

● Original article

MOTIVES FOR NON-ADHERENCE OF CHILDREN TO THE VACCINATION CAMPAIGN AGAINST INFLUENZA

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Objective: get to know the reasons for non-adherence of parents/responsible caregivers of children to the vaccination campaign against influenza. **Method:** quantitative and descriptive research. Inclusion criteria: parents or responsible caregivers of children between six months and up to four years of age, living in the city of Joinville. Interviews were held with 380 responsible caregivers of children aged between six months and four years, using a semi-open questionnaire, in 2016, and the descriptive analysis was applied to the data. **Results:** the campaign reached the target, with 89% of the children being vaccinated. The reasons for non-adherence to the campaign were: fear of adverse reaction (21; 51.3%); information that the child had the flue (10; 24.3%); and not knowing about the campaign (5; 12.4%). **Conclusion:** nursing plays a fundamental role in the elaboration, planning and execution of vaccination campaigns. This study evidenced the need to improve the health education strategies concerning vaccination against the influenza virus and to broaden the access to Primary Health Care.

DESCRIPTORS: Nursing; Pediatric Nursing; Immunization programs; Health promotion; Influenza vaccines.

MOTIVOS DA NÃO ADEÇÃO DE CRIANÇAS À CAMPANHA DE VACINAÇÃO CONTRA A INFLUENZA

Objetivo: conhecer os motivos da não adesão dos pais/responsáveis de crianças à campanha de vacinação contra a influenza. **Método:** pesquisa quantitativa, tipo descritiva. Critérios de inclusão: pais ou responsáveis de crianças de 6 meses até 4 anos, residentes no município de Joinville. Foram entrevistados 380 responsáveis de crianças entre 6 meses e 4 anos, por meio de questionário semiaberto, em 2016, e realizada análise descritiva dos dados. **Resultados:** a campanha atingiu a meta, com 89% das crianças vacinadas. Os motivos da não adesão à campanha foram: medo da reação adversa (21; 51,3%); informação de que a criança estava gripada (10; 24,3%); e desconhecimento sobre a Campanha cinco (12,4%). **Conclusão:** a enfermagem tem papel fundamental na elaboração, planejamento e execução das campanhas de vacinação. Este estudo evidenciou a necessidade de melhorar as estratégias de educação em saúde referentes à vacinação contra o vírus da influenza e ampliar o acesso na Atenção Primária.

DESCRIPTORES: Enfermagem; Enfermagem Pediátrica; Programas de imunização; Promoção da saúde; Vacinas contra influenza.

MOTIVOS DE NO ADHESIÓN DE NIÑOS A LA CAMPAÑA DE VACUNACIÓN CONTRA LA INFLUENZA

Objetivo: Conocer los motivos de no adhesión de padres/responsables de niños a la campaña de vacunación contra la influenza. **Método:** Investigación cuantitativa, descriptiva. Criterios de inclusión: Padres o responsables de niños de 6 meses a 4 años, residentes en municipio de Joinville. Fueron entrevistados 380 responsables de niños de entre 6 meses y 4 años, utilizándose cuestionario semiabierto en 2016, realizándose análisis descriptivo de los datos. **Resultados:** La campaña alcanzó la meta, 89% de los niños fue vacunado. Los motivos de no adhesión a la campaña fueron: Temor a reacciones adversas (21; 51,3%); información de que el niño estaba engripado (10; 24,3%); desconocimiento sobre la Campaña (5; 12,4%). **Conclusión:** Enfermería juega un rol fundamental planificando y ejecutando las campañas de vacunación. Este estudio evidenció necesidad de mejorar estrategias educativas en salud respecto de la vacunación contra el virus de la influenza, y de incrementar el acceso a la Atención Primaria.

DESCRIPTORES: Enfermería; Enfermería Pediátrica; Programas de Inmunización; Promoción de la Salud; Vacunas contra la Influenza.

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● INTRODUCTION

Influenza is an acute viral infection of the respiratory tract, with global distribution and high transmissibility. Its main symptoms are: sudden onset of fever, chills, tremors, headache and dry cough. In general, it has a self-limited evolution of few days. Influenza can be caused by influenza A, B or C. Types A and B are the most clinically important. Both types suffer from frequent mutations, which is why they account for most of the seasonal epidemics. In Brazil, the pattern of seasonality varies between regions, but is more marked in those with well defined climatic seasons, occurring more frequently in temperate climates in the coldest months⁽¹⁾.

The public vaccination policy against influenza began in Brazil in 1999, incorporated into the National Immunization Program. In turn, vaccination against H1N1 began in 2010 after the 2009 pandemic. Unlike other campaigns, influenza vaccination is not aimed at reducing its incidence, but rather reducing hospitalizations, complications and deaths of the population⁽¹⁻²⁾.

Influenza virus is an important agent causing acute respiratory infections in children under five years of age, with a higher incidence than in most age groups. An aggravating factor is its difficult diagnosis as, often, the clinical picture is non-specific⁽³⁾.

In 2010, there were 3,184 cases of influenza (H1N1) in children under five years of age in Brazil. In the state of Santa Catarina, there were 162 cases, one of which happened in Joinville⁽⁴⁾. Research has shown that children younger than three months of age have a higher risk of hospitalization due to influenza than children between three and 12 months of age. Most hospitalizations were recorded in healthy children (75%). Of these, 10% were admitted to the intensive care unit and 4% had respiratory insufficiency. The challenges to protect vulnerable groups against the complications of influenza are enormous, including the elderly, infants and immunocompromised persons⁽⁵⁾.

When analyzing the data of the 2014 campaign in the city of Joinville, the goal of vaccination was to reach 131,086 people. In May 2014, according to data provided by the Health Services and Regional Health Management Districts, 90,662 people were vaccinated, including children aged six months to five years, pregnant women, postpartum women, elderly, health workers and chronically ill persons, reaching 69.2% of the target population. It was necessary to extend the campaign to reach the goal⁽⁶⁾.

In 2016, vaccination rates in children under five years of age were: 88.1% in Brazil; 91.50% in Santa Catarina; and 83.9% in Joinville. Although the city reached the vaccination goal, it ranked below national and state averages⁽⁴⁾. At the beginning of that year, there had been a high number of deaths and hospitalizations due to the H1N1 virus throughout the country, which mobilized the Ministry of Health and society, increasing efforts to vaccinate the target population.

Although there has been an increase in vaccination campaigns after the 2009 influenza pandemic, further understanding is necessary of why people do not get vaccinated⁽⁷⁾. Another aspect to consider is that vaccination research involves mostly the elderly and health professionals⁽²⁾.

The objective of this research was to know the reasons for the non-adherence of parents/responsible caregivers of children to the vaccination campaign against H1N1 virus in a city in the Northeast of Santa Catarina.

● METHOD

A quantitative and descriptive research was undertaken. This research is part of a macro project aimed at identifying the reasons for the non-adherence of the target population to the vaccination campaign against the influenza virus in the city of Joinville. In this article, the results for the children will be presented. Inclusion criterion: parents or responsible caregivers of children between six months and up to four years of age. Exclusion criterion: people who did not live in the city of Joinville.

To determine the sample size, the method based on the estimated population proportion was used, considering a finite population. As the population proportions were not known *a priori*, $p=q=0.5$ was used, with a 95% confidence level and 5% error margin. Thus, the formula was applied to the group to be studied. The selected population consisted of 34.288 and the sample of 380. The sample was divided proportionately to the population of the nine regional health management districts, as shown in Table 1.

Table 1 - Sample per Regional Health Management District. Joinville, SC, Brazil, 2016

Sample	n	%
Pirabeiraba	16	4.2
Vila Nova	30	7.8
Aventureiro	56	14,7
Costa e Silva	53	14
Floresta	38	10
Centro	34	9
Jarivatuba	53	14
Comasa	47	12,3
Fátima	53	14
Total	380	100

The data were collected in public places and centers of early childhood education (CEI). The number of interviews per Regional Health Management District was respected. Data collection was carried out from January to May 2016, through a semi-open questionnaire, whose demographic variables were age, sex, place of residence and educational level. For this research, data on educational level were not collected, considering the age range of the target population.

The closed questions addressed: the vaccination situation in relation to H1N1 (yes/no); place of vaccination (public network/private network/others); how the interviewee evaluated the dissemination of the vaccination campaign (well publicized/little publicized); how the person found out about the campaign (television/radio/community health agent/others); and what could be done to improve the campaign in the coming years (further clarify the importance of vaccination/broaden campaign dissemination/extend primary health care hours/offer more than one "D" day for vaccination/others).

The question about the reason for not being vaccinated was open, therefore allowing the participants to freely give their opinion, without interferences of the researcher. For the analysis, the data were tabulated in a spreadsheet and analyzed using descriptive statistics. The data of the open questions were grouped by proximity of the themes, generating the information. The study complied with the formal requirements in the national and international standards for research involving human beings under opinion number 991.967.

● RESULTS

In total, 380 responsible caregivers for children aged six months to four years participated in this study. The place of residence was proportional to the sample calculation. Table 2 shows the demographic characteristics of the research participants and the distribution of vaccinated and non-vaccinated individuals.

Table 2 - Demographic characteristics of 380 responsible caregivers of children who participated in the research and distribution of vaccinated and non-vaccinated individuals. Joinville, SC, Brazil, 2016

Demographic characteristics	n (%)	Vaccinated	Non-vaccinated
		n (%)	n (%)
Sex			
Female	207 (54.5)	186 (89)	21 (11)
Male	173 (45.5)	153 (88.4)	20 (11.6)
Age range			
6 to 11 months	52 (14)	50 (96)	2 (4)
1 year	69 (18)	64 (93)	5 (7)
2 years	71 (19)	64 (90)	7 (10)
3 years	84 (22)	69 (82)	15 (18)
4 years	104 (27)	92 (88)	12 (12)

Among the total number of interviewees, only 21 (11%) did not take their children to be vaccinated, with a similar gender distribution. As regards the regional health management district, only one service did not reach the 80% goal, although the result was very close (79%). In the public network, 319 (84.1%) children were vaccinated and, in the private network, 61 (15.9%).

Two hundred sixty (70%) of the interviewees reported that the vaccination campaign was well publicized. The television, appointed by 254 (67%) interviewees, was the main form of disclosure, followed by: community health agent (57; 15.0%); 49 (13%) other publicity media; 15 (4%) through radio; and five (1%) reported not knowing about the vaccination campaign. Next, the data are presented on the motives for not adhering to the vaccination campaign (Table 3).

Table 3 - Motives for non-adherence to the Vaccination Campaign. Joinville, SC, Brazil, 2016

Motives	N	%
Fear of adverse reaction	21	51.3
Child had the flue	10	24.3
Did not know about the campaign	5	12.1
Child was allergic	3	7.3
Pediatrician did not authorize the application of the vaccination	1	2.5
Vaccine lacking at the health service	1	2.5
Total	41	100

Concerning what could be done to improve adherence to the vaccination campaign, 108 (28.5%) of the respondents said that it would be necessary to better clarify the importance of vaccination, 86 (22.7%) expand the disclosure of the campaign, 79 (20.7%) extend the office hours of the health services and 71 (18.6%) offer more than one “D” day of vaccination.

The population that was informed by the Community Health Agent, according to the regional health management district, consisted of 17 (32%) in Aventureiro, five (31.2%) in Pirabeiraba, 14 (26.4%) in Costa e Silva, four (13%) in Vila Nova, four (10.5%) in Floresta, five (9%) in Aventureiro, three (8.8%) in Centro, two (4.2%) in Comasa and one (1.8%) in Fátima.

● DISCUSSION

The predominant age group in this study consisted of children between three and four years old (49%). This is justified by the fact that the data were collected in Early Childhood Education Centers and in the streets of the city, environments where children up to two years of age circulate less.

Most of the interviewees considered that the campaign was well publicized. As a form of advertising, television reached the majority of the sample and, in addition to what was done by radio, the media totaled 270 (71%) interviewees. The media is, in fact, the most comprehensive information vehicle in this research, due to the broad reach of the population. According to data from the Brazilian Media Survey, 95% of the respondents stated that they had television, and 48% had internet access⁽⁸⁾.

Research on the vaccination campaign against Human Papillomavirus pointed out that 41.7% of people knew about the campaign through the media, corroborating the fact that television, radio and internet are the most used media by Brazilians as a way to support the dissemination of health promotion campaigns⁽⁹⁾.

Caution is needed though because, despite being a strong ally in the dissemination of campaigns, the media by itself does not intervene, in fact, in people's health education, due to its passive information characteristic. Often, messages transmitted by the media are not sufficient or suitable for people to be empowered about preventive measures, because misunderstandings may arise from the information media themselves or from interpretations difficulties in the population⁽⁹⁾.

According to the collected data, it is noted that the dissemination through the community health agents was ineffective and needs to be improved. They have a very important role in communication, being members of the team that works in the community, which permits easier bonding and welcoming, thus favoring direct contact with the team⁽¹⁰⁾.

The community agents are workers of the Unified Health System, being very important in the collection of data and information that facilitate the population's access to health. They also play a leading role in the orientation and dissemination of campaigns and in the promotion of health education. The coverage of community health agents in the city of Joinville corresponds to only 76.65% though. Therefore, many areas are not served by these workers⁽¹¹⁾.

It was verified that, of the 380 interviewees, 186 (89%) adhered to the campaign and got vaccinated against H1N1 virus, reaching and surpassing the minimum goal of 80%. This result is in agreement with the results found in the Department of Informatics of the Unified Health System (DATASUS), whose data indicated that 83.93% of the population adhered to the campaign in the city of Joinville⁽⁴⁾.

Research on vaccination coverage in Brazil has shown that the goals of vaccination against H1N1 were surpassed. In the 2010 campaign, the groups with above-estimated coverage were: those with chronic diseases (131.9%); the population from six months to less than two years of age (127.93%); and health professionals (120%). The success of the campaign was repeated in 2011^(2,12).

The age group that presented the most unvaccinated children was three to four years. This may be related to the higher number of adverse reactions in the first dose of the vaccine, which ultimately influenced the parents and/or caregivers of the child not to adhere. In the same sense, another study⁽¹³⁾ pointed out the fear of adverse reaction as the main reason for non-adherence to the vaccination.

In the year 2016, approximately 1,870 deaths from H1N1 were reported in the country. By the end of March, 102 deaths had been reported, 3.5% of which were children under two years of age. In September, 10% of deaths had occurred in children younger than five years⁽⁴⁾. In this study, for 21 (51.3%) respondents, the fear of the adverse reaction was greater than the risk of contagion of a potentially lethal disease. The other reasons that led parents not to vaccinate their children were related to the child's clinical condition, technical problems or lack of awareness of the campaign.

The strategies the federal government adopted to increase adherence to vaccination campaigns include the implementation of actions for disease control and elimination, multi-vaccination, D-day of vaccination and expansion of the target population for vaccination⁽¹⁴⁾.

The third reason that made five (12.1%) parents not vaccinate their children is related to lack of knowledge about the vaccination campaign. Despite the various dissemination strategies, there is a portion of the population that is not reached. It is necessary to identify who these people are and to plan actions that will increase the publicity of the campaign. The fundamental importance of the Community Health Agents' activities is emphasized here, as they can identify who did not have access to the information.

In addition to preventing the difficulties from death or severe illness cause to the core family, vaccination campaigns help control health spending. Research performed in a university hospital concluded that the average cost per inpatient was R\$ 21,141.42, and R\$ 1,496.74⁽¹⁵⁾ was spent per day. In South Korea, the cost of the 2009 H1N1 pandemic was US\$ 1.09 billion. Direct medical costs amounted to US\$ 322.6 million, and direct non-medical costs to US\$ 105.4 million. The indirect costs totaled US\$ 662.5 million⁽¹⁶⁾.

The data from this research on what could be done to improve the campaign point to improvements in access (through extension of office hours and the need for more than one "D" day of vaccination), clarification on the importance of vaccination and expanded disclosure. We can see an approximation between some strategies the government applies and others cited by the population. What is most striking is the issue of access though. Access, in this specific case, can be related to the parents' work hours, making it unfeasible for them to attend the health services due to the latter's office hours.

Another factor that contributes to the low adherence is the lack of knowledge of the responsible caregivers about the importance of vaccination. Promotion and protection behaviors among health professionals and the family can increase adherence and increase vaccination rates of the National Immunization Program⁽¹⁷⁾.

In this study, one of the children could not be vaccinated because of a medical contraindication. One reason for non-compliance with vaccines is related to family resistance due to incorrect contraindications⁽¹⁸⁾. According to the author, this can occur because of information passed on erroneously by professionals. It is important to investigate cases in which the family reports that the child's doctor has contraindicated the vaccine to assess whether this contraindication is relevant and, if not, the training or retraining of the professionals should be promoted.

Other reasons found in the non-vaccination literature were: lack of time (32.3%), lack of vaccine at the service (27.5%), lack of proof of vaccination (16.5%) and difficulty to access the vaccination⁽¹⁹⁾.

These results reinforce the need for educational interventions in the population to provide proper information on influenza virus prevention and vaccination. This means not only transmitting scientific information about the disease, but also doing so according to people's ability to process that information. This goal can be achieved by effectively by inserting the population into primary care, strengthening its goal of health promotion⁽¹⁸⁾.

Vaccination coverage is successful when there is an integrated process. Besides acting in the development and growth of the child, education by professionals should enhance the families' understanding about health actions in some important determinants, such as the political and social environment, using health promotion and prevention, for the purpose of knowledge exchange. According to a study carried out, non-adherence is related to multiple factors, and one of the reasons is the denial behavior associated with prejudice and factors related to social vulnerability⁽¹⁷⁾.

Although this study contributes to the understanding of the reasons for non-adherence to the H1N1 vaccination campaign among parents and caregivers of children, it is still vital to explore how they obtain vaccine information. It is important to highlight that the research was carried out in the context of a city in the South of the country. The reasons may vary due to cultural issues in other contexts and historical moments. For example, there was great demand for the yellow fever vaccine, due to the recent outbreak in the country. After this outbreak had been controlled, however, the demand returned to normal. The same phenomenon could be observed at times when there were outbreaks of deaths by the most severe forms of influenza, but the disease was not a constant concern of the population.

● CONCLUSION

Currently, in the health decision-making process, it is important that professionals and managers know not only the clinical benefits of the interventions, but also perform a cost-benefit analysis so as to better apply the resources. Comparing the mean cost of the vaccine with hospital admission costs, it is perceived that prevention is the best option, both financially and globally, as the consequences of hospital admissions have a greater impact on personal life as well as on society.

The main reason the parents did not vaccinate the children was the fear of the adverse reaction. This collective fear is closely related to an imaginary that the vaccine can cause a sequel, a risk that would not justify the prevention of simple flu. Among the measures necessary to improve vaccine coverage, we can mention: intensification of information in primary care; conducting campaigns in kindergartens and schools; and, especially, strengthening the work of community health agents.

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