

REGISTRATION OF DATA ON THE USE OF IMMUNOBIOLOGICALS AND SUPPLIES IN VACCINE ROOMS*

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ABSTRACT: Objective: To verify the registration of the data on the use of immunobiologicals and supplies in the vaccination rooms of the public network. Method: a cross-sectional study, carried out in eight primary care vaccination rooms, with 106 observations in November and December 2016, in a municipality of Rio Grande do Sul. Results: in 64 (60.4%) consultations the clients were enrolled in the program and 104 (98.1%) had their vaccinations registered correctly. Data were adequately recorded after the vaccination of the user in the program in 89 (84%) consultations, however, the movement of the immunobiological agent was only completed in 17 (11%) observations. The refrigerator temperature was registered in the daily record in 80 (75.5%) observations. Conclusion: the study provided support for the elaboration of strategic actions in the municipality, with the aim of qualifying the work process regarding the organization, maintenance and registration of the immunobiologicals in the vaccine rooms.

DESCRIPTORS: Nursing; Immunization programs; System of records; Nursing records; Primary Healthcare.

REGISTRO DE DADOS SOBRE O USO DE IMUNOBIOLÓGICOS E INSUMOS NAS SALAS DE VACINAS

RESUMO: Objetivo: verificar os registros dos dados sobre o uso de imunobiológicos e insumos nas salas de vacinas da rede pública. Método: estudo transversal, realizado em oito salas de vacinas da atenção básica, com 106 observações em novembro e dezembro de 2016, em um município do Rio Grande do Sul. Resultados: em 64(60,4%) atendimentos os usuários estavam cadastrados no programa e 104(98,1%) tiveram as vacinas registradas corretamente. Os dados foram registrados adequadamente após a vacinação do usuário no programa em 89(84%) atendimentos, entretanto, a movimentação do imunobiológico foi preenchida em 17(11%) observações. O registro no boletim diário da temperatura do refrigerador ocorreu em 80(75,5%) observações. Conclusão: foi possível obter subsídios para a elaboração de ações estratégicas no município, com a finalidade da qualificação do processo de trabalho quanto à organização, manutenção e registros dos imunobiológicos nas salas de vacina.

DESCRIPTORES: Enfermagem; Programas de imunização; Sistema de registros; Registros de enfermagem; Atenção Primária à Saúde.

REGISTRO DE DATOS ACERCA DE USO DE INMUNO BIOLÓGICOS E INSUMOS EN LOS LOCALES DE VACUNACIÓN

RESUMEN: Objetivo: verificar los registros de los datos acerca del uso de inmuno biológicos e insumos en las salas de vacunación de la red pública. Método: estudio transversal, que se realizó en ocho salas de vacunación de la atención básica, con 106 observaciones en noviembre y diciembre de 2016, en un municipio de Rio Grande do Sul. Resultados: en 64(60,4%) atendimientos, los usuarios estaban registrados en el programa y 104(98,1%) tuvieron las vacunas registradas correctamente. Se registraron los datos de modo adecuado tras la vacunación del usuario en el programa en 89(84%) atendimientos. Sin embargo, se completó el movimiento del inmuno biológico en 17(11%) observaciones. El registro en el boletín diario de la temperatura del refrigerador ocurrió en 80(75,5%) observaciones. Conclusión: fue posible obtener subsidios para la elaboración de acciones estratégicas en el municipio, con la finalidad de calificar el proceso de trabajo en cuanto a la organización, manutención y registros de los inmuno biológicos en las salas de vacunación.

DESCRIPTORES: Enfermería; Programas de inmunización; Sistema de registros; Registros de enfermería; Atención Básica a la Salud.

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● INTRODUCTION

Vaccination is a strategic and integrated action of the health services, available in Primary Care or in supplementary health services. Added to the prevention and protection actions, the vaccine potentiates the measures of transmission-blocking of vaccine-preventable diseases. Advances in immunobiologicals and health technology over the last decades constitute a strategy of improved cost and effectiveness relationship in the health sector⁽¹⁾.

The Brazilian National Immunization Program (*Programa Nacional de Imunização* - PNI) is recognized by several countries as a complex system that guarantees immunobiologicals and makes them available to the population within the services of the Brazilian National Health System (*Sistema Único de Saúde* - SUS). The PNI management promotes advances as it consolidates the increase in new vaccines, the expansion of access for vulnerable populations, the increase in vaccine coverage, and the elimination and prevention of vaccine-preventable diseases⁽²⁾.

In the PNI, the nurse has the responsibility of organizing the activities of the team and participates in actions such as intensification, transmission-blocking and vaccination campaigns. In the primary care setting, the nurse performs and/or supervises the nursing technician in updating the user's vaccination card, in the administration of vaccines, in the requests for supplies for the vaccine rooms, and in the guidance of the users and the health team on the main actions of transmission-blocking and control of vaccine-preventable diseases⁽³⁾. Considering these responsibilities, nurses need to develop educational actions and the monitoring of vaccine rooms in their managerial practice, in order to achieve results defined in the planning related to vaccination coverage⁽⁴⁾.

For the computerized registration of vaccination data in Brazil, the PNI Information System (SIPNI) is used. The program is designed for use on desktop computers in offline mode, with periodic updates over the Internet. This information system nominally registers those vaccinated from the SUS Card registry and the immunobiologicals administered⁽⁵⁾. Furthermore, the program generates data regarding immunobiological agent movement in the vaccination rooms, which is the only means of transmitting data to the PNI⁽⁶⁾. In addition to this system, the Strategic Supplies Information System (*Sistema de Informação de Insumos Estratégicos* - SIES) is used to request immunobiologicals and supplies. This is an online system that requires the login and password of the user and through which the vaccine room inventory is also controlled by the municipal, state and national management⁽⁵⁾.

Up to mid 2012, the records were performed manually in worksheets that were grouped, with an electronic report prepared at the end of the month for the PNI management, containing the data on the use of immunobiologicals and supplies. From 2013 onwards, municipalities began to record the data on immunobiologicals and supplies in real time, which made it possible to expand management strategies related to vaccine-preventable diseases⁽⁶⁾. However, in the municipality of the study, there has been a decrease in the vaccination coverage indicators over the years, even with the full coverage of family health teams throughout the area, the performance of active searches by community health agents and national and local campaigns.

Thus, in view of this context experienced in the municipal primary care and with one of the researchers being the Municipal Nurse Coordinator of the PNI, the research question arose: "How is the registration of data on the use of immunobiologicals and supplies in vaccination rooms of the public network carried out?". Thus, this study aimed to verify the registration of the data regarding the use of immunobiologicals and supplies in the vaccination rooms of the public network.

● METHOD

This was a cross-sectional study⁽⁷⁾, carried out in the eight Primary Care vaccination rooms of a small municipality, located in the Northwest Region of Rio Grande do Sul. In this municipality, Primary Care covers 100% of the area, with eight health units with Family Health Strategies that serve the urban and rural population.

A total of 106 registrations of data regarding immunobiologicals and supplies made by 15 nursing

professionals were observed. The observations covered all the professionals involved in activities in the vaccine rooms. It should be noted that none of the professionals refused to participate in the study, which was carried out by observing the professional practice of the participants.

The inclusion criterion to establish the observation regarding the registrations was the performance of a registration by the nursing professional acting in the vaccination room of the health unit of the municipality. The exclusion criterion was the absence of a nursing professional from the vaccination room due to health, maternity or vacation leave. Participants were seven nurses and eight nursing technicians, all female and with a mean age of 41.73 ± 9.80 years. In this municipality, all the professionals were trained to work in the vaccination room, as well as carrying out other concomitant activities according to the requirements and the care needs of the population. The length of experience of the professionals in the vaccine room ranged from 5 to 14 years.

Data collection took place from November to December 2016, and an instrument was used for the direct and systematic non-participant observation of the work process of the registration of data regarding immunobiologicals and supplies. Systematic observation uses instruments to observe the phenomenon in order to respond to pre-established purposes⁽⁸⁾.

The observations were performed in all eight vaccination rooms, in which the researcher did not integrate into the work process in the resolution of situations, taking the role of spectator of the practice of the professionals. To begin the observations, in each vaccine room, two moments were scheduled in advance, during different work shifts, with the nursing team to verify the registration of data related to immunobiologicals and supplies.

The observation data were initially organized and stored in Excel spreadsheets and later imported into and analyzed using the Statistical Package for the Social Science (SPSS) program. The analysis was performed through descriptive statistics of the categorical variables, expressed as absolute and relative frequency. The study was approved by the Research Ethics Committee of the Federal University of Health Sciences of Porto Alegre, with authorization No. 1.798.843, following the ethical precepts established by Resolution 466/2012 of the National Health Council⁽⁹⁾.

● RESULTS

A total of 106 observations were carried out in eight vaccination rooms, with a distribution of 10 to 16 observations per room. The observations of the registrations occurred in greater number during the afternoon shift (58 - 54.7%) due to the requirements of the users. Among the nursing professionals, the nurses performed 59 (55.7%) registrations of data related to immunobiologicals and supplies. Table 1 shows the observations made regarding the registration of immunobiologicals and supplies.

Table 1 - Affirmative situations in the observations made in the vaccine rooms of a municipality in the Northwest of Rio Grande do Sul, RS, Brazil, 2017 (continues)

Variables	n(%)
Pre-registration of the user in the SIPNI	64(60.4)
Availability of information regarding the vaccination schedule	94(88.7)
Administration of the vaccine according to the age range of the user	54(50.9)
Scheduling of the vaccines on the card	92(86.8)
Guidance regarding the return for the vaccinations due	87(82.1)
Postponement of the vaccine application	12(11.3)
Correct registration on the user's vaccination card	104(98.1)
Correct registration of the data in the PNI	89(84.0)
Availability of vaccines according to the demand	106(100)
Registration of refrigerator temperature in daily control bulletin	80(75.5)
Registration of temperature within the defaults	86(81.1)

Multidose bottles labeled	82(77.4)
Registration of movement of immunobiologicals	17(16.0)
Inventory updated in the SIES	59(55.7)
Updated version of SIPNI on the Desktop	61(57.5)

From the observations made, for the users without registration in the SIPNI, the nursing professional performed the registration using the SUS card number. It was verified that in 94 (88.7%) observations, information regarding the vaccination schedule was available, allowing quick and easy access to clarify doubts of the users and provide them with guidance.

The vaccination schedule combined with the National Immunization Calendar provides the indications for the age group of the user regarding the administration of the vaccine. In 54 (50.9%) observations, it was identified that the users were within the age range recommended. The performance of the registration of the correct scheduling on the vaccination card was found in 92 (86.8%) observations, with the user being informed of the scheduling for the next vaccines. In 87 (82.1%) observations, the professional verbally guided the user and companion regarding the performance of the next vaccinations according to the vaccine schedule.

Missed Opportunities for Vaccination (MOVs) are considered when the application of the vaccine is postponed, this having been the case in 12 (11.3%) observations. Some users had to receive multiple injectable vaccines on the same day and often, due to them being children, the application of vaccines such as Pneumococcal 10, Meningococcal C and the first dose of the Triple Viral (which according to the vaccine schedule should be applied when the child is one year old) was postponed.

During the observations, in some vaccination rooms, this indication of delay was suggested by the nursing professional, which impacts on the reorganization of the user to return to the health unit on another day; on the susceptibility to vaccine-preventable diseases due to the lack of individual immunological transmission-blocking of the child; and on the professional not carrying out the application following the guidelines recommended by the PNI.

The registration of vaccines on the user's card occurred correctly in 104 (98.1%) observations, demonstrating the quality of this step in the registrations performed by the nursing professionals. In addition, 89 (84.0%) observations of vaccines administered were appropriately included in the SIPNI, considering the right patient, right vaccine, right dose and right batch. With regard to the availability of vaccines, the demand was met in its entirety.

The refrigerator temperature was recorded in the daily control report, with the temperature at the beginning and at the end of the day in 80 (75.5%) observations. This worksheet must be completed daily, on working days, when the healthcare activities of the health unit occur. In the evaluation of these registrations, it was found that in 86 (81.1%) observations, the temperature of the refrigerator was within that recommended by the PNI. Regarding the multidose bottles placed in the refrigerators, these had been and/or were labeled in 82 (77.4%) observations. The labeling of the bottles contains information on the opening and expiration dates of the bottle of the vaccine.

The registration of movement of the immunobiological agent only occurred in 17 (16.0%) observations. These registrations present weaknesses resulting from the users' time of attendance, from the personal and work organization of the professional, from the difficulties with the use of information technology and from the access to the updated SIPNI and SIES.

Regarding the management of the vaccine and supplies inventory in the SIES, it was verified that in 59 (55.7%) observations the professional updated the inventory. This practice does not always occur immediately after the administration of the vaccine, as in some health units the update is done at the end of the day or the week. Regarding the use of the updated version of the SIPNI on the Desktop, the occurrence was identified in 61 (57.5%) observations. This update requires the attention of the professionals of the vaccine rooms in order to have the latest version, as the PNI periodically proposes various changes to improve the system.

● DISCUSSION

The registration of the user in the SIPNI makes it possible to more accurately evaluate the characteristics of the population for which there is a need to provide the immunobiologicals and supplies in the health units. As the vaccination rooms are computerized, this registration is required for the user's vaccination to occur in line with the vaccine schedule. In this way, the previous registration of the user allows the vaccines to be verified using the SUS card number as an identifier. In this study, the registration was carried out correctly in 98.1% of the observations, through the user's SUS card.

In the study of vaccine coverage, in Augusto Pestana-RS, it was observed that, in order to have a real picture of the activities performed in the vaccination rooms using the SIPNI, it was necessary for 100% of the users to be registered in the program⁽¹⁰⁾. In this way, the user registry makes it possible to evaluate the vaccination coverage situation.

The provision of information contained in the vaccination schedule occurred in 88.7% of the observations in this study. The use of this information serves as an instrument to support the care provided in the vaccine room, clarifying doubts for both professionals and users. Generally, the municipal coordinators elaborate information using the manuals of the PNI published by the Ministry of Health.

In one study, 41 vaccine rooms were observed in the city of Marília-SP, and in 39 (95.1%) of the rooms there was no staff training manual available in the vaccine room for consultation by the professionals, and in 17 (41.4%) rooms no cold network manual was located⁽¹¹⁾. In another study with 15 professionals working in vaccine rooms, the majority reported concern about explaining vaccine-preventable diseases, adverse events, and management prior to the application of the vaccine⁽¹²⁾.

In Recife-PE, a study evaluated 300 child health records (CHRs), identifying that 40.0% were behind in the vaccination schedule according to the age recommended by the PNI⁽¹³⁾. In the same study, it was observed that all the professionals verified the age and the intervals between the recommended doses before the administration of the vaccines⁽¹³⁾. In the present study, it was observed that 50.9% of the users who received the vaccines were within the age range recommended for the vaccine, not characterizing a vaccination delay. The PNI recommends that, when using vaccines, sera and immunoglobulins, specific aspects must be respected, including the recommended age range for each vaccine and its dose within the indicated vaccination schedule⁽¹⁴⁾.

In a study carried out in Montes Claros-MG, correct scheduling was identified in 5 (27.7%) of 18 vaccination rooms observed, with it being verified that the majority of the professionals performed the application incorrectly⁽¹⁵⁾. Another study observed 116 CHRs and identified that 114 (98.3%) had received appointments for subsequent doses of vaccines⁽¹⁶⁾. The professionals, when committed to the recommendations of the NIP, record the scheduling of vaccines. This fact was not observed in this study, since the scheduling was not registered on all the vaccination cards observed.

In a study⁽¹³⁾ performed in Recife-PE, it was observed that the majority of professionals (17 - 94.4%) provided guidance regarding the vaccines administered. In a study⁽⁴⁾ carried out in two vaccination rooms of two small municipalities in the state of São Paulo, none of the 48 users received guidance from the professional with regard to returning to complete the vaccination schedule. In the observations made in this study, it was identified that in 82.1% of the visits the professional verbally reinforced the return of the user to complete the vaccination schedule. The guidance regarding the return was evidenced as essential for users' adherence to the immunization schedule that confers the protection and prevention of vaccine-preventable diseases, as well as to reach the goal of vaccination coverage.

A missed opportunity for vaccination is considered when a user without contraindications to the vaccination seeks the health service and does not receive the vaccines in accordance with the vaccination schedule. Among the reasons for not giving the vaccination the following stand out: false contraindications, attitude of nursing professionals, attitude of the users, unavailability of trained professionals and logistical problems of the services in the provision of immunobiologicals and supplies⁽¹³⁾. However, in the municipality of the study, all vaccines and supplies were available at the time of the observations, which does not justify the occurrence of MOVs in the vaccine rooms, with 12 (11.3%) occurrences identified.

Correct registration of the vaccine administration by nursing professionals occurred on the user's card and in the SIPNI in 98.1% and 84.0% of the observations in this study, respectively. Registration should be performed in a complete and correct way on the user's card and in the SIPNI in order to provide reliable information and thus portray the health situation regarding immunization of the population regarding vaccine-preventable diseases⁽¹⁰⁾. The registration on the user's card must contain the following data: date, lot and laboratory of the vaccine, and signature of the professional. In the SIPNI, the registration includes the name of the user from the SUS card, the vaccine, lot, laboratory, dose of the vaccination schedule and the professional⁽⁵⁾.

In the municipality of the study, the availability of immunobiologicals and supplies for the vaccine rooms is a result of the coordination management articulated with the management of the health units and nursing professionals working in the vaccine rooms. These professionals knew the requirements and were organized to work successfully, observing the needs for immunobiologicals and supplies, as all the vaccines sought by the users were available for application. This data differs from that found in the study in Montes Claros-MG, where, of the 18 vaccination rooms, there was a lack of some immunobiological agent in 17 (94.4%)⁽¹⁵⁾.

The temperature of the refrigerator in the vaccination rooms was evaluated in a study carried out in the western health macro-region of Minas Gerais, where 70.8% of the 253 vaccination rooms had adequate temperature monitoring registration⁽¹⁷⁾. Another observational study in 41 vaccine rooms in the state of São Paulo identified that 90.2% of vaccine rooms presented a correct reading and registration of the refrigerator temperature at the beginning and end of the working day⁽¹⁸⁾. In the observations in the present study, it was verified that this recording was performed as a daily routine in 75.5% of the cases, which compromises the accuracy of the quality of the stored supplies provided to the population.

The temperature at which the immunobiologicals must be stored should be between 2°C and 8°C, which should be checked at the start and end of the day and be recorded in the daily temperature control bulletin, which should preferably be secured externally to the refrigerator door⁽¹⁹⁾.

In a study carried out in vaccine rooms⁽¹⁹⁾, the registration maps of the refrigerator temperature were verified, which indicated that the temperatures were inadequate according to the storage standard of the immunobiologicals observed. In the present study, in 81.1% of the observations made the refrigerator temperatures were in line with the standard recommended by the PNI. This inadequacy in the temperature of the refrigerator causes concerns regarding the quality of the immunobiologicals offered to the users of the service⁽¹⁹⁾.

The opening of multidose bottles requires the labeling of the bottle, which is recommended by the PNI. The registration on the bottle opening label should contain the date and time of the opening of the bottle and should be attached to the vaccine vial so that it does not compromise the information on the pharmaceutical label and the visualization of the internal contents. In a study conducted in vaccine rooms of the public network in Marília-SP, in all 41 vaccine rooms observed the bottles were labeled⁽¹¹⁾, which differs from the situation found in the present study, in which the bottles were labeled in 74.4% of the observations.

The registration of the movement record should be completed in the routine of the vaccine room, as these data will be transmitted to the SIPNI in the immunobiological movement module. In this study, the movement bulletins were completed in only 16.0% of the observations. This action aims to support the planning and programming of immunobiologicals and supplies, considering the availability in the public and private networks, as well as helping the inventory control⁽⁵⁾.

In addition to the control of the flow of supplies in the SIPNI, there is the inventory control by the SIES, and in the present study, in 55.7% of the observations, the inventory was updated according to the supplies available in the vaccine room. However, it is recommended that the inventory be updated online, as this organizes the distribution logistics for the requests made⁽⁶⁾. In order to manage so much information and obtain good results, it is essential to have a good system of storage, manipulation and distribution. The need to control the inventory in an institution is fundamental for the quality of the service provided to the population, in order to promote service excellence according to the principle of efficiency⁽²⁰⁾.

The SIPNI program is constantly updated by the IT Department of the Ministry of Health as it needs improvements to meet the diverse demands, such as the introduction of new immunobiologicals and supplies, advances in operational flows and integration with other information systems. These updates are called SIPNI update packages for desktop use⁽⁵⁾.

The limitations of the study were the use of the observation in the collection of data on the practices related to the registration by the nursing professionals working in vaccine rooms, one researcher being the coordinator of the PNI of the municipality and the short observation period per vaccine room.

● CONCLUSION

Through the observations, the registration of the data on the use of immunobiologicals and supplies by the nursing professionals working in the vaccination rooms were verified. As a favorable scenario, the following should be highlighted: the registration of the user in the PNI, availability of information on the vaccination schedule, timing and guidance regarding the return for vaccinations due, registration of the vaccine applied on the user's vaccination card and in the SIPNI, availability of the vaccines in the public network, storage of the vaccines in the refrigerator and the labeling of multidose bottles.

However, opportunities for improvements in the work process can be seen regarding the population adherence to the application of the vaccine within the recommended age range, the discussion about the need for postponement in the application of vaccines, the registration of the movement of the immunobiological in the SIPNI and SIES, maintenance of the stock updated in the SIES and the use of the updated version of the SIPNI program. The performance of educational actions in the primary health service of the municipality is recommended, aiming to contemplate the existing knowledge gaps in the registries in the SIPNI and SIES.

In addition, the evaluation of the applicability and validity of instruments such as standard operating procedures in vaccine rooms for the mobilization, discussion, elaboration and updating of the increase in the daily practice of professionals is suggested. The use of these instruments makes it possible to increase the professionals' safety in relation to the registrations, in order to improve and qualify the nursing work practice.

The limitations of the study were the use of the observation in the collection of data regarding the practices related to the registration by the nursing professionals working in vaccine rooms, one researcher being the coordinator of the PNI of the municipality and the short observation period per vaccine room.

This study contributes to the practices in the vaccination room, since the observations contemplated the programs used throughout the national territory in the context of the SUS, with the registrations performed by the professionals, who lack permanent education in the SIPNI and SIES, being observed.

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