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Nursing: reality of immunization against Hepatitis B in a hospital of the north of Minas Gerais

Enfermagem: realidade da imunização contra Hepatite B de um hospital do norte de Minas Gerais

Enfermería: la realidad de la inmunización contra la Hepatitis B un hospital en el norte de Minas Gerais

Danyela Mercury Soares[1]
Cássio de Almeida Lima[2]
Fernanda Marques da Costa[1,3]
Jair Almeida Carneiro[1,3]

1. Universidade Estadual de Montes Claros. Montes Claros, MG, Brazil.
2. Programa de Pós-Graduação Stricto Senso em Saúde, Sociedade e Ambiente, Universidade Federal dos Vales do Jequitinhonha e Mucuri. Diamantina, MG, Brazil.
3. Faculdades Integradas Pitágoras de Montes Claros. Montes Claros, MG, Brazil.

Abstract

Objective: To assess the prevalence of vaccination and monitoring post-vaccination against hepatitis B immunization Among nursing staff. **Methods:** A cross-sectional study Conducted Among all nursing workers of a university hospital. Statistical Analyzes Were Performed in SPSS version 18.0 software. The association between the verification report of post-vaccination immunity and the independent variables was investigated using bivariate analysis, Followed by multivariate logistic regression analysis by. **Results:** Of the 371 workers, 67.1% did not VERIFY the hepatitis post-vaccination immunity B. The prevalence of found who Those the immunization was greater Among Those Who Have Been vaccinated, the men, Those who participated in training in relation to the worker's health and Among Those Who do not are sedentary. **Conclusion:** Ignorance Contributes to the non-vaccination and for not checking the immunization. It Suggests the need for educational campaigns and prevention of hepatitis B.

Keywords: Hepatitis B; Vaccination; Nursing; Occupational Health.

Resumo

Objetivo: Avaliar a prevalência de vacinação e da verificação da imunização pós-vacinação contra hepatite B entre colaboradores de enfermagem. **Métodos:** Estudo transversal analítico conduzido entre todos os trabalhadores de enfermagem de um hospital universitário. As análises estatísticas foram realizadas no *software SPSS*® versão 18.0. A associação entre o relato de verificação da imunização pós-vacinação e as variáveis independentes foi investigada através de análise bivariada, seguida da análise múltipla por meio da Regressão Logística. **Resultados:** Dos 371 trabalhadores, 67,1% não verificaram a imunização pós-vacinação contra a hepatite B. A prevalência dos que verificaram a imunização foi maior entre os que se vacinaram, os homens, os que participaram de treinamento em relação à saúde do trabalhador e entre aqueles que não são sedentários. **Conclusão:** O não conhecimento contribui para a não vacinação e para a não verificação da imunização. Sugere-se a necessidade de campanhas educativas e a prevenção da hepatite B.

Palavras-chave: Hepatite B; Vacinação; Enfermagem; Saúde do Trabalhador.

Resumen

Objetivo: Evaluar la prevalencia de la inmunización y la verificación posterior a la vacunación contra Hepatitis B entre profesionales de enfermería. **Métodos:** Estudio transversal analítico realizado con el equipo de enfermería de un hospital universitario. El análisis estadístico se concretizó por el *software SPSS*®, versión 18.0. La asociación entre el informe de verificación después de la vacunación y las variables independientes fueron investigadas a través del análisis bivariable, seguido del multivariable, mediante Regresión Logística. **Resultados:** De 371 trabajadores, 67,1% no verificaron la inmunidad después de la vacunación. La prevalencia de los que verificaban fue mayor entre aquellos que han sido inmunizados, los hombres, personas que han participado del ejercicio sobre la relación con la salud del trabajador y entre los no sedentarios. **Conclusión:** La falta de conocimiento contribuye para la no vacunación y por no revisar la inmunización. Se sugiere la necesidad de campañas educativas de prevención contra Hepatitis B.

Palabras clave: Hepatitis B; Inmunización; Enfermería; Salud Laboral.

Corresponding author:
Cássio de Almeida Lima.
E-mail: cassioenf2014@gmail.com

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INTRODUCTION

Hepatitis B is one of the most important diseases for public health in all continents[1]. This is the most repeated form of infectious hepatitis, ranking ninth in the world cause mortality. Approximately 300 million people are chronic carriers of the virus and about 2 million die annually from the disease. In 2010, 6.1 cases were recorded per 100 thousand inhabitants, And 71.8% were detected in people between 20 and 49 years[2]. Generally, 1% to 3% of the population are infected Hepatitis B virus (HBV), so that the Amazon region has one of the highest compared to the other regions, about 5% to 15% of the population are carriers of the virus[1].

Approximately 70% of customers with hepatitis B have anicteric hepatitis or subclinical. The condition may be more serious for customers coinfections other hepatotropic viruses or underlying liver disease. The conserves HBV in the blood during the last stages of a prolonged incubation period of 4 to 26 weeks and during acute episodes of acute and chronic hepatitis[3]. The temerity of HBV infection is linked mainly to the degree of exposure to blood in the workplace and the presence or absence of HBsAg antigen in the patient source[4,5]. Its transmission is given by contact with body fluids, by parenteral, sexual and vertical routes. Still, by vehicles, like blood, and can be spread by contact with semen, saliva, sweat, tears, breast milk and pathological effusions[3].

This is the pathology that affects more people through accidents at work, especially health professionals. The nursing staff is one of the categories subject to exposure to biological material. This is because they maintain greater direct contact during customer support, beyond the influence of the type and frequency of procedures that performs; as procedures involving sharps[2].

With regard to health workers, the transmission depends on the intensity of exposure, the amount of virus, the number of occurrences and type of infectious material. Transmission by needle with contaminated blood, especially evidenced in the act of recapping, is the way to offer the highest risk of contamination. Improper disposal of sharps is responsible for nearly half of occupational exposures[1,6].

Immunization for Hepatitis B is the safest method of preventing the disease. The vaccine presents an efficiency of 85% to 90% in young adults[1]. It is available in basic health services, and its management must be done in three doses, respecting the zero periods, one month and six-month interval in a dose to the other[5]. When performed properly, reduces the risk of morbidity of health professionals by certain infections because the active vaccination is one of the most effective and efficient preventions against vaccine-preventable diseases. It is noteworthy that the knowledge of techniques to prevent transmission of certain infectious diseases such as universal care when handling the client and biological materials, the use of Personal Protective Equipment (PPE) and measures to avoid airborne spread and transmission of certain infectious agents, It is a relevant factor and should precede any clinical practice. Are preventive measures that professionals should take and who are recommended by the Regulatory Standard 32 (NR 32) laying down the basic guidelines for the implementation of security measures and the protection of the health of workers of health services[7-9].

The effectiveness and efficiency of vaccination depends on various aspects, such as age, nutritional status, presence of inflammation and reduction of erythropoietin levels, and low white blood cell activity and T B. A fact worth noting is that the immune response induced by hepatitis B vaccine administered intramuscularly (IM) granted that induced by intradermal injection (ID)[10].

With respect to immunization, this occurs inversely to the age, so that protective antibodies are found in 70% of individuals between 50 and 59 years and 50% of those with more than 60 years. Some pathologies such as kidney failure, diabetes, chronic liver disease, infection by human immunodeficiency virus, smoking and obesity, can negatively influence the effectiveness of the serological test. In a previous study, it was shown that most individuals understand how unnecessary anti-HBs serologic testing. Ideally the realization of seroconversion by all individuals. However, this is of great importance for some risk groups, such as immunocompromised patients and health professionals[2].

About 25% to 40% of individuals who do not receive a response after receiving the three initial doses of vaccine have satisfactory levels, subsequent to administration of an additional dose. And 50% to 70% is responsive to the second three-dose schedule. For immunization of hepatitis B vaccine is considered effective, it is necessary that the concentration of the antibody against the antigen surface (anti-HBs) present an amount equal to or greater than 10 mIU/ml[1]. Thus, it is essential that health workers are properly informed about the need to check immunization after vaccination and that this protective measure is freely available to the employee by the employing institution, as recommended by NR[7].

Verification of post-vaccination immunity consists of a simple procedure that offers security to the health worker. However, the findings, this check is not routine among professionals; and the fact that there is insufficient discussion of the matter justify the purpose of this study. Thus, this study aimed to assess the prevalence of vaccination and monitoring post-vaccination against hepatitis B immunization among nursing staff at a university hospital, as well as its association with sociodemographic and occupational variables, general health and self-care measures.

METHODS

A cross-sectional study, conducted between July and December 2013 among all nursing staff at the University Hospital Clemente de Faria (HUCF) of Montes Claros, Minas Gerais (MG). Workers who reported receiving at least one dose of the vaccine were included. The HUCF is the teaching hospital of the State University of Montes Claros (UNIMONTES). The institution was recognized by the Ministry of Education in 2005 as Teaching Hospital, which is dedicated to research and provides average care and high complexity. It caters to various clinical and surgical specialties and stands out as reference to the north of Minas Gerais and southern Bahia in infectious diseases such as hepatitis B.

The population composed by the nursing staff (nurses, nursing technicians and nursing assistants), totaling a sample of 371 professionals. To calculate the sample size, it was considered a total population of 570 servers nursing field, a conservative prevalence of 50% occurrence of immunization verification event. They were admitted confidence interval of 95% and a sampling error of 3%.

Data were collected through the application of a form previously tested among workers who did not participate in other stages of the research. Interviews occurred at the workplace of participants. The reported vaccination was investigated by the question *"Have you taken the vaccine against hepatitis B? If the answer is YES, how many doses you take?"* Another issue evaluated checking the post-vaccination immunity: *"If you have been vaccinated, it did blood test to see if was immune to hepatitis B? If the answer is YES, what was the result?"*.

The prevalence of workers did not observe the post-vaccination immunity was calculated according to the vaccination characteristics (yes, 3 doses; yes, two doses; yes, 1 dose). The dependent variable was verification of post-vaccination immunity, dichotomous (yes, no) and those who reported not know/do not remember whether you did the screening were included in the category "no".

Independent variables were grouped into: sociodemographic, occupational, general health and health-related behaviors and self-care. For sociodemographic aspects were evaluated sex, age, marital status (with or without partner), schooling in years of study and the monthly income in minimum salaries. Quantitative variables age and monthly income were dichotomized, taking the average as the cutoff point. As for occupational aspects, the following variables were evaluated: the function in the hospital [categorized into three levels: Upper (nurses), technical (nursing technicians and nursing assistants)]; job satisfaction (satisfied or dissatisfied), the length of service and the time in the hospital in months; the work regime (effective or contractor); the weekly working hours; the shift; contact with sharp instruments and biological material in current practice and asked to vaccinate in the hospital. Quantitative variable "profession of time in months" was dichotomized, considering the median as the cutoff point.

As for the behavioral variables, we used the health rating (good or bad), tobacco use (current smoker, non smoker or ex-smoker) and alcohol use, physical activity, vaccination hepatitis B and achievement dichotomized of immunization verification test, condom use (condom use, not using condoms), participates in discussion on vaccine for Hepatitis B and preventive discussion on occupational diseases, both dichotomized, were the health-related behaviors assessed. For evaluation of physical activity, we used the International Physical Activity Questionnaire (IPAQ), analyzed according to the guidelines of Fitness Laboratory Studies Centre Physics of São Caetano do Sul.

Statistical analyzes were performed using software Statistical Package for Social Sciences (SPSS) Version 18.0 for Windows. After descriptive analysis, the association between the reporting of verification of post-vaccination immunity and the independent variables was investigated through bivariate analysis, followed by multivariate analysis by logistic regression, with estimated Odds Ration (OR) crude and adjusted. Included in the multivariate analysis, the variables associated with verification of immunization in the bivariate analysis with $p < 0.20$. It was adopted at the 95% significance level. The final model was adjusted, keeping the variables associated with $p < 0.05$.

The ethical aspects of the research were considered, pursuant to Resolution No. 466/2012 of the National Health Council, which determines regulatory ethical standards for research involving human beings. The research project *Hepatitis B vaccination among nursing professionals of a Teaching Hospital*, which originated This study was approved by the Research Ethics Committee of UNIMONTES and all participants read and signed the Informed Consent and Informed (CEP/UNIMONTES: 2882/2011).

RESULTS

Sociodemographic characteristics of 371 health workers from the setting of this study are shown in Table 1 and are as follows: a Most are female (71.7%); older age than 33 years (52.0%); with a partner (56.9%); education up to 14 years of education (55.5%); monthly income above 2 wages (55.5%).

It was identified with regard to occupational characteristics, the predominance of position of nursing technician (76.0%), most workers show satisfaction with the job (79.5%), 53.4% had up to 8 years time profession and 54.2% up to 4 years working time in the hospital. As for the work regime, 98.4% said to be effective, predominated hours up to 39 hours (67.4%), 50.7% had the day as work shift, 97.0% of workers reported having contact with sharps, and 81.4% of workers reported having They have been invited to vaccinate when entered the hospital (Table 1).

With regard to general health characteristics, 86.8% rated their health as good, 82.2% were absent smoking habits, 50.1% does not drink or never ingested alcohol, 45.8% do not practice

Table 1. Sociodemographic and occupational characteristics of Hospital WorkersClemente de Faria University of Montes Claros, Minas Gerais-2014

Independent variables	Variable levels	
	N	(%)
Sociodemographic Characteristics		
Gender		
Male	105	(28.3)
Female	266	(71.7)
Age		
Less than 33 years	178	(48.0)
Greater than 33 years	193	(52.0)
Marital status		
With companion	211	(56.9)
Without companion	160	(43.1)
Education		
Over 14 years	165	(44.5)
14 years old	206	(55.5)
Monthly Income		
Above 2 salaries	206	(55.5)
Up to 2 salaries	165	(44.5)
Occupational characteristics		
Position		
Nurse	80	(21.6)
Practical Nursing	282	(76.0)
Nursing assistant	9	(2.4)
Job Satisfaction		
Pleased	295	(79.5)
Dissatisfied	76	(20.5)
Time of profession		
Up to 8 years	198	(53.4)
Over 8 years	173	(46.6)
Working time in hospital		
Up to 4 years	201	(54.2)
Over 4 years	170	(45.8)
Employment Status		
Live	365	(98.4)
Contracted	06	(1.6)
Hour		
To 39 hours	250	(67.4)
40 hours or more	121	(32.6)
Work shift		
Day	188	(50.7)
Night	108	(29.1)
Day and Night	75	(20.2)
Contact needlestick		
Yes	360	(97.0)
No	9	(2.4)
Invited to vaccinate in the hospital		
Yes	302	(81.4)
No	69	(18.6)

any physical activity, 73.3% were vaccinated and 67.1% of workers did not undergo the examination of verification of immunization. What about self-care measures, 59.6% of workers do not use condoms, 60.1% did not participate in discussions about vaccine for Hepatitis B and 54.7% did not participate in preventive discussions against occupational diseases (Table 2).

In the bivariate analysis, the variables associated with completion of the vaccine immunization examination for hepatitis B, with $p < 0.05$ were: sex, monthly income, job and workload (Table 3).

In the bivariate analysis, the variables associated with completion of the vaccine immunization examination for Hepatitis B, with $p < 0.05$ were: often practicing physical activity, took vaccine for hepatitis B, participates in discussion on vaccine for hepatitis B and participates in preventive discussion on occupational diseases (Table 4).

Table 5 showing the multiple analysis, notes that the non-verification of post-vaccination immunity was higher among those who were not vaccinated, among women, among those who did not participate in training relating to worker health and among those who are sedentary ($p < 0.05$).

DISCUSSION

Study participants were 371 nursing professionals that corresponds to the response rate of 100%. By analyzing the results, it is clear that most health professionals researched, reported having been vaccinated for hepatitis B (73.9%), whereas only 32.9% reported having performed the test to verify immunization for hepatitis B. In other studies, the data corroborate the findings of this research[3,4,11]. However, not correspond to the standard by the Ministry of Health, under which 100% of health care workers should be vaccinated against hepatitis B[3,4].

Table 2. General health characteristics and self-care measures for workers in the Clemente de Faria University Hospital of Montes Claros, Minas Gerais-2014

Independent variables	Variable levels	
	n	(%)
General health		
Health Rating		
Good	322	(86.8)
Bad	47	(12.7)
Have tobacco habit		
Absent	305	(82.2)
Present	24	(6.5)
Former smoker	13	(3.5)
No information	29	(7.8)
You drink or ingested Alcohol drink		
Do not drink nor drink	186	(50.1)
It is alcohol users	121	(32.6)
Ex alcohol users	25	(6.7)
No information	39	(10.5)
Frequency with which practicing physical activity		
Three times per week	89	(24.0)
Once or twice a week	71	(19.1)
I do not practice	170	(45.8)
No information	41	(11.1)
It was vaccinated Hepatitis B		
Yes	274	(73.9)
No	97	(26.1)
Made immunization verification test		
Yes	122	(32.9)
No	249	(67.1)
Self-care measures		
Condom use		
Use a condom	129	(38.4)
Do not use condoms	221	(59.6)
Participates in discussion on vaccine for Hepatitis B		
Yes	148	(39.9)
No	223	(60.1)
Participates in preventive discussion on occupational diseases		
Yes	168	(45.3)
No	203	(54.7)

In contradiction to the above, one study showed that most professionals did not have the complete vaccination schedule. This can be explained by the lack of the nursing staff of the forms of transmission of hepatitis B, for not knowing the amount of doses recommended by the Ministry of Health to obtain the immunization, in addition to general knowledge of these professionals regarding their own health. Regarding the verification of immunization, the same study found that the majority of the sample did not think necessary to carry out the anti-HBs serologic testing. These factors contribute negatively, making health employees susceptible to hepatitis B[6].

The survey findings indicated that most professionals have been reported vaccinated for hepatitis B, but there was not performed serologic testing. This could be explained by ignorance of the immune status of these professionals, thus representing, indications of risk to disease, in the case of a biological accident, including percutaneous exposures and mucocutaneous[11,12].

According to the World Health Organization (WHO), a way of contributing to the achievement of the goals of reduction of new cases of hepatitis B is the realization of anti-HBs serologic testing. It needs more health care professionals who do not respond to check immunization hepatitis B so that action is taken to increase protective levels of these professionals. In addition, NR 32 stipulates that employers must provide both the vaccine and the anti-HBs test for all servers who wish to be immunized against hepatitis B[12].

The unavailability of the vaccine increases the risk of workers contracting the disease. This is transmitted in different ways, among which is contact with sharps. A survey in a Brazilian private university showed that the perception of nursing students, the hospital environment and the characteristics of the nursing procedures favor the occurrence of accidents, even with good guidance and proper use of PPE. At the same institution, other students in nursing stressed that the presence of body fluids, sharps, the recapping of needles, cramped rooms, inadequate physical structure, cash for disposal of sharps absent or busy, are factors that favor the occurrence of accidents[13]. This study shows that most professionals reported having contact with perfucortante said to be vaccinated for hepatitis B, but had not made the verification of immunization. It can be inferred that adherence to vaccination may be linked to high perception of risk in situations where using PPE or when one considers exposure to biological material[3,13].

In the present study, it was found that the knowledge is key in the verification of immunization, given that those who participated in training on occupational health found more immunization. This fact had already been observed in previous work showing information regarding the biosafety at graduation and the working environment was identified as an important aspect to guide procedures on the need to adopt autoprotetivas measures such

Table 3. Bivariate analysis of results from the completion of the immunization examination of the vaccine against hepatitis B and sociodemographic and occupational variables of nursing professionals Clemente de Faria University Hospital of Montes Claros, Minas Gerais-2014

Independent variables	Verification of Immunization Hepatitis B				
	Yes		No		
	n	(%)	n	(%)	*p*-value
Gender					
Male	46	37.7	59	23.7	0.00
Female	76	62.3	190	76.3	
Age					
Less than 33 years	63	51.6	115	46.2	0.32
Greater than 34 years	59	48.4	134	53.8	
Marital status					
With companion	64	52.5	147	59	0.22
Without companion	58	47.5	102	41	
Education					
Over 14 years	56	45.9	109	43.8	0.69
14 years old	66	54.1	140	56.2	
Monthly Income					
Above 2 salaries	79	64.8	127	51	0.00
Up to 2 salaries	43	35.2	122	49	
Position					
Nurse	35	28.7	45	18.1	0.05
Nursing technician	85	69.7	197	79.1	
Nursing assistant	2	1.6	7	2.8	
Job Satisfaction					
Pleased	95	77.9	200	80.3	0.58
Dissatisfied	27	22.1	49	19.7	
Time of profession					
Up to 8 years	66	54.1	132	53	0.84
Over 8 years	56	45.9	117	47	
Working time in hospital					
Up to 4 years	59	48.4	142	57	0.07
Over 4 years	63	51.6	107	43.0	
Employment Status					
Live	120	98.4	245	98.4	0.98
Contracted	2	1.6	4	1.6	
Hour					
To 39 hours	75	61.5	175	70.3	0.05
40 hours or more	47	38.5	74	29.7	
Work shift					
Day	58	47.5	130	52.2	0.33

Continued Table 3.

Independent variables	Verification of Immunization Hepatitis B				
	Yes		No		
	n	(%)	n	(%)	*p*-value
Night	34	27.9	74	29.7	
Day and night	30	24.6	45	18.1	
Direct contact with needlestick					
Yes	118	96.7	242	98	0.46
You can't	4	3.3	5	2.0	
Invited to vaccinate in the hospital					
Yes	101	82.8	201	80.7	0.37
You can't	21	17.2	48	19.3	

Table 4. Bivariate analysis of the results from the realization of the vaccine immunization examination for hepatitis B and general health variables and self-care measures of nursing professionals Clemente de Faria University Hospital of Montes Claros, Minas Gerais-2014

Independent variables	Verification of Immunization Hepatitis B				
	Yes		No		
	n	(%)	n	(%)	*p*-value
Health Rating					
Good	104	86.7	218	87.6	0.46
Bad	16	13.3	31	12.4	
Have tobacco habit					
Absent	98	80.3	207	83.1	0.43
Smoker or ex-smoker	24	19.7	42	16.9	
You drink alcohol					
Do not drink alcohol	58	47.5	128	51.4	0.78
Is alcohol user	64	52.5	121	48.6	
Frequency of practicing physical activity					
Active	43	35.2	46	18.5	0.00
Sedentary	79	64.8	203	81.5	
Vaccinated for Hepatitis B					
Yes	107	87.7	167	67.1	0.00
No	15	12.3	82	32.9	
Condom use					
Use a condom	45	38.5	84	36.1	0.37
Do not use condoms	72	61.5	149	63.9	
Participates in discussion on vaccine for Hepatitis B					
Yes	61	50.0	87	34.9	0.00
No	61	50.0	162	65.1	
Participates in preventive against discussion occupational diseases					
Yes	67	54.9	101	40.6	0.00
No	55	45.1	148	59.4	

Table 5. Adjusted model of factors associated with verification of post-vaccination immunity for hepatitis B among workers in the HUCF nursing staff. Claros, Minas Gerais Montes, 2014

Independent variables	Adjusted OR	95%	*p*-value
Hepatitis B vaccinated			
Yes	1		
No	3.08	1.62 to 5.86	0.00
Gender			
Male	1		
Female	1.64	1.06 to 2.79	0.04
Occupational health training			
Yes	1		
You can't	1.61	1.09 to 2.62	0.05
Physical activity			
Actives	1		
Sedentary	1.77	1.08 to 2.89	0.02

as vaccination. Additionally, this same study revealed that, from the perspective of students, higher education institutions play an important role in guiding future professionals regarding vaccination in the fight against vaccine-preventable diseases of relevance to employees of health[13], Similar to that seen in research conducted in nursing schools in Turkey[14].

Given this reality, the effective implementation of permanent/continuing education institutions is suggested both teaching and work, in addition to performing campaigns, courses, training and lectures for scholars and professionals. It is also recommended to provide professional knowledge of the customer's disease, encourage the use of PPE charge of the institution responsible commitment, open spaces of discussions between professionals keep current employees, raise awareness about risk management and require suitable material of the institution[12,13].

According to studies, the low level of education among healthcare workers may be related to low knowledge and consequently, a smaller percentage of vaccination and testing of serologic testing, making these less protected workers. This finding corroborates with this study, which showed that 56.2% of professionals under 14 years of study not checking immunization. A survey conducted in a hospital in Aracaju, Sergipe, which analyzed the knowledge about the transmission of HBV and degree of immunization of health care workers noted a relationship between occupational groups with higher levels of education and greater extension immunized. The data demonstrate the interference of socio-cultural factors in the acquisition of knowledge depicting the preventive actions against hepatitis[11]. In another study, conducted in Montes Claros, it was shown that 37% of dentists exposed the need for more information. It is noteworthy that such professionals reported not being vaccinated or incomplete vaccination for Hepatitis B[10]. This data shows that lack of knowledge is a reality experienced in other professional classes, not just in nursing[3,11].

The results of this study also indicate that among the interviewed employees, the younger population, represented by the professionals aged up to 33 years, found most frequently immunization compared with the population over 34 years, although the data did remained in the final model. A study conducted in Montes Claros, Minas Gerais, found that the prevalence of vaccination for hepatitis B, as well as the verification of immunization was higher among younger professionals who participated in refresher course, suggesting that younger employees possibly obtained greater access to information. Moreover, this group benefited from the availability of the vaccine for Hepatitis B by the Ministry of Health, in 1995. Such associations may reflect differences in the knowledge of these employees on the professional protective measures, including vaccination and verification of the serological test[5].

The socio-demographic profile presented by the subjects of this research authenticates the findings of other studies, which demonstrated the predominance of women (71.7%) among nursing professionals. However, verification of immunization was higher among men[8]. Contrary to the finding of the study, a survey of dentists in the city of Montes Claros, Brazil, showed an increased prevalence in women[10]. Such evidence was also found in another study that showed higher immunization check rates in women[1]. In a survey conducted among 597 healthcare professionals in India, post-vaccination immunization was more common among women, and of these 96% have become autoimmune diseases, while only 85% of men have become immune. Furthermore, smoking was significantly associated with

unsatisfactory response, and the appearance of protective levels of anti HBs (greater than 10mUI/L) did not occur in 7 smoking professionals, even after the booster dose[15].

For decades, the focus the prudence of health workers is only summarized The service delivery and customer care. The professional not worried with their health in the workplace[3,11].

Among the professional classes, the nursing staff is a major occupational categories prone to exposure to biological materials, since there is a great handling of these materials by that group and also often neglect their own health. This fact is not only related to direct assistance to clients but also to the type and tenacity of procedures performed. The risk of transmission of HBV in health care workers are about three to five times higher than in the rest of the population[6,13]. It is noteworthy that health care workers are among the main risk groups for HBV infection in Poland, since the infection was identified in 16.4% of the nursing staff[16].

Through the data, although it was found that the verification of immunization was higher among professionals who practice physical activity, which may be related to the provision for self-care, ie who adopt best practice in relation to health, tends to do it into all areas, including adhering to immunization against hepatitis B. We can see that we need to discuss this theme parallel to others that encourage self-care and improving the lives of individuals, including the prevention of smoking, alcohol use, of sedentary lifestyle, among others. In addition to preventing HBV infection, vaccination also aims to eliminate the group of chronic carriers, which restricts transmission to susceptible individuals and contributes to the eradicates tion of infection[10].

CONCLUSION

The study showed that although high, there is unsatisfactory prevalence of vaccination against hepatitis B and a high number of nursing workers who did not undergo serologic testing to verify that they were immune after vaccination. Professionals who are not vaccinated, women, those who have not attended training in relation to workers' health and those who are sedentary are the group of participants who require special attention because no verification of post-vaccination immunity was higher among them.

The ignorance the subject, as well as their relevance to health, contributes to not check the immunization. In addition, the study showed that the verification of immunization was higher among those who have been vaccinated with three doses among men and among those who practice physical activity. It suggests the need for educational campaigns about the transmission of hepatitis B and its prevention, in order to increase vaccination coverage. It is also important to sensitize health workers about the importance of vaccination, and its verification of immunization.

Possible limitations of this study relate to its retrospective character, in addition to the impossibility of evaluating other aspects and potential contributions to the non-operation of the immunization verification test, such as the unavailability of vaccination card in the monitoring server health service. It should be noted also the fact limited to one hospital, even though regional reference. However, such limitations did not compromise the achievement of objectives, considering the rigor to the methodology of collection and analysis of results. As implications for practice based on this research, one can propose the need for qualified health professionals for proper vaccination against hepatitis B, as well as carrying out the serological test, which provides greater vaccination coverage and immunity to these workers.

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