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ORIGINALES

Sequence of dressing and undressing by nursing professionals during the covid-19 pandemic: a cross-sectional study

Paramentação e desparamentação de profissionais de enfermagem durante a pandemia por covid-19: estudo transversal

Proceso de vestirse y desvestirse de los profesionales de enfermería durante la pandemia de covid-19: estudio transversal

Ludmila Albano de Felice Gomes[1]
Jéssica Fernanda Corrêa Cordeiro[2]
Daniella Corrêa Cordeiro[1]
Tatiana Areas da Cruz[3]
Denise de Andrade[4]
André Pereira dos Santos[5]

[1] Graduanda em Licenciatura e Bacharelado pela Escola de Enfermagem de Ribeirão Preto. Universidade de São Paulo (USP). Brasil. ludmiladefelice@usp.br
[2] Doutoranda pelo programa Enfermagem Fundamental e Especialista em Enfermagem do Trabalho pela EERP/USP. Universidade de São Paulo. Brasil.
[3] Graduação em Enfermagem pela Universidade de Ribeirão Preto (UNAERP) e membro do Núcleo de Estudos de Prevenção e Controle de Infecção nos Serviços de Saúde (NEPECISS) da EERP/USP. Universidade de São Paulo. Brasil
[4] Doutorado em Enfermagem Fundamental pelo Programa de Enfermagem Fundamental e Professora Associada do Departamento de Enfermagem Geral e Especializada da EERP/USP. Brasil.
[5] Doutorado em Programa Interunidades de Doutoramento em Enfermagem pela EERP/USP e Mestrado em Clínica Médica pela Faculdade de Medicina de Ribeirão Preto (FMRP). Universidade de São Paulo. Brasil.

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ABSTRACT:

Introduction: During the covid-19 pandemic, safety protocols were implemented that contributed to the protection of patients and nursing professionals.

Objective: To evaluate the knowledge about the sequence of dressing and undressing by nursing professionals who worked in assistance during the covid-19 pandemic and to verify the association between this knowledge and sociodemographic and performance characteristics of nursing professionals.

Method: Cross-sectional study, carried out from November 2020 to December 2021 with nursing professionals working in care in the five regions of Brazil. The questionnaire was developed considering the Technical Note GVIMS/GGTES/ANVISA No. 04/2020. It has 10 questions, ranging from 0 to 10 points. The cutoff point ≥ 75 points and < 74 points was established to indicate sufficient knowledge and

insufficient knowledge. Data collection was performed using Google forms®, using different social networks.
Results: Of the 493 nursing professionals, 157 were aged between 30 and 39 years, 374 were female, and 358 worked as nurses. In terms of knowledge about the dressing and undressing sequence, 370 had sufficient knowledge and 123 had insufficient knowledge. There was no association between knowledge about dressing and undressing with sociodemographic characteristics and professional performance.
Conclusion: Nursing professionals demonstrated adequate knowledge about dressing and undressing and there was no association between knowledge and characterization of the participants.

Keywords: Universal Precautions; Nursing Team; Coronavirus Infections; Occupational Risks; Occupational Health.

RESUMO:

Introdução: Durante a pandemia por covid-19 foram implementados de protocolos de segurança que contribuiram para a proteção de pacientes e profissionais de enfermagem.
Objetivo: Avaliar o conhecimento sobre a sequência da paramentação e desparamentação por profissionais de enfermagem que atuaram na assistência durante a pandemia por covid-19 e verificar a associação entre esse conhecimento e características sociodemográficas e de atuação dos profissionais de enfermagem.
Método: Estudo transversal, realizado de novembro de 2020 a dezembro de 2021 com profissionais de enfermagem atuantes na assistência nas cinco regiões do Brasil. O questionário foi desenvolvido considerando a Nota Técnica GVIMS/GGTES/ANVISA Nº 04/2020. E conta com 10 questões, variando de 0 a 10 pontos. Foi estabelecido o ponto de corte ≥ 75 pontos e < 74 pontos para indicar conhecimento suficiente e conhecimento insuficiente, respectivamente. A coleta de dados foi realizada pelo *Google forms*®, utilizando diferentes redes sociais.
Resultados: Dos 493 profissionais de enfermagem, 157 tinham idade entre 30 a 39 anos, 374 eram do sexo feminino, e 358 atuavam como enfermeiros. Em termos de conhecimento sobre a sequência de paramentação e desparamentação, 370 apresentaram conhecimento suficiente e 123 conhecimento insuficiente. Não teve associação entre o conhecimento sobre paramentação e desparamentação com as características sociodemográficas e de atuação dos profissionais.
Conclusão: Os profissionais de enfermagem demonstraram conhecimento adequado sobre a paramentação e desparamentação e não houve associação entre o conhecimento e a caracterização dos participantes.

Palavras-chave: Precauções Universais; Equipe de Enfermagem; Infecções por Coronavirus; Risco Ocupacional; Saúde do Trabalhador

RESUMEN:

Introducción: Durante la pandemia del covid-19 se implementaron protocolos de seguridad que contribuyeron a la protección de pacientes y profesionales de enfermería.
Objetivo: Evaluar el conocimiento sobre el proceso de vestirse y desvertirse de los profesionales de enfermería que actuaron en la asistencia durante la pandemia de covid-19 y verificar la asociación entre ese conocimiento y las características sociodemográficas y de desempeño de los profesionales de enfermería.
Método: Estudio transversal, realizado de noviembre de 2020 a diciembre de 2021 con profesionales de enfermería que actúan en el cuidado en las cinco regiones de Brasil. El cuestionario fue desarrollado considerando la Nota Técnica GVIMS/GGTES/ANVISA N° 04/2020. Consta de 10 preguntas, que van de 0 a 10 puntos. Se estableció el punto de corte ≥ 75 puntos y < 74 puntos para indicar conocimiento suficiente y conocimiento insuficiente, respectivamente. La recolección de datos se realizó mediante formularios de Google®, utilizando diferentes redes sociales.
Resultados: De los 493 profesionales de enfermería, 157 tenían entre 30 y 39 años, 374 eran del sexo femenino y 358 trabajaban como enfermeros. En cuanto al conocimiento sobre el processo de vestirse y desvestirse, 370 tenían conocimiento suficiente y 123 conocimiento insuficiente. No hubo asociación entre el conocimiento sobre el proceso de vestirse y quitarse con características sociodemográficas y desempeño profesional.
Conclusión: Los profesionales de enfermería demostraron conocimientos adecuados sobre el proceso de vestirse y desvestirse y no hubo asociación entre conocimiento y caracterización de los participantes.

Palabras clave: Precauciones Universales; Grupo de Enfermería; Infecciones por Coronavirus; Riesgos Laborales; Salud Laboral.

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INTRODUCTION

COVID-19 is a respiratory disease caused by SARS-CoV-2, a highly infective virus that is transmitted by the respiratory route (secretions, droplets or aerosols) and by direct or indirect contact, causing mild to severe respiratory disease. In more severe cases, there is respiratory discomfort, such as shortness of breath and pain, which can lead to death[1]. Due to respiratory insufficiency, a greater use of mechanical ventilation and the admission of patients with severe conditions to ICUs (Intensive Care Units)[2] were observed. On March 11, 2020, during a speech given by the director general of the World Health Organization, the impacts and global proportions of COVID-19 were characterized as a pandemic[3]. Until May 5, 2022, there were, in the world, 512,607,587 confirmed cases and 6,243,038 deaths reported, with Brazil, in the same period, being the third country with the most confirmed cases (30,460,997) and 663,602 deaths[4].

During the pandemic, it was necessary to adopt safety protocols that would guarantee the protection of health professionals and patients, considering the form of transmission of the disease. The pandemic period was characterized by new discoveries and shortages of Personal Protective Equipment (PPE)[5,6]. The nursing team was more exposed for also acting in direct assistance in the Intensive Care Unit (ICU), as well as in potentially aerosol-generating procedures, such as intubation, tracheostomy and bronchoscopy[7]. It is worth remembering that nurses are competent to aspirate secretions through the tracheal tube. This procedure assists in the Mechanical Ventilation (MV) of patients who depend on artificial respiration to perform gas exchange[8]. During the pandemic, aspiration was changed to a closed and vacuum system in order to reduce contamination by aerosols[9]. In Brazil, of the 63,836 thousand accumulated cases of COVID-19 in nursing professionals, 872 died, and the mortality rate among these professionals is 2.33%[10]. Positive impacts on the knowledge of safety protocols by nursing professionals are observed. The risk of infection between professionals and patients is reduced when there is compliance with safety protocols[6,11,12]. Hand washing, social distancing, environmental hygiene (objects and surfaces), as well as favoring air circulation, sun exposure and correct use of PPE, were very important strategies for reducing infection by covid-19[7, 13,14].

The dressing and undressing of PPE is an essential safety protocol for reducing the transmission and speed of contamination of SARS-CoV-2[14]. It is noteworthy that the nursing team was in evidence during the pandemic period, as it is a protagonist in strategies to reduce the transmission of the virus[11]. It should be noted that wearing PPE must follow the sequence of dressing and undressing and be performed before and after contact with the patient[7]. It should take place in a separate, ventilated place, with the correct cleaning of the equipment, in addition to being reinforced in situations of greater risk of infection, such as in procedures that generate aerosols, to guarantee the safety of the health professional[15].

It was possible to observe in the literature challenges for its realization, since nursing professionals, when dressed correctly, feel more discomfort, pain and difficulty in performing routine procedures to maintain the patient's condition. This is because there were significant changes in the sequence to reduce the risk of infection within the treatment centers[9]. Additionally, another difficulty found is that the sequence presents complex, repetitive movements that require an essential condition: the availability of PPE[16]. Therefore, this study is justified considering the need to evaluate the knowledge of nursing professionals about the sequence of dressing and undressing, in order to also contribute to the post-pandemic period. Deepening knowledge about safety protocols – which contribute to good management of the nursing team – is and will be an essential tool for controlling and overcoming future health crises[6,12,17].

In this sense, the objectives of this study are: a) To assess knowledge about the sequence of dressing and undressing by nursing professionals who worked in care during the covid-19 pandemic in the five regions of Brazil; b) Verify the association between knowledge about dressing and undressing and sociodemographic and occupational variables of the participants.

MATERIALS AND METHODS

Cross-sectional observational study: data collected at a given point in time, testing a given hypothesis[18]. The study followed the *Reporting of Observational Studies in Epidemiology* (STROBE) checklist for its presentation. This research was approved by the Ethics and Research Committee of the University of São Paulo at Ribeirão Preto School of Nursing (CEP-EERP/USP), in accordance with CAAE n° 38623520.6.0000.5393, and followed the guidelines that regulate research involving Human Beings, in accordance with Resolution CNS 466/12 of the National Health Council.

The sample consisted of nursing professionals (assistants, nursing technicians and nurses) working in nursing care in five different regions of Brazil (South, Southeast, Midwest, North and Northeast). The recruitment and data collection of the participants took place between November 2020 and December 2021 and was carried out online using the social networks Facebook®, Instagram®, Linkedin® and WhatsApp®. The researcher made weekly posts on social networks, sent invitations to participate, identified himself and presented details of the research, making a brief report of the objectives, risks and contributions to the performance of nursing practice. The sample size was defined by convenience, being the maximum number of participants who agreed to participate in the research within the 13 months of recruitment. The inclusion criteria for participation in this research were: Nursing professionals aged ≥ 18 years, who provide assistance in different places of work. The exclusion criterion was the decline of the Nursing professional to participate in the study. The free tool Google forms® was used by the researcher, where a planned form was created so that all mandatory questions were answered. To answer the questionnaires, the participants informed their e-mail, avoiding duplicate answers.

Participants were asked to provide sociodemographic information (sex, age, level of education and profession) and occupational information (type and nature of the institution where they work, and length of time performing nursing services). In

addition, they were asked to answer the questionnaire to evaluate the dressing and undressing of the Nursing professionals who worked in the assistance, built for this study, considering the information contained in the Technical Note GVIMS/GGTES/ANVISA No. 04/2020. Initially, the researchers designed a pilot version of the questionnaire based on the research objectives of the study. Then, the questionnaire was sent to a committee of judges, composed of three nursing professionals, who were familiar with the research objectives of the study. For each question, the expert answered "I strongly disagree", or "I disagree" or "Indifferent/neutral", or "I agree" or "I strongly agree". In addition, it was necessary to answer the question: "Do you suggest any changes to this question?". Each answer was analyzed by the study researchers, and when two or more experts marked the same alternative, it was accepted by the researchers. The suggestion of some changes to the question was also taken into account. This approach is consistent with recommended approaches for establishing the content validity of questionnaire surveys[19, 20]. The content of the questions refers to the type of mask that should be used during the service, the type of precaution, whether or not there is a need for distancing, hand hygiene, as well as the description of the sequence for dressing and undressing PPE. The validated instrument is titled “SUPPLEMENTAL DOCUMENT” and can be found attached at the end of this file.

The questionnaire has 10 objective questions, on a Likert scale, ranging from 0 to 10 points, with five possible answers: I totally agree; I agree; indifferent/neutral; I disagree; and I totally disagree. Each possibility adds up to 10, 7.5, 5, 2.5 and 0 points, respectively. The closer the result obtained by the participant to the maximum score (100 points), it indicates that the nursing professional has adequate knowledge of the recommendations proposed by Anvisa during the COVID-19 pandemic. Arbitrarily for this study, the cutoff point ≥ 75 points and < 74 points were established to indicate sufficient knowledge (SK) and insufficient knowledge (IK), respectively.

The results were verified from the Google Forms® response item, analyzed using descriptive statistics and presented through absolute and relative frequency. Pearson's chi-square test (X^2) was used to verify the association between sex (male and female), age group (18 to 24; 25 to 29; 30 to 39; 40 to 49; 50 to 59), level of education (complete Elementary School; High School or complete secondary education; Higher Education; Graduate), profession (Nurse; Nursing technician; Nursing assistant), in how many workplaces you work in nursing, type of institution (General ; University; District; Emergency Room; Long Stay Institution; Basic Health Unit; Home care; Obstetrics; Pediatrics; Surgical Clinic; Ambulatory), nature of the institution (public; private, public and private), and time of performance in the services of nursing (years), and professionals who scored ≥ 75 points for knowledge about dressing and undressing. All analysis was performed using SPSS version 23, with a significance level set at α = 5%.

RESULTS

Of the 493 nursing professionals, 157 (31.8%) were aged between 30 and 39 years, 374 (75.9%) were female, 358 (72.6%) worked as nurses, 392 (79.4%) worked in a workplace, with 219 (44.3%) in a general institution, with a predominance of 245 (49.6%) of a private nature **(table 1)**.

Table 1 – Distribution of research participants (total and by region) according to sociodemographic and occupational variables. Brazil, 2020-2021.

Variables	Total (493) n (%)	South (25) n (%)	Southeast (398) n (%)	Midwest (28) n (%)	North (41) n (%)	North East (37) n (%)
Sex						
Feminine	374 (75.8)	20 (80)	297 (74.6)	22 (78.6)	39 (60)	32 (86.5)
Masculine	119 (24.2)	5 (20)	101 (25.4)	6 (21.4)	2 (40)	5 (13.5)
Age grouping (years)						
18 to 24	105 (21.3)	7 (28)	89 (22.4)	3 (10.7)	1 (20)	5 (13,5)
25 to 29	109 (22.2)	5 (20)	82 (20.6)	10 (35.7)	0	12 (32.4)
30 to 39	157 (31.8)	7 (28)	127 (31.9)	11 (39.3)	1 (20)	11 (29.7)
40 to 49	100 (20.2)	5 (20)	85 (21.4)	3 (10.7)	2 (40)	5 (13.5)
50 to 59	22 (4.5)	1 (4)	15 (3.8)	1 (3.6)	1 (20)	4 (10.8)
Education level						
Elementary School, 3rd Cycle of Basic Education (9th year)	2 (0.4)	0	2 (0.5)	0	0	0
High School or Secondary School	94 (19)	12 (48)	71 (17.8)	3 (10.7)	2 (40)	6 (1.2)
Higher Education, Bachelor's or Bachelor's Degree	148 (30)	3 (12)	128 (32.2)	7 (25)	1 (20)	9 (24.3)
Postgraduate, Masters or Doctorate	249 (50.4)	10 (40)	197 (49.5)	18 (64.3)	2 (40)	22 (59.5)
Profession						
Nurse	358 (72.5)	10 (40)	291 (73.1)	24 (85.7)	2 (40)	31 (83.8)
Nursing technician	110 (22.3)	15 (60)	82 (20.6)	4 (14.3)	3 (60)	6 (16.2)
Nursing assistant	25 (5.4)	0	25 (6.3)	0	0	0
How many workplaces does nursing work in?						
1	392 (79.4)	20 (80)	318 (79.9)	22 (78.6)	5 (100)	27 (73)
2	81 (16.4)	4 (16)	66 (16.6)	5 (17.9)	0	6 (16.2)
3	20 (4)	1 (4)	14 (3.5)	1 (3.6)	0	4 (10.8)
Type of Institution						
General	219 (44.3)	7 (28)	180 (45.2)	10 (35.7)	3 (60)	19 (51.4)
University	44 (8,9)	2 (8)	38 (9.5)	0	0	4 (10.8)
District	3 (0,6)	0	2 (0.5)	1(3,6)	0	0
Emergency Room	45 (9,1)	1 (4)	40 (10.1)	2 (7.1)	0	2 (5.4)
Long Stay Institution	24 (4,9)	2 (8)	18 (4.5)	2 (7.1)	0	2 (5.4)

Basic Health Unit	29 (5.9)	4 (16)	16(4)	2 (7.1)	1 (20)	6 (16.2)
Home Care	47 (9.5)	49 (16)	34 (8.5)	6 (21.4)	1 (20)	2 (5.4)
Obstetrics	11 (2.2)	3	6 (1.5)	1 (3.6)	0	1 (2.7)
Pediatrics	14 (2.8)	2	9 (2.3)	2 (7.1)	0	1 (2.7)
Surgical Clinic	25 (5.1)	0	24 (6)	1 (3.6)	0	0
Ambulatory	32 (6.5)	0	31 (7.8)	1 (3.6)	0	0
Nature of the institution						
Public	195 (39.5)	9 (36)	156 (39.2)	8 (28.6)	3 (60)	19 (51.4)
Private	245 (49.6)	9 (36)	204 (51.3)	17 (60.7)	2 (40)	13 (35.1)
Public, Private	53 (10.7)	7 (28)	38 (9.5)	3 (10.7)	0	5 (13.5)
How long have you been performing nursing services? (years)						
< 1	118 (23.9)	1 (4)	95 (23.9)	9 (32.1)	1 (20)	12 (32.4)
Entre 1 a 2	75 (15.2)	4 (16)	61 (15.3)	4 (14.3)	0	6 (16.2)
Entre 3 a 4	60 (12.1)	6 (24)	44 (11.1)	7 (25)	0	3 (8.1)
Entre 5 a 6	34 (6.9)	2 (8)	29 (7.3)	0	0	3 (8.1)
Entre 7 a 8	34 (6.9)	2 (8)	27 (6.8)	3 (10.7)	0	2 (5.4)
Entre 9 a 10	43 (8.7)	1 (4)	38 (9.5)	2 (7.1)	0	1 (2.7)
Entre 11 a 15	45 (9.1)	5 (20)	35 (8.8)	1 (3.6)	1 (20)	3 (8.1)
Entre 16 a 20	42 (8.5)	3 (12)	36 (9)	0	2 (40)	1 (2.7)
Entre 21 a 30	40 (8.1)	1 (4)	31 (7.8)	2 (7.1)	0	6 (16.2)
≤ 31	2 (0.4)	0	2 (0.4)	0	0	0

In **table 2**, we observe the total and regional data of the evaluation of knowledge about dressing and undressing of Nursing professionals. For a better interpretation of the results, they will be described according to the stage/theme of each question present in the questionnaire.

Mask use in patient care: a total of 340 (68.97%) professionals use surgical masks, N95/PFF2 or equivalent for the correct purposes. However, there are professionals who do not agree with the statements in questions 1, 3 and 5. This is because 49 (9.9%) disagree (n=34) and completely disagree (n=15) that one should use surgical mask in patient care and N95/PFF2 for potentially aerosol-generating procedures. In addition, 17 (3.4%) professionals consider the fabric mask to be PPE for health care.

Precautions: regarding distancing, one of the droplet precaution measures, 69 (13.9%) professionals disagree (n=58) and completely disagree (n=11) that it is necessary to avoid direct contact of less than 1 m with the patients. Additionally, 48 (9.7%) do not follow standard precautions when providing patient care.

Dressing and undressing sequence: regarding the dressing sequence in question 9, 379 (76.8%) demonstrated knowledge about its steps, however, 78 (15.8%) did not perform the dressing sequence correctly. As for the sequence of undressing PPE, referring to question 6, 194 (39.35%) professionals do not follow the observation contained in technical note ANVISA nº 04/2020. In terms of knowledge about dressing and undressing, most had SK, with a score ≥75. From a regional perspective, proportionally, the Northeast had the highest frequency of CS (83.78%), followed by the Midwest (75%), Southeast (74.87%), South (64%), and North (60%).

Table 2 – Assessment of nursing professionals' knowledge about dressing and undressing (total and by region). Brazil, 2020-2021.

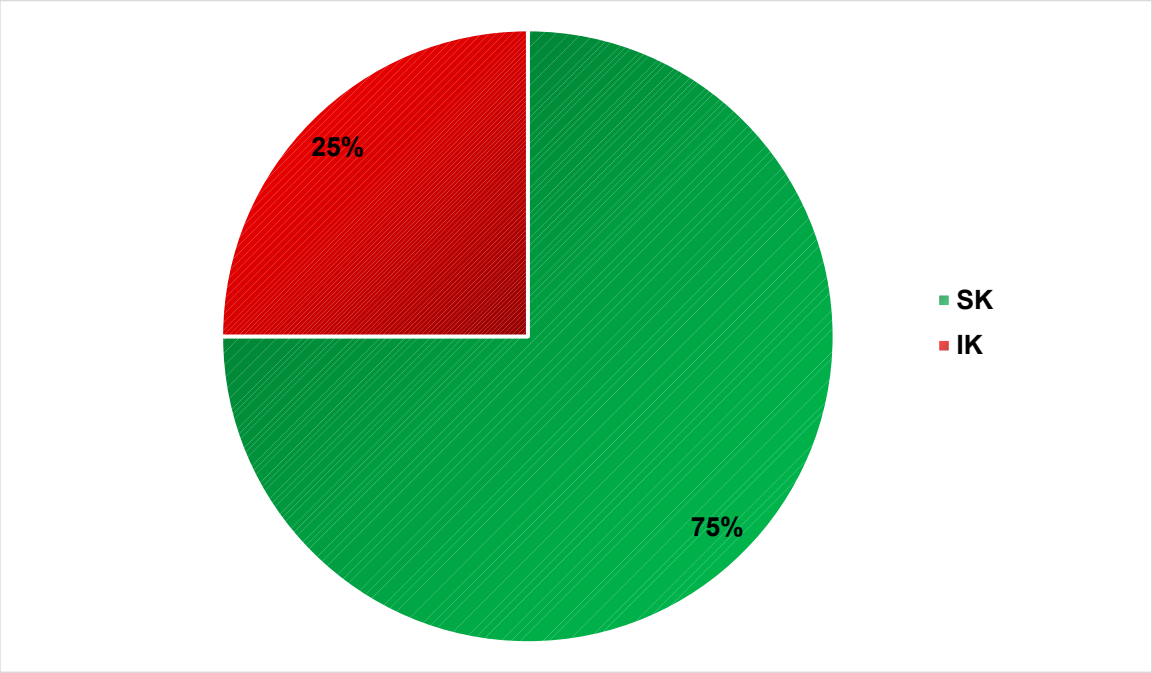
Question	Variables	Total n (%)	South n (%)	Southeast n (%)	Midwest n (%)	North n (%)	North East n (%)
1) The health professional, during the covid-19 pandemic, must wear a surgical mask (during assistance or direct contact less than 1 meter from patients) or N95/PFF2 mask or equivalent (during potentially generating procedures of aerosols).	I totally agree	340 (68,97)	16 (64)	275 (69,1)	22 (78,6)	24 (64,9)	3 (60)
	I agree	99 (20,08)	6 (24)	77 (19,3)	4 (14,3)	10 (27)	2 (40)
	Indifferent/ Neutral	5 (1,01)	0	3 (0,8)	1 (3,6)	1 (2,7)	0
	I disagree	34 (6,90)	2 (8)	30 (7,5)	1 (3,6)	1 (2,7)	0
	I totally disagree	15 (3,04)	1 (4)	13 (3,3)	0	1 (2,7)	0
2) After the health professional leaves a room, ward or isolation area, for sequential care of another patient with suspected or confirmed SARS-CoV-2 infection, there is no need (if in good condition) to change a cap, goggles or face shield and mask. He should only change apron and gloves, in addition to performing hand hygiene.	I totally agree	143 (29,01)	5 (20)	120 (30,2)	(25)	9 (24,3)	2 (40)
	I agree	137 (27,79)	4 (16)	110 (27,6)	7 (25)	15 (40,5)	1 (20)
	Indifferent/ Neutral	19 (3,85)	4 (16)	13 (3,3)	1 (3,6)	1 (2,7)	0
	I disagree	103 (20,89)	8 (32)	80 (20,1)	7 (25)	7 (18,9)	1 (20)
	I totally disagree	91 (18,46)	4 (16)	75 (18,8)	6 (21,4)	5 (13,5)	1 (20)
3) All healthcare professionals must wear face masks (surgical or N95/PFF2 or equivalent) for personal protection and source control. This is because, the use of face masks (surgical or N95/PFF2 or equivalent) is one of the preventive measures to limit the spread of respiratory diseases, including SARS-CoV-2.	I totally agree	378 (76,67)	20 (80)	306 (76,9)	23 (82,1)	25 (67,6)	4 (80)
	I agree	101 (20,49)	5 (20)	82 (20,6)	3 (10,7)	10 (27)	1 (20)
	Indifferent/ Neutral	7 (1,42)	0	4 (1)	1 (3,6)	2 (5,4)	0
	I disagree	6 (1,22)	0	6 (1,5)	0	0	0

	I totally disagree	1 (0,20)	0	0	1 (3,6)	0	0
	I totally agree	206 (41,78)	9 (36)	166 (41,7)	12 (42,9)	17 (45,9)	2 (40)
	I agree	169 (34,28)	10 (40)	138 (34,7)	11 (39,3)	8 (21,6)	2 (40)
4) Whenever possible, avoid direct contact (less than 1 meter) with patients suspected or diagnosed with covid-19, to reduce the risk of transmission of SARS-CoV-2.	Indifferent/ Neutral	49 (9,94)	2 (8)	40 (10,1)	2 (7,1)	5 (13,5)	0
	I disagree	58 (11,76)	4 (16)	43 (10,8)	3 (10,7)	7 (18,9)	1 (20)
	I totally disagree	11 (2,23)	0	11 (2,8)	0	0	0
	I totally agree	389 (78,90)	17 (68)	310 (77,9)	26 (92,9)	32 (86,5)	4 (80)
	I agree	80 (16,23)	6 (24)	66 (16,6)	2 (7,1)	5 (13,5)	1 (20)
5) The fabric mask is NOT Personal Protective Equipment (PPE) for use by healthcare professionals.	Indifferent/ Neutral	7 (1,42)	1 (4)	6 (1,5)	0	0	0
	I disagree	10 (2,03)	0	10 (2,5)	0	0	0
	I totally disagree	7 (1,42)	1 (4)	6 (1,5)	0	0	0
	I totally agree	330 (66,9)	19 (76)	264 (66,3)	22 (78,6)	20 (54,1)	5 (100)
6) After performing the procedure and before leaving the ward, box or isolation area to assist the patient with suspected or symptomatic COVID-19, gloves and dirty apron/cloak must be removed and disposed of as infectious waste.	I agree	112 (22,72)	6 (24)	90 (22,6)	4 (14,3)	12 (32,4)	0
	Indifferent/ Neutral	16 (3,25)	0	14 (3,5)	0	2 (5,4)	0
	I disagree	27 (5,48)	0	24 (6%)	1 (3,6)	2 (5,4)	0
	I totally disagree	8 (1,62)	0	6 (1,5%)	1 (3,6)	1 (2,7)	0
7) When providing nursing care to patients with COVID-19, standard precautions should be adopted (which should be implemented by all health services) and, in addition, droplet, contact and aerosol precautions.	I totally agree	318 (64,50)	19 (76)	249 (62,6)	18 (63,3)	28 (75,7)	4 (80)
	I agree	120 (24,34)	6 (24)	98 (24,6)	6 (21,4)	9 (24,3)	1 (20)
	Indifferent/ Neutral	7 (1,42)	0	5 (1,3)	2 (7,1)	0	0

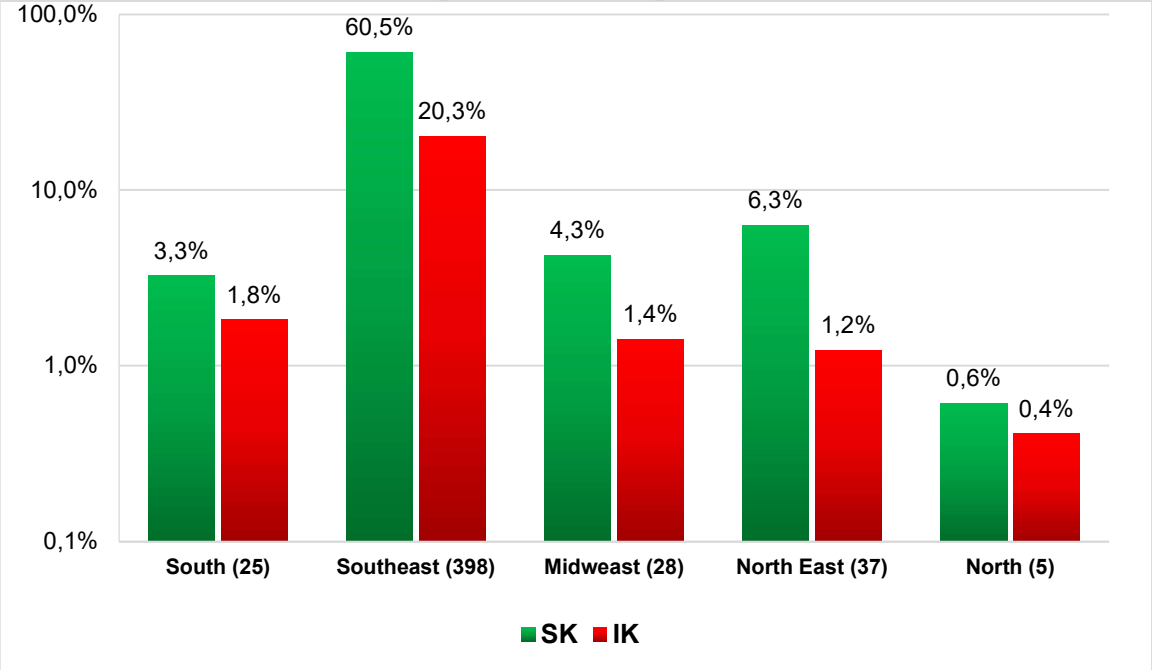
	I disagree	27 (5,48)	0	25 (6,3)	2 (7,1)	0	0
	I totally disagree	21 (4,26)	0	21 (5,3)	0	0	0
8) According to the technical note (GVIMS/GGTES/ANVISA No. 04/2020), in sequence of dressing, the following sequence is recommended: 1° Sanitize your hands; 2° Put on the Apron; 3° Put on the N95/PFF2 Mask; 4° Put on a hat; 5° Put on the Glasses; 6° Put on the Face Protector; 7° Sanitize your hands; 8° Put on the Gloves; 9° The cap placed after the mask allows for greater protection of the elastics of the N95 mask	I totally agree	266 (53,96)	15 (60)	213 (53,5)	15 (53,6)	20 (54,1)	3 (60)
	I agree	172 (34,89)	10 (40)	139 (34,9)	10 (35,7)	11 (29,7)	2 (40)
	Indifferent/ Neutral	24 (4,87)	0	19 (4,8)	2 (7,1)	3 (8,1)	0
	I disagree	25 (5,07)	0	22 (5,5)	1 (3,6)	2 (5,4)	0
	I totally disagree	6 (1,22)	0	5 (1,3)	0	1 (2,7)	0
9) Regarding the correct use of the respiratory protection mask (type N95. N99. N100. PFF2 or PFF3), the health professional must carry out a risk assessment, through visual protection, considering the conditions of the mask to decide whether it will be used, reused or discarded. The masks indicated for use must be clean, intact and dry. If you observe that the mask can be reused (prolonged use by the same professional), gloves must be put on before holding the external part. In case of a new mask, you must hold the shell-shaped external part and bring it close to the nose and mouth. In both situations, the health professional must direct the mask elastics to the back of the head, one at a time, in addition to molding the nose support and performing the sealing test of the respiratory protection mask. In order to minimize the risk of contamination of the mask by droplets, the use of a face shield is indicated.	I totally agree	195 (39,55)	8 (32)	159 (39,9)	11 (39,3)	17 (45,9)	0
	I agree	184 (37,32)	8 (32)	157 (39,4)	9 (32,1)	7 (18,9)	3 (60)
	Indifferent/ Neutral	36 (7,30)	4 (16)	24 (6)	1 (3,6)	7 (18,9)	0
	I disagree	68 (13,79)	5 (20)	50 (12,6)	6 (21,4)	5 (13,5)	2 (40)
	I totally disagree	10 (2,03)	0	8 (2)	1 (3,6)	1 (2,7)	0
10) According to the technical note (GVIMS/GGTES/ANVISA No. 04/2020), in the Undressing of protective gloves, the following sequence is recommended: 1. Do not leave the patient's room with gloves on; 2. Remove the gloves by pulling the first one by the outside of the wrist with the fingers of the opposite hand; 3. Hold the removed glove with the other gloved hand; 4. Touch the inside of the wrist of the	I totally agree	230 (46,6)	11 (44)	193 (48,5)	11 (39,3)	14 (37,8)	1 (20)
	I agree	184 (37,32)	9 (36)	150 (37,7)	8 (28,6)	15 (40,5)	2 (40)
	Indifferent/ Neutral	24 (4,87)	3 (12)	18 (4,5)	1 (3,6)	2 (5,4)	0

gloved hand with the opposite index finger (without gloves) and remove the other glove; 5. Discard the glove in infectious waste; 6. Clean your hands with 70% alcohol for 20 - 30 seconds, as the use of gloves does not replace hand hygiene.	I disagree	44 (8,92)	2 (8)	29 (7,3)	5 (17,9)	6 (16,2)	2 (40)
	I totally disagree	11 (2,23)	0	8 (2)	3 (10,7)	0	0

Graph 1: Sufficient (SK) and insufficient (IK) knowledge about dressing and undressing in the total sample (n=493)



Graph 2: Sufficient (SK) and insufficient (IK) knowledge about dressing and undressing in the five regions of Brazil



The Chi-square Test (X^2) indicated that there is no association between the CS of dressing and undressing, and variables such as sex, age, education, profession, which workplaces, institution, nature of the institution and how long they have worked in the nursing services, in the total sample and by regions ($p>0.05$).

DISCUSSION

In the literature, it is observed that most health professionals working in the care of patients affected by covid-19 are female[21]. Our finding confirmed that the profile of nursing professionals also has a predominance of females, aged less than 50 years and mostly nurses[22,23].

Although most of the professionals who participated in the study had adequate knowledge about the use of masks, 49 (9.9%) of the participants did not know which mask was suitable for potentially aerosol-generating procedures. In addition, 17 (3.4%) consider the fabric mask to be PPE in the context of health care. The use of an N95 mask or equivalent is essential for reducing contamination, as it not only protects from droplets like commonly used masks (fabric or surgical), but also protects from smaller particles (aerosols), in addition to being better adjustable, contributing to sealing[24]. In view of this, it can be stated that the use of fabric masks by health professionals is inappropriate, in addition to providing a greater risk of contamination due to the penetration capacity of SARS-CoV-2.

As for the precautions to be taken in health care, 48 (9.7%) demonstrated that they did not know the need to continue standard precautions, in addition to droplet precautions. During any health care, in addition to standard precautions (such as hand hygiene), precautions for contact, droplets and aerosols should be taken[25]. Therefore, nursing professionals who have discontinued standard precautions in the workplace because they are carrying out droplet precautions may be more exposed to contamination by covid-19, as they fail to carry out important steps in dressing and undressing.

Regarding the sequence of dressing, 78 (15.8%) participants are unaware of the sequence described in questions 8 and 9 as correct. This implies a greater risk for these professionals because they fail to perform some or all of the gowning steps. It was found in the literature that health professionals who work in places considered to be at low risk of contamination (such as general wards or in primary care) have less access to dressing and undressing training[26]. Considering this gap, the present study evaluated the knowledge of nursing professionals working in any type of institution during the covid-19 pandemic. This means that we consider that nursing professionals who have a lower risk of contamination, due to their occupational condition, should also know and be evaluated regarding the stages of dressing and undressing, since asymptomatic and pre-symptomatic people can also transmit SARS-CoV- 2[27].

As for the disposal of PPE - one of the stages of the undressing sequence - it is observed that the pandemic scenario was characterized by a lack of inputs and high demands[24,28]. Therefore, attention should be paid to the 194 (39.35%) nursing professionals who are unaware of the observation in the technical note from ANVISA nº 04/2020, which appears in question 2. This observation is important because it explains how the professional's conduct should be during undressing in the context of follow-up assistance to suspected or symptomatic patients for covid-19. She details

that there is no need to change a cap, glasses/face shield and mask, only an apron and gloves in the context described[24]. In view of this, one should consider the possibility that these 194 nursing professionals who responded to the questionnaire would waste PPE, as they could discard these items unnecessarily (cap, glasses/face shield and mask). One of the solutions for the waste of PPE is its good management[28]. This also depends on the professionals' knowledge of dressing and undressing according to the risk assessment, made by the team, of each health care. The lack of PPE is related to the low adherence of professionals to health protocols[29]. Inadequate dressing of PPE, in addition to contributing to a greater risk of contamination, also contributes to the depletion of these supplies[30]. Furthermore, reducing the unnecessary use and disposal of PPE can reduce financial costs and environmental impacts[31]. Therefore, knowledge about safety protocols is essential, especially in a scenario of high demands and stock limitations, such as the COVID-19 pandemic.

There are side effects related to wearing PPE and they can range from facial pain, difficulty breathing, headaches, overheating and dehydration, which contributes to greater discomfort and irritability during consultations[26]. It is worth remembering that the more advanced the level of attire, the greater the chances of the appearance of skin lesions and itching[21].

No association was found between the sociodemographic and occupational variables of nursing professionals and the percentage of knowledge about dressing and undressing. Although the sample is not representative, it should be noted that the scope of the research was nationwide, allowing a regional analysis of the profile and conduct of the nursing team as a whole. In addition, the knowledge assessment included nursing professionals working in all types of institutions, which differed from most studies that focus on hospitals, covid-19 posts and ICUs. One of the limitations of the study refers to the marital status of the participants. This is because there is an association of low adherence to safety protocols in single/separated/divorced health professionals[30]. Furthermore, it should be considered that due to the need to collect data at a distance, there is a possibility that participants have accessed manuals and references to answer the questions correctly, which may compromise the veracity of the answers.

CONCLUSIONS

The present study was able to assess the knowledge about dressing and undressing of nursing professionals working in health care during the covid-19 pandemic in all regions of Brazil. Although we did not find an association between the level of knowledge and variables (sociodemographic and occupational), it was possible to identify and develop the possible impacts of the participants' conduct, such as: a higher risk of exposure to the new coronavirus and waste of PPE. Most participants achieved adequate scores and knowledge. Attention should be paid to the training gap, especially those aimed at nursing professionals working in institutions considered to have low risk of infection. Therefore, assessing the knowledge of nursing professionals can contribute to better training and management of future crises.

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REFERENCES

1. World Health Organization. Coronavirus disease (COVID-19) [Internet]. World Health Organization. 2022. [acesso em 07 jun. 2022]. Dísponivel em: https://www.who.int/health-topics/coronavirus#tab=tab_1
2. Guan W, Ni Z, Hu Y, Liang W, Ou C, He J, et al. Clinical Characteristics of Coronavirus Disease 2019 in China [Internet]. New England Journal of Medicine. 2020 Feb 28;382(18). [acesso em: 07 jun. 2022]. Disponível em: https://www.nejm.org/doi/10.1056/NEJMoa2002032
3. Who. WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020. World Health Organization. 2020 [acesso em: 29 jun. 2022]. Disponível em: https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020
4. Who Coronavirus Disease (COVID-19) Dashboard [Internet]. Who.int. 2020. [acesso em: 05 maio 2022]. Disponível em: https://covid19.who.int/.WHO
5. Catania G, Zanini M, Hayter M, Timmins F, Dasso N, Ottonello G, et al. Lessons from Italian front-line nurses' experiences during the COVID-19 pandemic: A qualitative descriptive study. Journal of Nursing Management [Internet]. 2020 Nov [acesso 27 abr. 2022] 15;29(3). Disponível em: https://onlinelibrary.wiley.com/doi/full/10.1111/jonm.13194.
6. Luo C. Management of a Nursing Unit in a Temporary COVID-19 Specialized Hospital in Wuhan, China. Disaster Medicine and Public Health Preparedness [Internet]. 2020 Oct 12;1–15[acesso em: 27 abr. 2022]. Disponível em: https://www.cambridge.org/core/journals/disaster-medicine-and-public-health-preparedness/article/management-of-a-nursing-unit-in-a-temporary-covid19-specialized-hospital-in-wuhan-china/90845EAD4C5F8C7B330168FAADAE6115.
7. Millar RC. Nursing a patient with Covid-19 infection. Tasman Medical Journal [Internet]. 2020 Feb [acesso 27 abr. 2022]25;1(1). Disponível em: https://journal-ebnp.com/2020/02/25/nursing-a-patient-with-covid-19-infection
8. Martins JD, Maestri E, Dogenski D, Nascimento ER, Silva RM, Gama FO. Necessidade de aspiração de secreção endotraqueal: critérios utilizados por uma equipe de enfermagem de uma unidade de terapia intensiva. Ciência, Cuidado e Saúde [Internet]. 18 mar 2009 [acesso 28 abr. 2022];7(4). Disponível em: https://doi.org/10.4025/cienccuidsaude.v7i4.6660
9. De Souza TM, Lopes GD. Assistência de enfermagem em terapia intensiva ao paciente com Covid 19: um relato de experiência. Revista Eletrônica Acervo Enfermagem [Internet]. 29 jan 2021 [citado 27 maio 2022];9:e6118. Disponível em: https://doi.org/10.25248/reaenf.e6118.2021
10. COFEN. COFEN - Observatório da Enfermagem [Internet]. COFEN - Observatório da Enfermagem; [acesso 29 jun 2022]. Disponível em: http://observatoriodaenfermagem.cofen.gov.br
11. CHEN SC, LAI YH, TSAY SL. Nursing Perspectives on the Impacts of COVID-19. Journal of Nursing Research [Internet]. 11 maio 2020 [citado 25 abr 2022];28(3):85. Disponível em: https://doi.org/10.1097/jnr.0000000000000389
12. Lee J, Cho HS, Shin SR. Nursing strategies for the post-COVID-19 era. International Nursing Review [Internet]. 6 jan 2021 [acesso 27 abr 2022];68(2):149-52. Disponível em: https://doi.org/10.1111/inr.12653
13. Fawaz M, Anshasi H, Samaha A. Nurses at the Front Line of COVID-19: Roles, Responsibilities, Risks, and Rights. The American Journal of Tropical Medicine and

Hygiene [Internet]. 7 out 2020 [acesso 27 abr 2022];103(4):1341-2. Disponível em: https://doi.org/10.4269/ajtmh.20-0650
14. Garcia LP. Uso de máscara facial para limitar a transmissão da COVID-19. Epidemiologia e Serviços de Saúde [Internet]. Maio 2020 [acesso 28 mar 2022];29(2). Disponível em: https://doi.org/10.5123/s1679-49742020000200021
15. Levra S, Veljkovic A, Comune M, Bernardi V, Sandri A, Indellicati D. Bronchoscopy in times of COVID-19 pandemic: An interventional pulmonology unit experience. Respiratory Medicine and Research [Internet]. Nov 2021 [acesso 27 maio 2022];80:100830. Disponível em: https://doi.org/10.1016/j.resmer.2021.100830
16. Machado WC, Figueiredo NM, Brasil SD, Quaresma MD, Bittencourt LP, Tonini T, Silva PS. COVID-19 nos movimentos de paramentação de vestir-se e desvestir-se dos enfermeiros: nightingale, a pioneira, tinha razão! Research, Society and Development [Internet]. 9 jun 2020 [acesso 27 fev 2022];9(7):741974731. Disponível em: https://doi.org/10.33448/rsd-v9i7.4731
17. Silva AB, Menezes HF, Silva HL, Fonseca MC, D'Eça Junior A, Silva RA. VALIDATION OF A BOOKLET FOR THE CORRECT USE OF PERSONAL PROTECTIVE EQUIPMENT IN THE CONTEXT OF COVID-19. Texto & Contexto - Enfermagem [Internet]. 2021 [acesso 5 jun 2022];30. Disponível em: https://doi.org/10.1590/1980-265x-tce-2020-0561
18. Thomas JR, Nelson JK, Silverman SJ. Métodos de pesquisa em atividade física: Artmed Editora; 2009.
19. Pasquali L. Psicometria. Revista da Escola de Enfermagem da USP. 2009;43:992-9
20. Pasquali L. Teoria dos testes na psicologia e na educação. Editora Vozes Limitada. 2017
21. Pei S, Xue Y, Zhao S, Alexander N, Mohamad G, Chen X, Yin M. Occupational skin conditions on the front line: a survey among 484 Chinese healthcare professionals caring for Covid-19 patients. Journal of the European Academy of Dermatology and Venereology [Internet]. 8 jun 2020 [acesso 10 jun 2022];34(8). Disponível em: https://doi.org/10.1111/jdv.16570
22. Gomes MP, Barbosa DJ, Gomes AM, Souza FB, Paula GS, Espírito Santo CC. Perfil dos profissionais de enfermagem que estão atuando durante a pandemia do novo coronavírus / Profile of nursing professionals working during the new coronavirus pandemic. Journal of Nursing and Health [Internet]. 21 set 2020 [acesso 30 mar 2022];10(4). Disponível em: https://doi.org/10.15210/jonah.v10i4.18921
23. Silva MA, Lima MC, Dourado CA, Pinho CM, Andrade MS. Nursing professionals' biosafety in confronting COVID-19. Revista Brasileira de Enfermagem [Internet]. 2022 [acesso 25 abr 2022];75(suppl 1). Disponível em: https://doi.org/10.1590/0034-7167-2020-1104
24. Cdc. Centers for Disease Control and Prevention [Internet]. Healthcare workers; 2019 [acesso 10 jun 2022]. Disponível em: https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirator-use-faq.html#Respirators
25. Anvisa. IFF/Fiocruz Portal de Boas Práticas em Saúde da Mulher, da Criança e do Adolescente - Conteúdo para profissionais de saúde, voltado para prática clínica e baseado em evidências científicas [Internet]. COVID-19 nota técnica nº 04/2020; 2020 [acesso 10 jun 2022]. Disponível em: https://portaldeboaspraticas.iff.fiocruz.br/biblioteca/nota-tecnica-no-04-2020/.
26. Hoernke K, Djellouli N, Andrews L, Lewis-Jackson S, Manby L, Martin S, Vanderslott S, Vindrola-Padros C. Frontline healthcare workers' experiences with personal protective equipment during the COVID-19 pandemic in the UK: a rapid

qualitative appraisal. BMJ Open [Internet]. Jan 2021 [acesso 10 jun 2022];11(1):046199. Disponível em: https://doi.org/10.1136/bmjopen-2020-046199
27. Rothe C, Schunk M, Sothmann P, Bretzel G, Froeschl G, Wallrauch C, Zimmer T, Thiel V, Janke C, Guggemos W, Seilmaier M, Drosten C, Vollmar P, Zwirglmaier K, Zange S, Wölfel R, Hoelscher M. Transmission of 2019-nCoV Infection from an Asymptomatic Contact in Germany. New England Journal of Medicine [Internet]. 5 mar 2020 [acesso 10 jun 2022];382(10):970-1. Disponível em: https://doi.org/10.1056/nejmc2001468
28. Rowan NJ, Laffey JG. Challenges and solutions for addressing critical shortage of supply chain for personal and protective equipment (PPE) arising from Coronavirus disease (COVID19) pandemic – Case study from the Republic of Ireland. Science of The Total Environment [Internet]. Jul 2020 [acesso 10 jun 2022];725:138532. Disponível em: https://doi.org/10.1016/j.scitotenv.2020.138532
29. Ashinyo ME, Dubik SD, Duti V, Amegah KE, Ashinyo A, Asare BA, Ackon AA, Akoriyea SK, Kuma-Aboagye P. Infection prevention and control compliance among exposed healthcare workers in COVID-19 treatment centers in Ghana: A descriptive cross-sectional study. PLOS ONE [Internet]. 9 mar 2021 [acesso 05 out 2022];16(3):e0248282. Disponível em: https://doi.org/10.1371/journal.pone.0248282
30. Arora P, Sardana K, Sinha S. Real-world assessment, relevance, and problems in use of personal protective equipment in clinical dermatology practice in a COVID referral tertiary hospital. Journal of Cosmetic Dermatology [Internet]. 17 out 2020 [acesso 10 jun 2022];19(12):3189-98. Disponível em: https://doi.org/10.1111/jocd.13736
31. Sheehan JR, Lyons B, Holt F. The use of Lean Methodology to reduce personal protective equipment wastage in children undergoing congenital cardiac surgery, during the COVID-19 pandemic. Pediatric Anesthesia [Internet]. 20 dez 2020 [acesso 10 jun 2022]. Disponível em: https://doi.org/10.1111/pan.14102

SUPLLEMENT DOCUMENT

About the instrument: the validated questionnaire entitled **"Knowledge about dressing and undressing of Nursing Professionals who work in care during the covid-19 pandemic"**, was constructed considering the information contained in Technical Note GVIMS/GGTES/ANVISA No. 04/2020. This questionnaire has 10 questions on a Likert-type scale, ranging from 0 to 10 points, so that for each answer "totally agree", "agree", "indifferent/neutral", "disagree" and "totally disagree" add up to up 10, 7.5, 5, 2.5 and 0 points, respectively. The closer the result obtained by the participant to the maximum score (100 points), it indicates that the nursing professional has adequate knowledge of the recommendations proposed by Anvisa during the covid-19 pandemic.

Questions:

1) The health professional, during the covid-19 pandemic, must wear a surgical mask (during assistance or direct contact less than 1 meter from patients) or N95/PFF2 mask or equivalent (during potentially generating procedures of aerosols).

( ) I totally disagree ( ) I disagree ( ) Indifferent/neutral ( ) I agree
( ) I totally agree

2) After the health professional leaves a room, ward or isolation area, for sequential care of another patient with suspected or confirmed SARS-CoV-2 infection, there is no need (if in good condition) to change a cap, goggles or face shield and mask. He should only change apron and gloves, in addition to performing hand hygiene.

( ) I totally disagree ( ) I disagree ( ) Indifferent/neutral ( ) I agree
( ) I totally agree

3) All healthcare professionals must wear face masks (surgical or N95/PFF2 or equivalent) for personal protection and source control. This is because, the use of face masks (surgical or N95/PFF2 or equivalent) is one of the preventive measures to limit the spread of respiratory diseases, including SARS-CoV-2.

( ) I totally disagree ( ) I disagree ( ) Indifferent/neutral ( ) I agree
( ) I totally agree

4) Whenever possible, avoid direct contact (less than 1 meter) with patients suspected or diagnosed with covid-19, to reduce the risk of transmission of SARS-CoV-2.

( ) I totally disagree ( ) I disagree ( ) Indifferent/neutral ( ) I agree
( ) I totally agree

5) The fabric mask is NOT Personal Protective Equipment (PPE) for use by healthcare professionals.

( ) I totally disagree ( ) I disagree ( ) Indifferent/neutral ( ) I agree
( ) I totally agree

6) After performing the procedure and before leaving the ward, box or isolation area to assist the patient with suspected or symptomatic COVID-19, gloves and dirty apron/cloak must be removed and disposed of as infectious waste.

( ) I totally disagree ( ) I disagree ( ) Indifferent/neutral ( ) I agree
( ) I totally agree

7) When providing nursing care to patients with COVID-19, standard precautions should be adopted (which should be implemented by all health services) and, in addition, droplet, contact and aerosol precautions.

( ) I totally disagree ( ) I disagree ( ) Indifferent/neutral ( ) I agree
( ) I totally agree

8) According to the technical note (GVIMS/GGTES/ANVISA No. 04/2020), in the Dressing, the following sequence is recommended:
1° Sanitize your hands;
2° Put on the Apron;
3° Put on the N95/PFF2 Mask;
4° Put on a hat;
5° Put on the Glasses;
6° Put on the Face Protector;
7° Sanitize your hands;
8° Put on the Gloves;
9° The cap placed after the mask allows for greater protection of the elastics of the N95 mask;
( ) I totally disagree ( ) I disagree ( ) Indifferent/neutral ( ) I agree
( ) I totally agree

9) Regarding the correct use of the respiratory protection mask (type N95. N99. N100. PFF2 or PFF3), the health professional must carry out a risk assessment, through visual protection, considering the conditions of the mask to decide whether it will be used, reused or discarded. The masks indicated for use must be clean, intact and dry. If you observe that the mask can be reused (prolonged use by the same professional), gloves must be put on before holding the external part. In case of a new mask, you must hold the shell-shaped external part and bring it close to the nose and mouth. In both situations, the health professional must direct the mask elastics to the back of the head, one at a time, in addition to molding the nose support and performing the sealing test of the respiratory protection mask. In order to minimize the risk of contamination of the mask by droplets, the use of a face shield is indicated.
( ) I totally disagree ( ) I disagree ( ) Indifferent/neutral ( ) I agree
( ) I totally agree

10) According to the technical note (GVIMS/GGTES/ANVISA No. 04/2020), in the Undressing of protective gloves, the following sequence is recommended:
1. Do not leave the patient's room with gloves on;
2. Remove the gloves by pulling the first one by the outside of the wrist with the fingers of the opposite hand;
3. Hold the removed glove with the other gloved hand;
4. Touch the inside of the wrist of the gloved hand with the opposite index finger (without gloves) and remove the other glove;
5. Discard the glove in infectious waste;
6. Clean your hands with 70% alcohol for 20 - 30 seconds, as the use of gloves does not replace hand hygiene.

( ) I totally disagree ( ) I disagree ( ) Indifferent/neutral ( ) I agree
( ) I totally agree

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