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Vaccination against influenza in the face of COVID-19: teaching-service integration for training in nursing and health

Vacinação contra influenza no enfrentamento da COVID-19: integração ensino-serviço para formação em enfermagem e saúde

Vacunación contra influenza en el enfrentamiento de la COVID-19: integración enseñanza-servicio para formación en enfermería y salud

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Abstract

Objective: to describe the experience of teaching-service integration during the first stage of the 22nd Brazilian National Influenza Vaccination Campaign in the emergence of COVID-19. **Method:** this is an experience report on the partnership of a nursing course from one of the higher education institutions in Ribeirão Preto-SP, Brazil, with Primary Health Care services in that campaign, from March to April 2020. **Results:** this partnership mobilized several volunteers to implement 35 vaccination stations, including a drive-thru. In this first stage, 91,697 doses of the immunobiological agent were applied to older adults, from a total of 98,189, which corresponded to 83.3%, a value very close to the 90% vaccination coverage expected for this population group. With the partnership, the total number of doses applied to older adults at the end of the 22nd campaign in the city exceeded the average of the last five years by 42.6%. **Conclusion and implications for practice:** this percentage is attributed to the collective and multiprofessional work and the social commitment of the institutions involved with protection of health, preservation of life and strengthening of the Unified Health System.

Keywords: Influenza vaccines; Nursing; Coronavirus infections; Primary health care; Higher education institutions.

Resumo

Objetivo: descrever a experiência de integração ensino-serviço durante a primeira etapa da 22ª Campanha Nacional de Vacinação contra a Influenza na emergência da COVID-19. **Método:** relato de experiência sobre a parceria de um curso de enfermagem de uma das instituições de ensino superior de Ribeirão Preto-SP, Brasil, com serviços da Atenção Primária à Saúde na referida campanha, no período de março a abril de 2020. **Resultados:** essa parceria mobilizou diversos voluntários para implementar 35 postos volantes de vacinação, incluindo um *drive-thru*. Nessa primeira etapa, foram aplicadas 91.697 doses do imunobiológico em idosos, de um total de 98.189, que correspondeu a 83,3%, valor muito próximo da cobertura vacinal de 90% esperada para esse grupo populacional. Com a parceria, o número total de doses aplicadas em idosos ao final da 22ª campanha, na cidade, superou em 42,6% a média dos últimos cinco anos. **Conclusão e implicações para a prática:** atribui-se esse percentual ao trabalho coletivo e multiprofissional e ao compromisso social das instituições envolvidas com a proteção da saúde, a preservação da vida e o fortalecimento do Sistema Único de Saúde.

Palavras-chave: Vacinas Contra Influenza; Enfermagem; Infecções por Coronavírus; Atenção Primária à Saúde; Instituições de Ensino Superior.

Resumen

Objetivo: describir la experiencia de integración enseñanza-servicio durante la primera etapa de la 22ª Campaña Nacional de Vacunación contra el Influenza en la emergencia de la covid-19. **Método:** un relato de experiencia de la asociación de un curso de enfermería de una institución de enseñanza superior de Ribeirão Preto-SP, Brasil con servicios de la atención primaria a la salud en la referida campaña, en el período de marzo a abril de 2020. **Resultados:** esta asociación movilizó a varios voluntarios para implementar 35 estaciones de vacunación, incluyendo un *drive-thru*. En esa primera etapa, fueron aplicadas 91.697 dosis del inmunobiológico en ancianos, de un total de 98.189, que correspondió a 83,3%, valor muy próximo de la cobertura vacunal de 90% esperada para ese grupo poblacional. Con la asociación, el número total de dosis aplicadas en ancianos al final de la 22a campaña en la ciudad superó en 42,6% el promedio de los últimos cinco años. **Conclusión e implicaciones para la práctica:** este porcentaje se atribuye al trabajo colectivo e interprofesional y al compromiso social de las instituciones involucradas con la protección de la salud, la preservación de la vida y el fortalecimiento del Sistema Único de Salud.

Palabras clave: Vacunas contra influenza; Enfermería; Infecciones por coronavírus; Atención primaria de salud; Instituciones de enseñanza superior.

INTRODUCTION

The teaching-service integration for health training is a way to promote student learning in the context of the health system and the society in which we live. Transposing physical barriers in classrooms and introducing students into different professional practice scenarios are strategies to identify and understand the complex, diverse and real needs of health services, families, people, and communities. Health education must be committed to teaching-learning, with the construction of professional identity, production of contextualized care and resolution of health services.[1]

In the context of Primary Health Care (PHC), the academic production of knowledge in health-disease-care takes into account the social determinations that affect the way of being and living of people in the territories that are assigned. This aspect also interferes with the development of nurses' and team members' duties, and can help public health management to respond more effectively to different demands in specific health scenarios.[1]

In the current COVID-19 pandemic context, this integration can be a tool to expand one of the collective actions developed by APS with the population, the annual vaccination against seasonal flu; the clinical manifestations and complications of this flu are very similar to those caused by COVID-19, and both may require intensive care.[2] Thus, infection by the influenza-causing virus can delay the diagnosis by the coronavirus and potentially contribute to its spread.

Seasonal flu is an acute respiratory infection of high prevalence, transmissibility and lethality, especially in older adults and people with chronic diseases,[3] and annual vaccination is the most effective measure to reduce the number of cases, complications and hospitalizations.[4] Among the various types of influenza vaccines, the one used in Brazil in 2020 was the combined, fragmented and inactivated trivalent, consisting of strains of a virus similar to the cause of influenza H1N1, H3N2 and B/Victoria strain.[5]

Given the relevance of seasonal flu before the COVID-19 pandemic, the Ministry of Health anticipated the holding of the 22nd Influenza Vaccination Campaign across the country. This governmental decision aimed to curb the circulation of the flu-causing virus, concurrently with that of COVID-19, as a way to protect at-risk groups, reduce the number of hospitalizations and thereby reduce the impact on health services.[6] This action, added to non-pharmacological measures, is part of a set of global development interventions of individual, environmental and community scope to mitigate morbidity and mortality from seasonal and pandemic respiratory infections.[7]

Since the public health emergency declaration made by the World Health Organization and the notification of the first case of COVID-19 in the city of São Paulo in late February 2020, the Municipal Health Department of Ribeirão Preto (MHD/RP) created the COVID-19 Technical Contingency Committee. This committee, made up of health professionals, managers and technicians from the Departments of Attention to People's Health and Health Surveillance, aimed to develop a contingency plan for coping with the disease in the city.[8]

This document established the implementation of individual and collective sanitary measures to contain the progress of the disease according to the different epidemiological scenarios, based on national and state contingency plans, being updated according to scientific advances and the evolution of national and international disease transmission. Among the measures, those related to health care in PHC stand out, focusing on level 1 of alert: team guidance and training; survey of human and material resources, in addition to the elaboration of protocols and care flows in health units,[8] for which the early development of the 22nd National Influenza Vaccination Campaign was included.

Considering the emerging social and health implications of COVID-19, MHD/RP, through Epidemiological Surveillance, requested the collaboration of *Escola de Enfermagem de Ribeirão Preto* at *Universidade de São Paulo* (EERP/USP), one of the city's higher education institutions, to participate in planning, organizing, and carrying out the first stage of the 22nd Brazilian National Influenza Vaccination Campaign, aimed at older adults. This was a moment that helped achieve vaccination coverage in the first stage of the campaign, reinforced the teaching-service integration and provided greater social responsibility to undergraduate nursing students by confirming that nursing care is a social practice guided by the needs of a specific society, able to intervene actively and positively before the problems that arise.[9]

Thus, this work aimed to describe the experience of teaching-service integration during the first stage of the 22nd Brazilian National Influenza Vaccination Campaign in the emergence of COVID-19.

METHOD

This is a descriptive study, an experience report on the teaching-service integration during the first stage of the 22nd Brazilian National Influenza Vaccination Campaign in the city of Ribeirão Preto (SP), which took place from March 23 to April 3 2020. The municipality has 683,777 inhabitants, of which 110,088 are people over 60, accounting for 16.1% of older adults of the total population.[10] As it is an experience report, an appraisal of research ethics committee was not required.

Activity planning took place on March 9 and was developed by the coordinators of the Epidemiological Surveillance of MHD/RP together with teaching nurses and specialist laboratory nurses from EERP/USP. Actions planned and executed, as well as situations experienced in different spaces and moments of the campaign implementation, were recorded in field diaries by the actors mentioned above, who participated more intensely in all phases of this process.

The first stage was organized in two weeks. The first week (from 23 to 27 March) involved 200 professionals, distributed in 35 teams in vaccination stations. The second week (from March 30 to April 3) featured 180 professionals who worked on 27 vaccination station teams, including a drive-thru made available on two days of that week.

Of the total number of participants, the university contributed more than 56 volunteers, including: 05 teaching

nurses, 01 teaching biologist, 01 research nurse, 03 laboratory specialist nurses, 24 graduate students (master's and doctoral level), 21 undergraduate nursing students taking the final year of bachelor's and bachelor's and undergraduate nursing courses and 01 undergraduate student in pharmaceutical sciences.

RESULTS

Before starting the first stage of the 22nd Brazilian National Influenza Vaccination Campaign in the extramural modality, sanitary measures were taken regarding immunization with online training offered by the professionals of Epidemiological Surveillance of MHD/RP and EERP/USP to participants on: updated knowledge of the immunobiological agent (including correct application technique and proper conservation conditions); campaign development; organization of vaccination station teams teams; use of personal protective equipment provided by the university; standard recommendations on COVID-19; identification of possible respiratory symptoms for which the participants would indicate the search for the PHC unit closest to the vaccination station to assess and/or maintain social distance with observation of the clinical condition evolution. It should be noted, however, that the media and the volunteers involved contributed to disseminating the 22nd Brazilian National Influenza Vaccination Campaign in order to encourage vaccination in older adults.

The strategy used to operationalize the first stage of the 22nd Brazilian National Influenza Vaccination Campaign was to install vaccination stations in municipal and state education schools close to PHC units considering the temporary suspension of education due to the pandemic. This measure, agreed between the coordinators of the Epidemiological Surveillance and the manager of the Municipal Department of Education, favored the implementation of a distance of 1.5 m between people. The expansion of physical space in open areas of schools allowed the organization of queues according to the planned distance and avoided crowding in the immunization rooms of health units.

In order to expand access to vaccination for older adults with mobility limitations, a drive-thru vaccination station was implemented outside a soccer stadium. This system provided greater safety and comfort to older adults, companions and/or caregivers, since the process of applying the immunobiological was carried out without this audience having to leave the vehicle.

In each vaccination station, a team was made up of representatives of the university and nursing technicians from PHC units of the municipal health network, appointed by their supervisors for this activity. These took turns in welcoming, screening, organizing the flow of people, providing technical guidance to the community and applying 0.5 ml of the vaccine intramuscularly to the deltoid - according to the flowchart in Figure 1. Moreover, they monitored the temperature of the thermal box between 2ºC and 8ºC; aspirated doses of the immunobiological; disposed of the waste properly and instructed older adults and family members about possible adverse effects after vaccination and the need to update other vaccines in PHC units, according to the national immunization calendar.[11]

The partnership between MHD/RP Epidemiological Surveillance and EERP/USP contributed to the result of 91,697 doses of immunobiological applied to older adults in the city, out of a total of 98,189.12, which corresponded to 83.3%, a value very close to the 90% vaccination coverage expected for this priority group of people by the end of the campaign.[4] It should also be noted that the total number of doses applied to older adults at the end of the campaign in Ribeirão Preto exceeded the average of the last five years by 42.6%.[12]

DISCUSSION

Since the Brazilian National Immunization Program (*Programa Nacional de Imunização*) was implemented, the nursing team has been primarily responsible for planning, carrying out, monitoring and evaluating actions, within the scope of PHC, which aim to expand vaccine coverage and reduce morbidity and mortality from preventable diseases in a population.[13,14]

The effectiveness of these practices depends on a set of skills, such as scientific knowledge about immunology, on the factors that influence the immune response (related to the vaccinee and the vaccine), on composition, route of administration, interactions, contraindications of immunobiological agents and adverse effects expected post-vaccination; furthermore, technical and operational knowledge of the functioning of the cold chain at national, state, municipal and regional levels (vaccine room), which includes storage, transportation, handling of vaccines under appropriate conditions, from the producing laboratory to the moment of dose application; also, register applied and missed doses, develop search for absenteeism, blocking actions and campaigns to protect individuals and the community against preventable diseases.[13,15]

In the context of PHC, Family Health Units also develop actions of promotion, prevention, protection, diagnosis, treatment, rehabilitation, harm reduction, palliative care and health surveillance that are performed by a multidisciplinary team for a defined population. Due to its theoretical-practical specificities, the strategy also allows the team professionals to enter the territories assigned to the units and show health determinants and conditions.[16] Team interaction with the population's way of life reinforces the need for knowledge about vaccination to be multidisciplinary and not exclusive to nursing workers allocated in the vaccination room.[14]

To vaccinate as many older adults as possible during the first stage of the 22nd Brazilian National Influenza Vaccination Campaign, the representatives of EERP/USP and coordinators of the Epidemiological Surveillance of MHD/RP adjusted the organizational conditions for vaccination teams' work, based on Strategic Health Planning (SHP), which identifies a problem, determines an objective, creates a plan feasible and manages its execution.[17]

Thus, adopting SHP, in a short time, allowed to understand about the concept of situational explanation and the perspective of a comprehensive look at the management[17] and organization aspects for the vaccination campaign. The use of SHP, at that

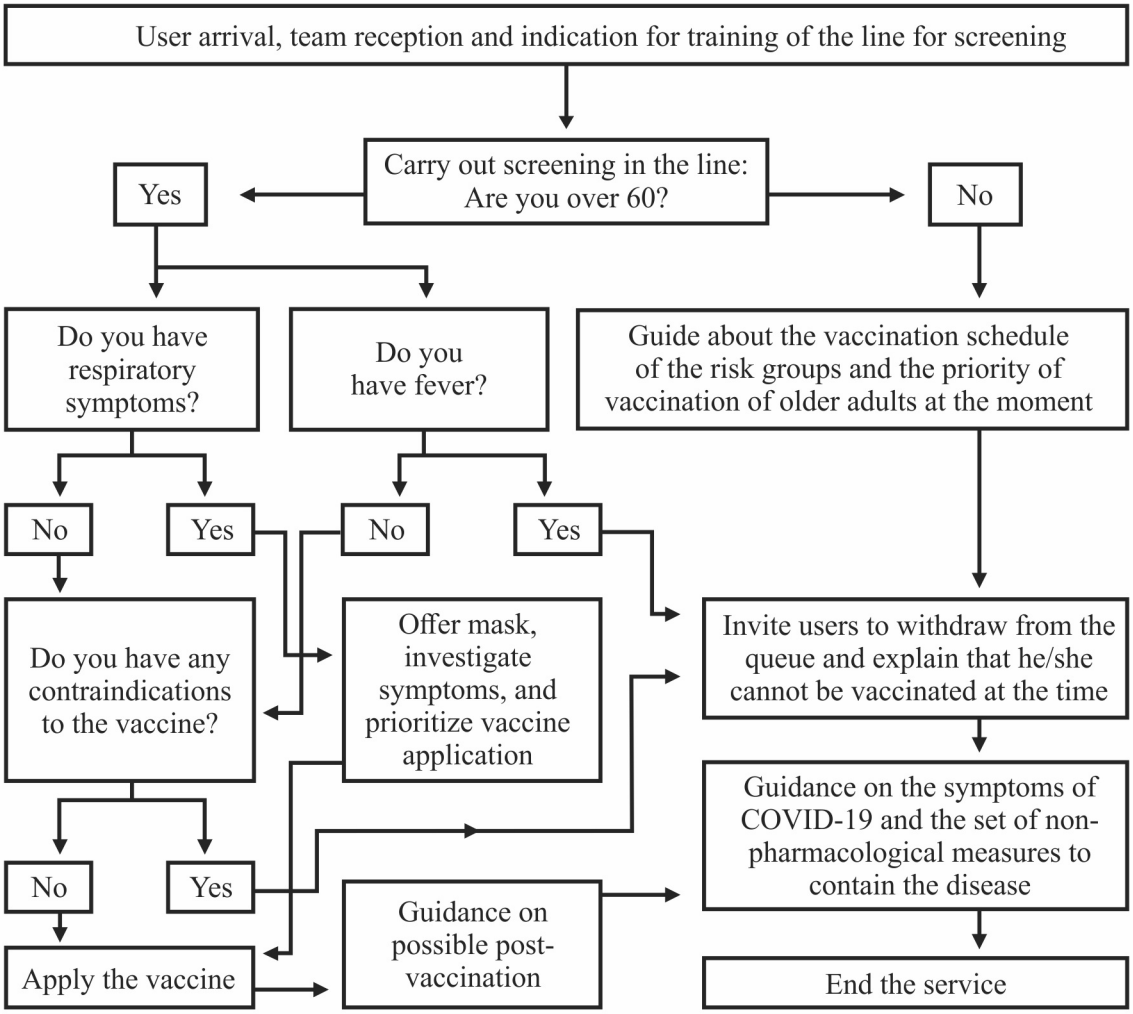

Figure 1. Flowchart of care in the first stage of the 22nd Influenza Vaccination Campaign at vaccination station in the COVID-19 pandemic context. Ribeirão Preto, SP, Brazil, 2020.
Source: prepared by the authors.

moment, considered the analysis of the context permeated by the pandemic caused by COVID-19, discussed the viability of the campaign plan and its flexibility before changes in the health setting, organization and reorganization of the teams as needed, focusing on planning based on actions and achieving the expected results.

Thus, to achieve the vaccination coverage expected in older adults and minimize the risks of spreading COVID-19, the coordinators directed actions as planned, circumvented unforeseen circumstances and promoted adequate conditions for the team's work, respecting the care capacity of each drive-thru vaccination station.

With regard to vaccination flyers, including the drive-thru, it can be said that this structure, in addition to the physical space of traditional vaccine rooms, expanded the access and accessibility of older adults, companions and caregivers to immunobiological agents, suggesting a certain decrease in geographical barriers that the public over 60 often encounter when going to Basic Health Units.[18]

The demand for the vaccine reached percentages higher than expected and doses were exhausted, ahead of schedule, in several Brazilian cities, including Ribeirão Preto. This fact may be related to the awareness about the importance of this practice in the prevention of some vaccine-preventable diseases[19] in the emergence of COVID-19 and with the implementation of vaccination stations operated through SHP. This device, which is part of the managerial work of nurses,[17] can be enhanced by the leadership that this worker exercises in the multiprofessional team, especially when developing skills and attitudes related to articulation of care and management work in health establishments.[20]

In professional practice, leadership is recognized in nurses when they exercise dialogue to manage conflicts involving users, workers and managers when they motivate workers to build a common goal and when they delegate, supervise and coordinate care in the health unit and PHC.[20] Although leadership

is understood as a natural attribute that can also be developed during health training,[20] this study does not focus on seeking relationships between this quality and student education during the period of supervised internship and/or the teaching-service integration during the campaign period.

Currently, the exercise of leadership by nurses has been associated with the creation of opportunities for collaboration between the various professionals of the team that decentralizes functions and activities, values different knowledge, encourages integration of workers and teamwork, designing new leadership at work.[20]

In the context of professional training, the articulation of the university with health services made it possible for undergraduate and graduate students to develop nursing practice together with other students and health professionals, materializing the knowledge in doing in different care spaces, in an approach between the world of education and world of work,[1,21] from a collaborative perspective. In this regard, it is understood that health establishments, especially those of PHC, have a strong relationship with the student training process, as they are fields of professional activity that offer the possibility for students to apply and improve skills built in the classroom.

It is noteworthy that the partnership between the higher education institution and the health services contributed to plan, organize, and carry out one of the collective activities under the responsibility of PHC, the vaccination campaign. It is hoped that the theoretical knowledge acquired at the university can also encourage the critical-reflective process of students on the practices developed in learning settings and health establishments, aiming at consolidating the principles of the Unified Health System (*Sistema Único de Saúde*)[1,22] and producing nursing care and health services aligned with PHC attributes.[23]

Considering the positive result obtained with the teaching-service interaction during the first stage of the 22nd Brazilian National Influenza Vaccination Campaign, this action may have contributed to reduce the clinical and social effects of seasonal flu in older adults in the COVID-19 pandemic context; aging contributed to the increase in the mortality rate of this population group due to coronavirus in Wuhan, China.[2]

CONCLUSION AND IMPLICATIONS FOR PRACTICE

This experience report showed, in the COVID-19 pandemic context, the contribution of teaching-service integration to plan and implement extramural actions to achieve 83.3% vaccination coverage in older adults in the city of Ribeirão Preto during the first stage of the 22nd Brazilian National Influenza Vaccination Campaign. It is pointed out that, at the end of the campaign, 89.2% of older adults were vaccinated. This result reflects a collective and multiprofessional work as well as the social commitment of the institutions involved with the protection of health, preservation of life and strengthening of the Unified Health System.

The results also indicate contributions to nursing and health, highlighting the importance of higher education institutions' and PHC services' roles in student training. The limitation of this investigation refers to the impossibility of generalizing the findings, since both the partnership established and the total number of doses applied are related to a city in São Paulo. Furthermore, one of the perspectives of this work was shared, which suggests the realization of other studies in different spaces and contexts to reveal, for instance, health system users' and nursing students' perceptions on the impact of the partnership between higher education institutions and health establishments of the first level of care in care provision and professional training.

AUTHOR'S CONTRIBUTIONS

Experience report design. Anna Maria Meyer Maciel Rodríguez. Gather source of information. Anna Maria Meyer Maciel Rodríguez. Patricia Abrahão-Curvo.

Analysis of information. Anna Maria Meyer Maciel Rodríguez. Tauani Zampieri Cardoso. Patricia Abrahão-Curvo. Larissa Gerin. Pedro Fredemir Palha. Susana Inés Segura-Muñoz.

Interpretation of results. Anna Maria Meyer Maciel Rodríguez. Tauani Zampieri Cardoso. Patricia Abrahão-Curvo. Larissa Gerin. Pedro Fredemir Palha. Susana Inés Segura-Muñoz.

Writing and critical review of the manuscript. Anna Maria Meyer Maciel Rodríguez. Tauani Zampieri Cardoso. Patricia Abrahão-Curvo. Larissa Gerin. Pedro Fredemir Palha. Susana Inés Segura-Muñoz.

Approval of the final version of the article. Anna Maria Meyer Maciel Rodríguez. Tauani Zampieri Cardoso. Patricia Abrahão-Curvo. Larissa Gerin. Pedro Fredemir Palha. Susana Inés Segura-Muñoz.

Responsibility for all aspects of content and integrity of the published article. Anna Maria Meyer Maciel Rodríguez. Tauani Zampieri Cardoso. Patricia Abrahão-Curvo. Larissa Gerin. Pedro Fredemir Palha. Susana Inés Segura-Muñoz.

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