

MOTHERS' KNOWLEDGE REGARDING THE VACCINATION PROGRAM AND FACTORS WHICH LEAD TO DELAYS IN INFANT VACCINATION*

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ABSTRACT: This research aimed to identify the knowledge of mothers of children whose vaccination card was not up-to-date, regarding the basic vaccination program and possible factors which lead to this non-compliance. It is a descriptive study with a qualitative approach, undertaken in a health center which covers the Family Health Strategy for the South of Brazil. 16 mothers participated, whose children had fallen behind in the vaccination program. Data collection occurred through individual semi-structured interviews. Based on thematic content analysis, two categories emerged: Mothers' knowledge regarding vaccination and What leads mothers not to comply with the child vaccination program. It is concluded that clear information and communication between mothers and professionals are fundamental for promoting compliance with the child vaccination program. **DESCRIPTORS:** Child health; Immunization programs; Knowledge; Nursing; Primary Health Care.

*Produced based on the paper: 'Knowledge and factors which lead mothers not to comply with the child vaccination program', presented to the Faculdade Nossa Senhora de Fátima in 2012.

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Received: 10/01/2013

Approved: 16/12/2013

INTRODUCTION

Vaccination is a means of protection of great importance for the population⁽¹⁾, considering that it assures protection against illnesses. At the present time, as a result of the efficiency in the prevention, poliomyelitis and smallpox have been eradicated in Brazil, evidencing the success of vaccination and health education⁽²⁻³⁾. Given the high costs with hospitalization and attendance in hospitals, for therapy and restoration of health, and the suffering and pain to which the ill individual is prone, vaccination is worthwhile for the health service users and its administrators⁽⁴⁻⁷⁾.

In 1973, the Brazilian Ministry of Health launched the National Immunization Program, which, nowadays, achieves significant responses in the monitoring of vaccine-preventable diseases and – in a preventive character – aims to offer vaccines with quality to the population. In recent years, the Brazilian government has offered specific actions, such as the National Vaccination Day Campaign, and the vaccination practices in the Primary Health Care Centers. So as to support these proposals, with the aim of increasing vaccination actions, the World Health Organization created the Extended Immunization Program, whose objective is to immunize the greatest possible number of people, principally children and the elderly, who are more susceptible to diseases⁽⁸⁻⁹⁾.

To this end, the Unified Health System has improved access in Primary Health Care, contributing to Brazil's achieving the fourth objective of the first Millennium Development Goal, which is the reduction of infant mortality⁽¹⁰⁾. In this context, compliance with the child vaccination program is essential; in the light of the innumerable contagious and vaccine-preventable diseases, it constitutes one of the elements responsible for the reduction in the coefficient of infant mortality^(1,5,8). Child vaccination has been successful in various nations through large-scale vaccination campaigns and there has been important progress in disease surveillance and annihilation⁽¹¹⁾. Children, like the elderly, are more prone to illnesses; for this reason, a lack of care in complying with the child vaccination program can promote harm, which can be transformed into significant public health problems^(1,4).

Due to inadequate measures of basic sanitation, the prevention of illnesses is set back, but that purely prophylactic measures – such as vaccination – can promote the possibility for mitigating episodes of illness⁽⁵⁾. However, vaccinating involves a relationship between

the population and the health workers, transcending the act of administration of medication⁽⁶⁾. As the nursing team has greater contact with the service user, it is of fundamental importance to emphasize that this team has the power to intervene in relation to health education, being able to guide mothers and/or caregivers regarding the importance of child vaccination⁽¹⁾.

As the vaccinator, the nursing professional has the opportunity to act as an educator at the time of the vaccination, transmitting fundamental information referent to the prevention of illnesses, contributing to the families perceiving the value of immunization, defined as a method capable of avoiding illnesses⁽¹²⁾. In addition to this, in order for those responsible for the children to have knowledge about the importance of vaccination, it is necessary for the nursing professional working in the vaccination room to be fully-informed regarding vaccination, as knowledge in the area of health care improves daily⁽¹³⁾. A study undertaken in the State of São Paulo, Brazil, on the child vaccination situation, however, revealed that there were shortcomings of knowledge and of communication between the health services and the service users⁽¹⁴⁾.

The motivation for undertaking the present study comes from the authors' involvement in Primary Health Care, as their experiences allowed closeness to the issue and involvement in the care for the children. Taking into account that there are actions which assist in complying with the vaccination program, as in the examples of the vaccination campaigns or the active search undertaken by the Community Health Workers, the following research questions emerged in this context: What knowledge do those responsible for the children have, regarding child immunization, and which factors interfere in compliance to the child vaccination program?

Therefore, this study aimed to identify the knowledge of mothers of children whose vaccination card was not up-to-date, regarding the child's basic vaccination program and investigate the possible factors which lead to non-compliance with the child vaccination program.

METHOD

This is a descriptive study with a qualitative approach, undertaken in a Primary Health Care Center which covers the Family Health Strategy in a municipality in the south of Brazil. 16 mothers whose children were behind in the vaccination program participated in the research. The following inclusion criteria were used to select the participants: to be part of the population

signed up to the Primary Health Care, and to be the mother of a child below 10 years old, behind in the immunization program. The exclusion criteria were: mothers of children who were immunosuppressed, and mothers aged below 18 years old. The criteria of data saturation was used for determining the number of participants; that is, when the information became repetitive, the collection of information was ceased⁽¹⁵⁾.

Data collection took place during September 2012, a period after the National Child Vaccination Campaign, in which the Community Health Workers were carrying out an active search. The technique of semi-structured interview was used, one of the main means of investigation for the collection of data which has a qualitative focus⁽¹⁶⁾. The interviews were held in the facilities of the UBS, at previously-agreed times, with privacy being preserved and interruptions being avoided. Prior to starting the interviews, the principal researcher checked the child's vaccination card so as to have certainty regarding the vaccines which were late to be given. So as to make better use of the information, the interviews were recorded and transcribed for later analysis.

The data was treated with the technique of thematic content analysis, following the stages: pre-analysis, exploration of the material, and treatment of, inference from, and interpretation of, the results obtained⁽¹⁶⁾. The following categories emerged from the analysis: Mothers' knowledge regarding vaccination and What leads mothers not to comply with the child vaccination program.

The present research respected Resolution 196/96, was approved by the above-mentioned municipality's Health Department, and obtained approval from the Ethics Committee of the study's institution of origin, under Decision n. 02779212.4.0000.5523 and Decision of Approval n. 96,966. All the participants read and signed the terms of Free and Informed Consent. So as to ensure anonymity, the participants were identified by the letter I (Interview) followed by a number, according to the chronological order in which the interviews were held (I1, I2, ..., I16).

RESULTS

In the characterization of the participants in the research, it was ascertained that the age range was between 18 and 49 years old, the majority of the mothers were married or in a stable relationship, had not finished junior high school, and were integrated in the job market, with a mean monthly income of R\$800.00. The number of children the participants had varied between one and seven.

On the vaccination card, the following vaccines were found to be behind schedule: the Measles Mumps Rubella, the PCV (pneumococcal conjugate vaccine), meningococcal, the pentavalent, rotavirus, poliovirus (oral and injectable), yellow fever (the municipality is in a region where the disease is endemic, and since 2008 this vaccine has been mandatory) and Diphtheria-Tetanus Pertussis.

Mothers' knowledge regarding child vaccination

In general, the participants in the research demonstrated that they understood that immunization is protection for the child to prevent various diseases. This knowledge is represented through the accounts:

I know it's very important, for preventing various illnesses. (I1)

For the body to have a defense. (I6)

[...] and to prevent against diseases, for them [the children] to become immune to the diseases. (I7)

In addition to this, some of the participants recognized that in the absence of the vaccination, the children are more vulnerable to diseases:

He [the child] was always ill. And [...] as you vaccinated him properly, [...] he got better. (I9)

My other one [daughter] who's seven, caught pneumonia because of not getting the vaccine. (I10)

However, although they associated that the vaccine confers immunological protection on the child, some participants mentioned not knowing or remembering which diseases are prevented by the vaccination:

All I know is that it's so they don't get ill. I don't know [which disease]. (I13)

I've been told, but now, in my head, I don't remember. (I5)

I think it's to fight some diseases. (I9)

What leads mothers not to comply with the child vaccination program

In the analysis of the data, it was ascertained that some participants mentioned that receiving the vacci-

nations in accordance with the vaccination schedule was hindered by the impossibility of attending the health service due to their working hours, or due to the health conditions of the mothers, as represented in the following accounts:

It's because I'm working, isn't it? [...] Today, I took time off. (I10)

It's because I've got fibromyalgia, when it attacks I can't get up, it lowers your immunity, everything goes wrong. They [her children] help me because I can't leave the house, you know!? (I13)

Other participants mentioned that the accessibility to the health center, especially on rainy days, makes it difficult to comply with the program, as shown in the following statements:

The walk up here is rather hard for me, because she [the child] is heavy and I live down there [...] if the weather's good I always come. It's far, but I come anyway [...]. What makes it a bit difficult is rainy days. (I15)

It's because I live down there [...]. It's just because it's really far. (I16)

Among the reasons which the participants mentioned as influencing falling behind with the vaccination program, the lack of immunobiological products in the health center stands out. Thus, according to some reports, what led to the delays with the child vaccinations was:

The delay in the arrival of the vaccine [at the UBS]. (I5)

They had run out of the vaccine, that's why [...] there was a delay. (I8)

However, it stands out that the information received by the health professionals also has an important influence on the compliance with the child vaccination program. Although all the participants attended the health center at the request of the multiprofessional team, some mentioned that the delay in the vaccination program occurred due to medical advice:

The doctor said that she was too young [to receive the vaccination for yellow fever]. She [the doctor] said it was good for her [the child] to do it after the age of

two years old. (I6)

It was at the request of the pediatrician, because she told me to do the chickenpox vaccination which comes with the MMR vaccine. I've already rung various private clinics and I haven't found this chickenpox with the MMR. (I12)

DISCUSSION

In this study's results, it is observed that the participants had a low educational level, which contributes to shortcomings in learning and, consequently, their knowledge; it may contribute to failure to comply with the vaccination program. Recent studies have asserted that people with a lower educational level have difficulty in understanding information received⁽¹²⁾. In addition to this, there is evidence that parents who have better knowledge of the stages of the child's progression carry out care practices for their child with greater efficiency and efficacy; as a consequence, child growth and development are influenced positively⁽¹⁷⁾.

On the other hand, the participants articulated that they had some knowledge about child vaccination, making it clear that the aim of vaccination is the prevention of diseases. In addition to this, they recognized that the absence of the vaccination causes vulnerability to diseases, as in the example of pneumonia. It was ascertained, however, that some mothers had insufficient knowledge, as they did not know which diseases may be prevented. This supports studies which reveal that the mothers' knowledge regarding the process of vaccination is insufficient and interferes with the child's development, as it often explains the negligence in the compliance with the child vaccination program, compromising the child's health, in the context of public health^(1,11).

Nevertheless, it is believed that the fact that the participants had low educational levels is not enough to explain their non-adherence to the child vaccination program. There may be other obstacles which contribute to the delay, such as the health professionals' difficulties in transmitting the information about the vaccination program to the child's parents or guardians. In addition to this, the professionals must respect the involvement of the caregivers in this transmission of information and in educational activities. One randomized clinical trial, undertaken with 366 mothers of new-borns from a population with a low educational level in Pakistan, regarding the mothers' knowledge regarding the DTP-3 (vaccine against diphtheria, tetanus and pertussis cou-

gh) and hepatitis B, showed that a simple educational intervention, through illustrated messages, resulted in significant adherence to the vaccination program⁽¹⁸⁾.

The results of another study, however, undertaken in the Northeast of Brazil with nursing professionals who work in vaccination rooms, showed that they too had insufficient knowledge, negatively affecting the information provided to the parents and caregivers⁽¹³⁾. Vaccination is an important preventive act, and in this opportunity it is possible to guide those responsible for the child; however, research has evidenced that, when the caregivers do not understand the importance of complying with the vaccination program, there is low adherence to vaccination^(12,19).

According to the data obtained, the participants understood the importance of complying with the vaccination schedule; however, some mentioned hindrances which led them not to have their children vaccinated on the date previously arranged – such as, for example, rainy days, the working hours, and the vaccine not being available in the UBS. These findings reaffirm data from another study which evidenced that those responsible for the children have various commitments, in particular their working hours, which end up functioning as obstacles to remembering the child vaccination program⁽¹¹⁾.

With legal authority, in particular the Child and Adolescent Statute, the National Immunization Program, which has a preventive character, seeks to reach the highest possible number of children and adolescents. Although the UBS where the study was undertaken covers the Family Health Strategy, under which an active search is made by the Community Health Workers and which is an advantage for the population covered and the health professionals who rely on this service, some participants reported that the delay in the vaccination occurred due to the lack of immunobiological products in the center; a fact which influenced the adherence to the vaccination program. This supports a separate study on compliance with the child vaccination program, which emphasized the lack of vaccines in the Primary Health Care as a reason mentioned by the caregivers/responsible parties for postponing and/or missing vaccinations in the basic program⁽⁴⁾. Furthermore, a study evidenced that each opportunity in which somebody seeks attendance at the Primary Health Care for vaccination and, for whatever reason does not do so, causes harm to vaccinal coverage⁽⁶⁾.

In spite of the important improvement in access to the health services in Brazil, which has facilitated the reduction of infectious and contagious illnesses which can

be avoided through immunization⁽¹⁰⁾, there were in this study reports of difficulty of access, hindering compliance with the vaccinal program. Another study on vaccinal coverage and infant mortality, however, evidenced a disposition for there to be a fall in infant mortality as a consequence of the implantation of health programs likely to ensure fairness, universality and equality in access⁽²⁰⁾.

According to some statements, in the study there is information which is contradictory to the Ministry of Health's recommendations, in relation to compliance with the vaccination program, as these statements indicated that the delay occurred on medical advice. The administration of vaccines should be avoided only if the child has congenital or acquired immunodeficiency, if she has a malignant neoplasm, if she is being treated with corticosteroids on an immuno-suppressive program, or is receiving other immuno-suppressive therapies such as anti-neoplastic chemotherapy and radiotherapy⁽⁸⁾. No participant, however, mentioned these contra-indications. Data published in a study commissioned by the World Health Organization indicate the attitude and knowledge of the responsible parties to be factors which lead to under-vaccination and the non-vaccination of children⁽¹⁹⁾. It is believed, therefore, that health professionals, above all the nurses, must direct their health actions in the promotion of child vaccination towards health education for those responsible for the child, such that knowledge of the importance of the vaccination program may be spread.

A study on the doing of nursing and the knowledge of the responsible parties, regarding vaccination, indicated that in the Family Health Strategy it is the nursing professional who manages – due to her role – to have the greatest link with the health service users; evidencing, in this way, the great responsibility which these professionals have in relation to immunization⁽¹⁾. In this regard, the nursing professional who works in the vaccination room has the privilege of intervening efficiently in the health-illness process, as she can contribute such that the users of this service may adopt healthy and participative behaviors, in addition to the deliberate access to an acquired right, grounded in health promotion.

FINAL CONSIDERATIONS

This study investigated the mothers' knowledge regarding child immunization, and the factors which lead to non-compliance with the child vaccination program; among these, the following stand out: the impossibility of attending the health service because

of work hours or due to the children's mothers' health conditions; accessibility to the health service, in particular on rainy days and when the health center has run out of vaccines; and on medical advice.

Although this study's focus was on the knowledge regarding child immunization possessed by the mothers of those children who had fallen behind with the vaccination program, it is believed that this study contributes to a reflection on the function of the nursing professional in the vaccination room, as this professional's work requires the provision of a care which encompasses health education. In addition to this, it may be understood that the communication between health professionals and the services' users has important influence in the process of the transmission of knowledge regarding vaccination and compliance with the vaccination program. Thus, for those who are responsible for the children to have knowledge of the importance of vaccination, it is essential for the information provided by the nursing professionals to be understood, and for the nursing professionals to be involved with the families which attend the services, seeking to facilitate the communication, such that the service users do not feel embarrassed in asking questions when they have doubts.

Based on this, it is believed that it is important to invest in the work of the nurse in child immunization; above all, in relation to health education and to communication between health team and service users regarding the importance of vaccination. It is emphasized that, for broadening the knowledge of those responsible for the child, a multiprofessional approach is needed, in which all the health professionals use the same language, so that contradictory information may not arise, confusing those seeking prevention of disease through the vaccination.

This research did not present limitations which compromised the results. However, the results presented refer only to a UBS which covers the Family Health Strategy, in which the Community Health Workers are engaged in an active search for children who are not up to date in the vaccination program. It is suggested that further studies be carried out on this same issue, in varying settings and with different research methods.

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