







Presenteeism and its influence on health personnel's capacity for work

Presenteísmo e sua influência sobre a capacidade para o trabalho em profissionais de saúde

El presentismo y su influencia en la capacidad para el trabajo en profesionales de la salud

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ABSTRACT

Objective: to identify the prevalence of presenteeism among health personnel and to examine the influence of sociodemographic and occupational variables on this phenomenon, as well as its influence on the work ability index. **Method:** this quantitative, observational, cross-sectional study was conducted with 299 health personnel from a public teaching hospital. The Work Ability Index and the Stanford Presenteeism Scale were used. Multiple linear regression and logistic regression tests were applied. **Results:** logistic regression analysis revealed that women were 1.88 times more likely (1.06-3.32 and $p=0.03$) to display presenteeism. Multiple linear regression showed following predictors influenced work ability: presenteeism ($\beta=-0.35$, $p<0.001$), gender ($\beta=-0.28$, $p<0.001$) and professional category ($\beta=-0.12$, $p=0.03$). **Conclusion:** presenteeism was prevalent among health personnel and influenced their ability to work.

Descriptors: Occupational Health; Health Personnel; Work Capacity Evaluation; Working Conditions; Presenteeism.

RESUMO

Objetivo: identificar a prevalência de presenteísmo em profissionais de saúde e analisar a influência de variáveis sociodemográficas e ocupacionais sobre esse fenômeno, bem como sua influência sobre o índice de capacidade para o trabalho. **Método:** estudo observacional, transversal com abordagem quantitativa, realizado com 299 profissionais de saúde de um hospital público de ensino. Utilizou-se os instrumentos: Índice de Capacidade para o Trabalho e a Escala de Presenteísmo de Stanford. Aplicaram-se testes de Regressão linear múltipla e de regressão logística. **Resultados:** a análise de regressão logística revelou que as mulheres tiveram chance 1,88 vezes maior (1,06-3,32 e $p=0,03$) de apresentar presenteísmo. A regressão linear múltipla mostrou influência dos seguintes preditores na capacidade para o trabalho: presenteísmo ($\beta=-0,35$, $p<0,001$), sexo ($\beta=-0,28$, $p<0,001$) e categoria profissional ($\beta=-0,12$, $p=0,03$). **Conclusão:** o presenteísmo prevaleceu entre os profissionais de saúde e exerceu influência na sua capacidade para o trabalho.

Descritores: Saúde do trabalhador; Pessoal de saúde; Avaliação da Capacidade de Trabalho; Condições de Trabalho; Presenteísmo.

RESUMEN

Objetivo: identificar la prevalencia del presentismo entre profesionales de la salud y analizar la influencia de variables sociodemográficas y ocupacionales sobre este fenómeno, así como su influencia en el índice de capacidad para el trabajo. **Método:** estudio observacional transversal con enfoque cuantitativo, realizado con 299 profesionales de la salud de un hospital público de enseñanza. Se utilizaron los siguientes instrumentos: Índice de Capacidad para el Trabajo y la Escala de Presentismo de Stanford. Se aplicaron pruebas de regresión lineal múltiple y regresión logística. **Resultados:** El análisis de regresión logística reveló que las mujeres tenían 1,88 veces más probabilidades (1,06-3,32 y $p=0,03$) de presentismo. La regresión lineal múltiple mostró la influencia de los siguientes predictores sobre la capacidad laboral: presentismo ($\beta=-0.35$, $p<0.001$), género ($\beta=-0.28$, $p<0.001$) y categoría profesional ($\beta=-0.12$, $p=0.03$). **Conclusión:** el presentismo prevaleció entre los profesionales de la salud e influyó en su capacidad de trabajo.

Descriptorios: Salud Laboral; Personal de salud; Evaluación de Capacidad de Trabajo; Condiciones de Trabajo; Presentismo.

INTRODUCTION

Exploitation of workers' labor in order to obtain maximum profitability can lead to the loss of potential or physical and psychological capacity of workers, harming the company's organization and income¹. In view of this, the need to carry out actions aimed at workers' health emerged with the aim of reducing absenteeism, which is defined as non-attendance to work².

However, other aspects which can negatively impact productivity are identified, such as presenteeism³. This is a phenomenon that is difficult to identify, since people remain physically present apparently performing their duties^{2,4}, but show a decrease in cognitive, emotional and behavioral engagement during working hours due to the fact that the employee goes to work when they have a health problem⁵.

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Several causes can cause presenteeism, such as: musculoskeletal diseases, obesity, sedentary lifestyle⁶, emotional changes⁷, and flu syndromes⁸. Presenteeism among health professionals has become common in all occupations and work environments, and the severity of symptoms are related to the ability to endure work^{8,9}.

Investments in the promotion of workers' health and better health conditions are identified as possible tools to reduce presenteeism and increase work ability⁹. Work ability is defined as how well the worker is or will be in the present or in the near future and how capable they can perform their work, depending on the requirements, their state of health and physical and mental capacities¹⁰. This variable may be influenced by professional class, sociodemographic profile, conditions of the work environment and work organizations, as well as working conditions due to precarious work bonds and contracts, with extensive workload and shift work^{11,12}. Thus, it is essential to know the health conditions of professionals by creating indicators so that preventive work can be carried out, reflecting on preserving the health of professionals¹².

In view of the above, this study was developed with the objective of identifying the prevalence of presenteeism in health professionals and analyzing the influence of sociodemographic and occupational variables on this phenomenon, as well as their influence on the work ability index.

METHOD

This is an observational, cross-sectional study with a quantitative approach conducted with technical and higher-level health professionals under a statutory or consolidated labor law (*Consolidação das Leis do Trabalho - CLT*) regime, developed in a public teaching hospital in the interior of Minas Gerais, Uberaba (MG), Brazil. The population consisted of the following professionals: Social worker, Health assistant, Nursing assistant, Laboratory assistant, Nutrition and diet assistant, Biologist, Biomedical doctor, Dental surgeon, Nurse, Pharmacist, Physical therapist, Speech therapist, Surgical instrument technician, Doctor, Nutritionist, Psychologist, Pharmacy technician, Anatomy and necropsy technician, Nursing technician, Medical-dental exam technician, Laboratory technician, Radiology technician, Oral health technician, and Occupational therapist.

Those who carried out their activities in the care or administrative area were included, excluding professionals who were on probation and those who had returned to work after vacation or leave for less than 30 days due to a presenteeism evaluation to measure the health status of the professionals in the last 30 days.

The sample size calculation considered a presenteeism prevalence of 52.5%¹³, accuracy of 5% and confidence interval of 95% for a finite population of 1,492 workers, reaching a sample of 305 subjects. Considering a sample loss of 20%, the maximum number of interview attempts would be 382. The participants were selected by simple random sampling through drawing lots using the Statistical Package for Social Sciences (SPSS®) version 20.0 for Windows®.

Data collection took place between April and July 2019. A pilot test was carried out with ten workers selected by convenience who were later excluded from the population. Those eligible were sought in their sectors during working hours and individually invited to participate in the survey. Upon acceptance, the participant was invited to be in a private environment within their work sector where the research was explained, possible doubts were answered and two copies of the Informed Consent Form were filled out.

Three different instruments were applied individually. The professionals initially completed the sociodemographic and occupational data questionnaire, which was developed by the researchers based on the scientific literature on the subject, and subsequently submitted to content validation by three doctoral judges who were specialists in the subject and discussed the relevance and adequacy of every question¹⁴.

The second instrument applied to the participants was the Work Ability Index (WAI), which is a quick, simple and low-cost tool that aims to know the current work capacity of the worker according to their perception, which can help identify early possible compromises to direct promotion, prevention and rehabilitation actions for the worker¹⁰.

The Stanford Presenteeism Scale (SPS-6) was subsequently applied, which aims to measure how much their health status in the last 30 days interfered with their work through the worker's perception, making it difficult or preventing the ability to perform mental, physical and interpersonal activities¹⁵. In order to select who should respond to the SPS-6, prior to its application the dichotomous question was asked: in the last 30 days, were you present at work despite having any health problems or any signs or symptoms of illness? In cases where the answer was negative, the worker did not complete the Stanford Presenteeism Scale (SPS-6), as this means that they have

not had presenteeism in the last 30 days. Only those who claimed to have had a health problem responded to the scale so that the level of their presenteeism could be investigated.

The Stanford Presenteeism Scale (SPS-6) score is obtained by adding the marked items, which can range from 6 to 30. It should be noted that the assigned value in items 1, 3 and 4 must be considered inverted: (1=5, 2=4, 3=3, 4=2, and 5=1). Its score is considered low when its sum is between six and 18, which indicates a considerable drop in engagement (less presenteeism). Sums greater than 19 equate to greater ability to maintain normal productivity and attention (high presenteeism), even though being affected by a health problem⁵.

Data were entered twice by different researchers into a database built in the Microsoft Office Excel program, version 2010. They were subsequently entered into SPSS[®] version 20 in the R[®] program version 3.1.2, and descriptive statistics, the Mann Whitney test and multiple linear regression were used. The significance level value (alpha) adopted in all analyses was 5% (0.05).

The research protocol was submitted to the Ethics Committee for Research with human beings and was approved on March 22, 2019.

RESULTS

The number of attempts at the end of the collection was 338 and the number of completed and returned questionnaires was 299, as the proportionality between professional classes was respected. The professional category in which the highest percentage of losses occurred was that of health assistant (50%) due to prolonged sick leave.

Of the 299 workers who participated in the survey, 212 were women (70.9%) and 87 were men (29.1%), with an average age of 43 years (minimum of 24 and maximum of 69); 214 of the participants, regardless of the category occupied in the institution, had a higher education (71.5%); 163 were married (54.5%); 81 had no children (27.0%); 86 had a per capita family income between eight and nine monthly minimum wages (28.8%); 209 were the main economic head of the family (69.9%); 171 owned their own house (57.3%); and 241 did not have a maid/domestic employee (80.6%).

For the occupational characterization, 287 performed their activities in direct care (88.3%); 152 had worked at the institution for between one and ten years (50.9%), with an average working time of 13 years (minimum of 1 and maximum of 38), and 233 had no other job (77.9%).

Regarding the work sector of the professionals who answered the instrument, 75 worked or spent part of their workday in adult wards (25.1%) and 57 in outpatient clinics (25.1%).

For the employment status, 160 were hired under the *CLT* regime (53.5%), 120 worked 36 hours a week (40.1%) and 25 lived in another city (8.4%). More than half (170) worked the day shift (56.8%) and 10 reported not liking the work shift in which they performed their activities (3.3%). Moreover, 115 workers reported taking extra shifts (38.5%), and 71 professionals wanted to change professions (23.7%).

In this study, 196 (65.6%) of the participants from different professional classes stated that they had attended work despite being sick in the last 30 days. All professionals who claimed to have worked sick in the last 30 days ($n=194$) responded to the SPS-6 in order to assess how much work productivity was affected in this period. According to the scale, the mean overall score was 21.36 points ($SD=4.68$), with a median of 21.00, with the score ranging from 10.00 to 30.00, as shown in Table 1.

TABLE 1: Presenteeism score according to the concepts of “finished work”, “maintained concentration” and overall score of the SPS-6 ($n=196$). Uberaba, MG, Brazil, 2019.

Variables	Mean	Median	Standard deviation	Minimum	Maximum
Finished work (SPS-6)	8.54	8	3.61	3	15
Maintained concentration (SPS-6)	12.82	13	2.55	3	15
Overall score of the SPS-6	21.36	21	4.68	10	30

Table 1 also shows the values obtained separately in each concept contemplated in the referred scale and it can be concluded that the concept of “finished work” (mean=8.54) was more affected by presenteeism than the “maintained concentration” concept (mean=12.82).

The mean presenteeism score was also analyzed separately for the three most robust professional classes, and it was found that physicians had the lowest productivity loss among all professionals in the sample (23.85 points), with nursing technicians and nurses respectively being the second and third (20.91 points; 20.65 points) who showed a smaller reduction in their production when ill.

The presenteeism employees of the Sterilized Materials Center obtained the lowest presenteeism average (18 points) according to the SPS-6, followed by administrative sectors (19.50 points). The day hospital workers obtained the highest average (24.40 points), followed by the children's ward (24.33 points).

Table 2 presents the results of the logistic regression analysis.

TABLE 2: Logistic regression analysis of the prevalence of presenteeism using sociodemographic and occupational variables as predictors (n=196). Uberaba, MG, Brazil, 2019.

Sociodemographic variables	Presenteeism				ORP*(95%CI)†	p-value
	Yes		No			
	n	%	n	%		
Gender						
Female	152	71.7	60	28.3	1.88 (1.06-3.32)	0.03
Male	44	50.6	43	49.4		
Age						
Adult (up to 59 years)	185	67.3	90	32.7	2.31 (0.90-5.89)	0.08
Older adult (60 years or older)	11	45.8	13	54.2		
Number of children						
Have children	146	67	72	33	1.39 (0.78-2.48)	0.264
Don't have children	50	61.7	31	38.3		
Professional category						
Medium/technical level	117	70.9	48	29.1	1.25 (0.72-2.16)	0.433
Higher level	79	59	55	41		
Time in profession						
From 1 to 15 years	133	67.9	63	32.1	0.82 (0.38-1.75)	0.606
16 years or more	63	61.2	40	38.8		
Have another job						
No	162	69.5	71	30.5	1.55 (0.79-3.02)	0.199
Yes	34	51.5	32	48.5		
Function performed						
Direct care	181	65.8	94	34.2	1.29 (0.52-3.23)	0.575
Administrative	15	62.5	9	37.5		
Work regime						
Workers' law consolidation (CLT)	114	71.2	46	28.7	1.62 (0.78-3.36)	0.197
Single Legal System	82	59	57	41		

* ORP: Odds Ratio Prevalence; † 95%CI: Interval with 95% confidence

It was revealed that among health professionals and adjusting or controlling for the other variables, women had 1.88 times greater odds (1.06-3.32, p=0.03) when compared to men to present presenteeism.

Table 3 presents the data related to the evaluation using the Work Ability Index.

Table 3: Frequency of Work Ability Index classification (n=194). Uberaba, MG, Brazil, 2019.

Classification	Work Ability Index	
	n*	%
Low work ability (7 to 27 points)	11	3.7
Moderate work ability (28 to 36 points)	60	20.4
Good work ability (37 to 43 points)	136	46.3
Excellent work ability (44 to 49 points)	87	29.6

*n: Sample number.

It appears that most workers consider their work ability to be good (46.3%) or excellent (29.6%). It is noteworthy that five participants did not respond to the WAI in its entirety, and so these were considered as losses.

The work ability index of health professionals obtained an overall mean score of 39.73 (SD=5.88), with a median of 41, with the score ranging from 10 to 49. The WAI provides a list of 52 diseases which allows the interviewee to mark all the diseases they have according to the following classification: if they have a disease confirmed by medical diagnosis or if it is based on their own opinion. The 10 most prevalent diseases confirmed by medical diagnosis were: Back injury (16.7%); Arm/hand injuries (14.4%); Injuries to the legs/feet (10.3%); Illness of the upper back or neck region, with frequent pain (12.7%); Illness in the lower back with frequent pain (9.0%); Back pain radiating down the leg (sciatica) (8.7%); Arterial hypertension (high blood pressure) (11.7%); Repeated respiratory tract infections (9.0%); Mild emotional disturbance (15.0%); Gastritis or duodenal irritation (9.0%). It is observable that six of these are related to diseases of the musculoskeletal system.

Next, a comparison between statistically significant means was obtained ($p < 0.001$) from the bivariate analysis of the relationship between presenteeism and WAI, since professionals who came to work sick in the last 30 days had a lower WAI mean (38.08 points) than those who had not been ill or who felt the need to be absent in the last 30 days (42.90 points).

Table 4 presents the result of the multiple linear regression analysis with the outcome of the work ability index scores and the predictors.

TABLE 4: Multiple linear regression of the total WAI score and sociodemographic and occupational variables, Uberaba, MG, Brazil, 2019.

Variables	β	P-value
Gender	-0.28	<0.001
Age	-0.09	0.09
Professional position	-0.12	0.03
Time in profession	-0.08	0.31
Have another job	-0.003	0.95
Function performed	-0.06	0.28
Work regime	-0.11	0.15
Presenteeism	-0.35	<0.001

It can be seen that the statistically significant predictors for work ability in descending order of importance were: presenteeism ($\beta = -0.35$, $p < 0.001$), gender ($\beta = -0.28$, $p < 0.001$) and professional category ($\beta = -0.12$, $p = 0.03$). In fact, the analysis indicated that women and workers who perform a mid-level job had lower mean work ability than men and professionals in a higher-level professional category, respectively.

DISCUSSION

Of the professionals who answered the questionnaires, 65.6% presented presenteeism. This corroborates with professionals from Spain, Turkey and Saudi Arabia with presenteeism prevalences of 52.9%, 87.0% and 74.0%, respectively¹⁶⁻¹⁸.

Most health professionals believe that their illness is a consequence of the improper ways in which they carry out their activities and the lack of self-care with their bodies, exempting the company from responsibility for their illness¹. However, several factors are responsible for influencing the decision to go to work or not when sick, such as: remuneration, satisfaction with doing a good job and being recognized for that nature, not wanting to overload co-workers, avoiding accumulation of work resulting from the absence, not feeling bad enough to be absent, believing that they are able to carry out their work even when they are sick, believing that they are irreplaceable, and not knowing the transmission processes of infectious diseases, putting their colleagues and patients at contamination risk^{1,8,18,19}.

The score obtained by completing the SPS-6 showed an overall mean of 21.36 (± 4.7) points, which is equivalent to high presenteeism according to the classification used in the instrument⁵, meaning that the professionals did not have their productivity greatly impaired during sickness period. A study carried out with Spanish professionals from 14 urgent and emergency services reached a score close to that found in this study, obtaining a mean score on the SPS-6 of 19.8

points (± 4.2), with a score ranging from 9 to 30¹⁶. In contrast, a study carried out with the multidisciplinary team of an intensive care unit in the interior of Brazil found an overall mean on the SPS-6 of 14.8 (± 6.8), which means that these professionals had their productivity affected by presenteeism²⁰.

Findings related to organizational commitment and productive behavior are relevant to be mentioned here as a way to understand productivity maintained during illness. Research carried out with Chinese health professionals showed that when workers are satisfied in their jobs, they develop feelings of obligation towards the work institution, the supervisor and their professional colleagues, doing everything to remain productive in their activities in all situations²¹.

The finished work concept was more affected than the maintained concentration concept, making it clear that the health professionals who answered the instrument mostly had more difficulties in carrying out work that depends on physical disposition than on activities that require concentration. A similar result was found in a multidisciplinary team of an intensive care unit²⁰.

In analyzing the SPS-6 score obtained in the three most robust classes, it was possible to observe that physicians were the professionals who had their productivity least affected during the illness. A study conducted with physicians in the United States of America showed that 67.0% of them showed up to work sick just to avoid that their state of illness would be seen as a symptom of laziness or failure²². The competitive environment in which these professionals are inserted where the high ability to work is overvalued can make doctors not accept their illness and continue working and making an effort to produce during a state of illness²².

The Sterilized Materials Center was the sector which had the highest number of professionals working ill, which can be explained by the nature of the work carried out in this environment, as it is a closed environment; although they do not have direct contact with patients, it is considered critical due to the continuous exposure of the professionals to organic fluids, excessive heat and humidity, and chemical substances resulting from chemical and thermal sterilization processes²³.

The WAI score classified health professionals with good and excellent work ability. Similar to this result, a study carried out with nursing professionals showed that they have good (40.91%) and excellent (20.91%)²⁴ work ability, as shown in a systematic review which analyzed work ability in several Brazilian professionals²⁵. The mean WAI was 37.3 (SD=5.63) in nurses from two public hospitals, and when distributing the WAI into categorized groups, most professionals considered their ability to be low (39.7%) and moderate (44.4%)²⁶.

Musculoskeletal diseases were among the main health problems reported by professionals. In line with the findings of this study, another study performed with nurses from a public hospital showed that 55.1% of the professionals interviewed claimed to have at least one musculoskeletal disease^{25,27}; in addition, complaints of musculoskeletal diseases were present in the last year in most of the professionals who had low and good work ability²⁴.

In order to understand the association between professional category and work ability, it is worth mentioning that it has previously been observed that the higher the education level, the greater the chances of finding better work ability²⁵; thus, despite more than half of the participants performed mid-level functions in this study, 71.5% of respondents had higher education. It is inferred that this finding is a consequence of the existence of a career plan in the institution, in which financial progression is achieved through professional qualification.

Worker health teams can also play a key role in this cycle of illness and productivity decline by monitoring the health-disease status of professionals in order to understand in which situations a professional is able to continue working with symptoms of illness without this worsening their future health status and not putting colleagues and patients at risk³.

Study limitations

The limitations of this study are related to the existence of several definitions of presenteeism, as well as the use of different instruments for its measurement. Furthermore, the use of self-completed instruments and during working hours can also cause bias in the results. Another limiting factor is that the study was conducted with health professionals from only one hospital.

CONCLUSION

This study identified high presenteeism prevalence in the health professionals interviewed, showing that workers make efforts, even with their own bodies, to honor the commitment made to the institution and patients, regardless of the difficulties imposed by their illness.

The professionals showed good and excellent work ability despite the high prevalence of illness. The influence of presenteeism on work ability was proven in this study. Thus, it is recommended that the ability to work be evaluated periodically during periodic examinations or even through an active search for professionals, so that prevention and promotion actions can be implemented early with the aim of reducing the occurrence of the presenteeism, and consequently absenteeism.

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