, it is estimated that 27 % of the population will be over 65 years of age and nearly 10 % over 80 [2,3], potentially leading to an increased demand for healthcare. The growing demand for care and accessibility will not be the only challenges arising from an aging population; the shortage of health professionals is another major concern [4]. All this highlights the importance of healthcare, where changes and improvements in work performance are essential to improving quality and efficiency in any health facility [5].

Identifying the factors or elements that primarily influence work performance is crucial, as health facilities could strengthen these components to improve institutional performance. Permatasari et al. [1] identified that the variables related to performance in health personnel include work motivation (p = 0.011), work environment (p = 0.000) and work unit (p = 0.004). In Armenia, a study by Lu et al. [6] found that job satisfaction was related to worker performance. Job satisfaction among health personnel was identified as a key indicator of work intention and quality service delivery. Owino et al. [7] claimed that training has a strong and positive influence on staff performance (r = 0.501, p < 0.05), while remuneration shows a weak but still positive correlation with staff performance (r = 0.378, p < 0.05).

Krijgsheld et al. [8] reported that work performance can be affected by the structure of an organization, the support provided to employees and the organizational culture. While a worker's performance may improve in an innovative atmosphere, it is likely to decrease in an abusive organizational climate. This has been supported by previous research [9-12]. Additionally, the degree of work

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commitment and autonomy [13], as well as employee skills and education level [14], have also been reported as factors impacting work performance.

In Peru, the lack of adequate resources in the healthcare sector has a significant effect on the work environment, a situation further exacerbated by staffing shortage, which affects both the performance and quality of health services [15]. However, studies on the factors involved in the work performance of health workers are scarce at the national level. Therefore, this study aims to determine the factors associated with work performance among the health personnel at Hospital Materno Infantil Carlos Showing Ferrari, Huánuco, in 2022. The specific objectives are to identify the sociodemographic, work-related and academic factors associated with work performance.

MATERIALS AND METHODS

Study design and population

An observational, correlational and prospective research was conducted. The population consisted of 146 health professionals (both physicians and non-physicians) working at Hospital Materno Infantil Carlos Showing Ferrari. The sample included 86 health professionals, determined by the finite population formula.

The inclusion criteria comprised physicians (general practitioners and specialists) and non-physicians (nurses, obstetricians and nursing technicians) with more than six months of work experience, who consented to participate in the study. Workers on maternity leave, vacation and sick leave, as well as those who refused to participate, were excluded.

Variables and measurements

The research technique employed was a survey, with a questionnaire serving as the data collection instrument. The survey was used to assess the dependent variable *work performance*, while the questionnaire collected information on the independent variable *associated factors*.

The dependent variable, work performance, was defined as the behavior or conduct of employees in their professional roles and interpersonal relationships, which effectively supports the completion of company activities and the achievement of organizational goals [16]. It was evaluated with the Individual Work Performance Questionnaire (IWPQ) by Koopmans et al. [17], which consists of 18 questions across three dimensions: i) task performance, ii) contextual performance and iii) counterproductive work behavior. The total score was calculated by adding the items, and work performance was rated as low (18-36 points), fair (37-54 points), high (55-72 points) or very high (73-90 points). The questionnaire demonstrated reliability, with Campos et al. [18] reporting a Cronbach's alpha above 0.8 across the three dimensions at the national level: task performance ($\alpha = 0.88$), contextual performance ($\alpha = 0.87$) and counterproductive work behavior ($\alpha = 0.87$).

The independent variable consisted of associated factors, defined as personal characteristics that increase the likelihood of experiencing harm that could affect health, thereby requiring preventing measures [19]. These factors were categorized into three groups: sociodemographic factors (age, sex and marital status), work-related factors (work experience, professional category [physician or non-physician], employment at two places, type of contract and recognition for work) and academic factors (having a specialty, holding a master's degree, involvement in teaching and participation in ongoing training).

Statistical analysis

The statistical analysis was conducted using the chi-square test and the data were analyzed with IBM SPSS Statistics V25 with a significance level of 5 %.

Ethical considerations

All bioethical principles outlined in the Declaration of Helsinki were strictly followed.

RESULTS

A total of 86 health professionals (both physicians and non-physicians) working at Hospital Materno Infantil Carlos Showing Ferrari were included in the study. Among them, 60.47 % rated their work performance as very high, 38.37 % as high and 1.05 % [1] as fair.

As shown in Table 1, sociodemographic factors such as age 31 to 45 years ($p = 0.027$) and 46 to 60 years ($p = 0.045$) were significantly associated with a very high-level work performance among health personnel. In addition, it was observed that most health professionals with very high-level work performance were female (76.92 %) and married (63.46 %); however, these associations were not statistically significant ($p > 0.05$).

Table 1. Sociodemographic factors associated with work performance among health personnel at Hospital Materno Infantil Carlos Showing Ferrari, Huánuco, 2022

Sociodemographic factors	Work performance				*p**
	Very high level		High/fair level		
	n	%	*n*	%	
Age					
≤ 30 years	6	11.54	3	8.82	0.688
31 to 45 years	18	34.62	20	58.82	0.027
46 to 60 years	25	48.08	9	26.48	0.045
≥ 61 years	3	5.76	2	5.88	0.983
Sex					
Male	12	23.08	9	26.47	0.72
Female	40	76.92	25	73.53	
Marital status					
Single	11	21.15	9	26.47	0.568
Married	33	63.46	15	44.12	0.077
Divorced	3	5.77	2	5.88	0.983
Common-law partnership	5	9.62	8	23.53	0.073
Total	52	100.00	34	100.00	

* Chi-square test.

Table 2 indicates that having 21 years or more of work experience (p = 0.049) was a work-related factor significantly associated with very high-level work performance among health personnel. A higher proportion of health professionals with very high-level work performance (44.23 %) was observed among those with 21 years or more of work experience, compared to those with high- and fair-level work performance (23.53 %).

Table 2. Work-related factors associated with work performance among health personnel at Hospital Materno Infantil Carlos Showing Ferrari, Huánuco, 2022

Work-related factors	Work performance				*p**
	Very high level		High/fair level		
	n	%	*n*	%	
Work experience					
≤ 5 years	7	13.46	8	23.53	0.229
6 to 10 years	8	15.38	6	17.65	0.781
11 to 20 years	14	26.93	12	35.29	0.409
≥ 21 years	23	44.23	8	23.53	0.049
Professional category					
Physician	11	21.15	8	23.53	0.795
Non-physician	41	78.85	26	76.47	
Employment at two places					
Yes	12	23.08	14	41.18	0.074
No	40	76.92	20	58.82	

Work-related factors	Work performance				*p**
	Very high level		High/fair level		
	n	%	*n*	%	
Type of contract					
CAS (*contrato administrativo de servicios* – administrative services agreement)	11	21.15	8	23.53	0.795
Nombrado (fixed-term contract)	39	75.00	21	61.76	0.191
Terceros (third-party contract)	2	3.85	5	14.71	0.072
Recognition for work					
Yes	9	17.31	9	26.47	0.307
No	43	82.69	25	73.53	
Total	52	100.00	34	100.00	

* Chi-square test.

Table 3 shows that no academic factors were significantly associated with high-level work performance ($p > 0.05$). However, it was evident that health professionals with very high-level work performance who received ongoing training (69.23 %) were more common compared to those with high- and fair-level work performance (55.88 %).

Table 3. Academic factors associated with work performance among health personnel at Hospital Materno Infantil Carlos Showing Ferrari, Huánuco, 2022

Academic factors	Work performance				*p**
	Very high level		High/fair level		
	n	%	*n*	%	
Having a specialty					
Yes	31	59.62	27	79.41	0.229
No	21	40.38	7	20.59	
Holding a master's degree					
Yes	13	25.00	16	47.06	0.795
No	39	75.00	18	52.94	
Involvement in teaching					
Yes	10	19.23	11	32.35	0.074
No	42	80.77	23	67.65	
Participation in ongoing training					
Yes	36	69.23	19	55.88	0.795
No	16	30.77	15	44.12	
Total	52	100.00	34	100.00	

* Chi-square test.

DISCUSSION

A total of 86 health professionals were assessed, with their work performance rated as very high, suggesting that they likely provided patients with adequate care, support and information. This finding is consistent with the performance evaluation carried out by Díaz Ledesma et al. [20] on critical care professionals, where only 15.4 % had a poor work performance. Similarly, Torres et al. [21] reported good work performance (70.4 %) among health professionals at a hospital in Pucallpa. In contrast, Tong [14] found that nurses assessed their overall performance as moderate. In this study, two components of task performance—social support and information provision—were at moderate levels, while the third component—technical care—was rated high. Tarqui et al. [22] observed that a quarter of nursing professionals exhibited poor work performance, while Montilla et al. [23] reported moderate work performance among workers at

the Red de Salud San Martín (San Martín Health Network). Jeon et al. [24] highlighted variations in work performance among nurses in teaching hospitals, general hospitals and intensive care units, noting differences based on the hospital size. They also indicated that work performance was influenced by the specific duties in each hospital department. The differences between these studies could be due to variations in performance evaluation criteria, cut-off points, hospital settings and working conditions, such as equipment and workload.

Age 46 to 60 years was considered a sociodemographic factor associated with work performance. Similar findings were reported by Permatasari et al. [1], who reported that nurses aged 25 to 35 years were 1.301 times more likely to have low performance compared to nurses aged 36 to 49 years. They argued that while young employees have greater physical strength, dynamism and creativity, they are more prone to boredom and absenteeism. In contrast, older healthcare workers may have less physical condition but demonstrate resilience, hold big responsibilities and are less susceptible to turnover.

Additionally, having 21 years or more of work experience was found to be a work-related factor associated with work performance. Previous research studies have shown that worker seniority influences decision-making in institutions. One study found that longer work experience negatively impacted the willingness to adopt innovative diagnostic and preventive methods, which in turn affected work performance [25]. Yntig [5] noted that years of experience and job types are predictive variables for work performance, a conclusion also supported by Bereda et al. [26]. Tarqui et al. [22] noted a significant relationship between work experience and work performance, observing that 66.7 % of nurses with over six years of work experience showed poor work performance. However, Chen et al. [27] reported no association between work experience and performance among healthcare workers, in contrast to the results of this study. These discrepancies between studies may be attributed to the unique hospital settings, as well as variations in sample sizes which, when small, may limit the strength of association.

Holding a master's degree was identified as an academic factor associated with work performance among health professionals, which aligns to previous research findings. In this regard, Nowrouzi-Kia et al. [28] found that workplace preparedness, inadequate support and financial concerns were related to work performance among healthcare workers. Similarly, Tong [14] noted that nurses with higher education levels are often tasked with leading responsibilities in clinical units, underscoring education as a key factor for effective work performance. Permatasari et al. [1] discovered that nurses with a diploma degree were 0.364 times more likely to exhibit lower performance compared to those with education levels above a diploma degree. Chen et al. [27] emphasized the great importance nurses placed on their opportunities for higher education, noting that this significantly impacted both job satisfaction and work performance. They highlighted that graduate education, such as a master's degree, not only improves the quality of care provided by health personnel but also fosters self-esteem and self-actualization. Pramithasari [29] pointed out that as education levels increase, individuals learn to better cope with and complete tasks, becoming more equipped to take responsibility for their obligations. Consequently, they respond more positively to high workloads, which in turn improves their work performance. Kotur et al. [30] also noted that healthcare workers' performance varies according to their education level. In contrast, Tarqui et al. [22] found no significant association between holding a master's degree and work performance but did observe a significant relationship between performance and those who had completed a specialization (p = 0.01).

The present research makes a significant contribution by providing insights into the work performance of health personnel and the factors associated with it. The study demonstrates that work performance can be impacted by age, work experience and holding a master's degree; therefore, interventions tailored to these factors are needed, in addition to the optimization of a supportive work environment to enhance organizational performance.

The findings also provide support for future research on healthcare work performance, suggesting that other variables not included in the current study, such as monthly remuneration, access to material resources, adequate infrastructure, number of rotations, working hours, etc., should be explored.

In conclusion, sociodemographic factors (age 31 to 45 and 46 to 60 years) and work-related factors (21 years or more of work experience) were found to be significantly associated with work performance among the health personnel at Hospital Materno Infantil Carlos Showing Ferrari.

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