

Frequency of public child care service use and associated factors

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Abstract

Objective: Assess the maternal socio-demographic factors associated with the frequency of use of child care services by low income families.

Methods: Cross-sectional analysis of 393 children between 12 and 16 months old who participated in a randomized field trial during their first year of life in a program of nutritional intervention. The study began in the Brazilian Unified Health System (Sistema Único de Saúde, SUS) of the maternity hospital in the city of São Leopoldo, state of Rio Grande do Sul, Brazil. Children were examined regarding child care follow-up and vaccination schedule by checking the immunization chart. Data were analyzed using statistical tests Pearson's chi square and prevalence ratio (PR) with respective 95% confidence interval.

Results: The frequency of children who were not continuously taken to the child care service was 53.2%. Multivariate analysis suggests that the factors associated with the lack of continuous use of the service were: mother's educational level ≤ 8 years (PR 1.32 95%CI 1.02-1.71), non-nuclear family structure (PR 1.32 95%CI 1.10-1.59) and not being an only child (PR 1.38 95%CI 1.10-1.72). The reasons for lack of follow-up, according to the mothers were: the fact that they thought it unnecessary for 66.2%, problems with the service for 21.7%, difficulties related to their jobs for 6.05%, and other reasons for 6.05%.

Conclusion: The high frequency of children who were not taken to the child health care service for follow-up is associated with low maternal educational level and family structure, as well as the perception that follow-up visits are not necessary when the child does not have a disease.

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Introduction

Child care service is one of the pillars of child and mother health, and there are numerous resources based on scientific evidence that must guide the professional in regard to the more effective procedures in clinical consultation.¹ Such evidence leads the child care guidelines established by the Ministry of Health to promote the full growth and development potential of the child and

to prevent diseases in childhood as well as adulthood.² However, the importance of investigating the reasons that lead the mother to use the health service to this end must be considered. This investigation includes complex factors involving demographic, socioeconomic, psychological, and environmental factors. Such complexity is related to factors that may be classified as enabling to possibility (individual

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socioeconomic and family conditions, income, being near the health care service local and amount of offered services, family support, and others); need (subjective perception of health status); and predisposition (age, sex, education, and race),^{3,4} all of these factors being important to the evaluation of a health service.

The health care service assessment is, currently, a governmental priority to assure quality health care.^{2,5-9}

Despite the advance in researches that aim at analyzing the health care service quality, there are still few studies with child population preoccupied with analyzing the association of social-environmental conditions that influence negatively in the child care service use.¹⁰⁻¹⁵ General results point the low frequency in child care in socioeconomically disadvantaged populations, given that the disease is the main reason for seeking the health center.

These data are necessary to subsidize the reorientation of the health system management and broaden this program's attention coverage. This study seeks to assess the frequency of use of child health care services and the factors associated to this practice in the first year of life.

Methods

This study is a cross-sectional analysis of a randomized field trial with children selected at birth in the Centenário hospital, the only one in the city of São Leopoldo, Brazil, and only in the Brazilian Unified Health System (Sistema Único de Saúde, SUS) sectors. The eligible infants for the study had birth weight higher than 2,500 g and gestational age over 37 weeks. At birth, the mother-child pairs were randomized in intervention group and control group, and the intervention group was submitted to a feeding counseling program in the first year of life. 397 children between 12-16 months old were assessed to obtain feeding, anthropometric data and data on the occurrence of morbidities among the intervention and control groups. The calculation of the sample size was directed to a larger study, based on an exclusive breastfeeding frequency up to 4 months of 21.6% in the control group, and estimating a difference of 65% in the frequency of this practice between the groups after the intervention. Other parameters to this calculation were: an 80% power and 95% confidence level, which determined a sample size of 177 children in each group, amounting to 354 children. Considering 25% of losses predicted, 500 mother-infant pairs were recruited for attaining the sample number. The methodology of the initial study was detailed in a previous study.¹⁶

The outcome variable for this study was the child care service use, based on the question addressed to the mother about if their children had been taken to the health care centers by her or by another responsible person to growth and development follow-up or for revision, being this word usually used by the mothers to clarify that the

reason for consultation was not a disease. Consultations carried out by different types of health professionals were considered, and we considered that there were regular follow-up when there were at least six visits during the first year of life, according to the records on the child immunization chart. Such frequency was based on the fact that the child was assessed every two months during the first 12 months of life. Intercurrence consultations were not considered. The appropriateness of the vaccination schedule was assessed through notes on the child's immunization chart.

The independent variables analyzed were father's and mother's education (calculated in years of schooling), monthly family income (total expressed in minimum wage, corresponding to the value of R\$ 250.00 during the period of the study), family structure classified as nuclear (father, mother, and children), and non-nuclear (child not living with both parentes), as well as the reasons for the child not being taken to follow-up in the health care center during the first year of life according to the mother or caregiver.

For the research quality control, collected data were verified by phone calls in 5% of the sample.

The database was organized using the Epi-Info program, version 6.4, with double typing to posterior validate. Analyses were done in the SPSS program, version 13.0. To association analysis, Pearson's chi square test was used. The magnitude of the association was estimated by crude and adjusted prevalence ratio (PR) and respective 95% confidence intervals (95%CI). Multivariate analysis was done through Poisson regression with robust variance estimation. $P < 0.05$ and confidence interval that did not include the unit were considered significant.

The research project was approved by the Research Ethics Committee of the Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, Brazil. During the household interview, the informed consent term was presented to the responsible person, with all the information on the procedures of the research, as well as secrecy guarantee on information obtained and the possibility of refusing to participate in the investigation. Only after agreement and informed consent signing by the responsible person, was the collection started by the interviewers.

Results

From the 397 children who were assessed between 12 and 16 months of age, information on the child care use was obtained from 393 of them. It was observed that 71.6% of the families had a monthly income lower than 3 minimum wages and that 29% presented a non-nuclear family structure. In relation to the mother's instruction degree, 72.8% of them had an instruction time of less or equal to 8 years.

The results showed that the nutritional intervention program did not interfere in the frequency of use of this kind of health service. It was seen that 53.2% of the children studied were not regularly followed-up in child care consultations, with no existing statistic difference between the intervention group (n = 78) and control group (n = 131) [relative risk (RR) 1.18; 95%CI 0.96-1.46], of 48.4 and 56.5%, respectively. The frequency of the vaccination schedule up-to-date was also not different between groups (RR 0.99; 95%CI 0.92-1.06), given that 142 children were part of the intervention group (88.2%) and 204 of the control group (89.5%). Considering that there was no evidence of difference between groups in terms of absence of a regular use of the service, the analysis of associated factors was done without considering the groups to which the children originally belonged.

Table 1 shows the results of logistic regression. After adjusted analysis, the factors that appeared to be associated to the lack of regular use of the service were: mother's instruction degree equal or inferior to 8 years (PR 1.32; 95%CI 1.02-1.71), non-nuclear family structure (PR 1.32; 95%CI 1.10-1.59) and not being an only child (PR 1.38; 95%CI 1.10-1.72). The 'family income' variable was not associated.

Among the mothers or responsible persons who did not regularly take their children to follow-up in the health care center, 198 answered the question related to the reason. The analysis showed that 66.2% did not consider the follow-up necessary, and that 21.7% said they did not take the children to consultations due to problems with the

service, such as the difficulty of scheduling the consultation due to their morning schedule and non-satisfaction with performance of health workers. Reasons related to work/job represented 6.05% of the answers. Other reasons (6.05%) were the distance between homes and health care center, difficulty of finding support in caring for the other children during the consultation, lack of time by the mother or other responsible person, and the beginning of a specialty treatment to the child (Table 2).

Discussion

The fact that more than 50% of the children were not regularly followed-up during the first month of life must be explored. Considering that the degree of use of the health care services in a population group is explained mainly by its health need profile,^{3,4} this situation requires instructive actions. Such actions must be directed to increase the parents' awareness on the importance of seeking the service to a continuous follow-up to their children's health, and this increase must start with the health care professionals.¹

The initial analysis done between the groups showed that the intervention program had no influence on the mothers' way of using the child care service of the health center. The intervention group received home visits in which the researchers monthly accompanied the infants in the first year of life for measuring weight, height and head circumference, and for feeding counseling practice.¹⁶ This way, this intervention could have had a negative influence on the child care use, which did not occur.

Table 1 - Factors associated to the absence of regular use of the child care service among 12-16 month-old children - São Leopoldo, Brazil

	Lack of regular use of the service, n (%)	Crude analysis PR (95%CI)	Adjusted analysis PR (95%CI)
Maternal schooling			
≤ 8 years	166 (58.0)	1.46 (1.13-1.89)	1.32 (1.02-1.71)
> 8 years	42 (39.6)	1	1
Family income			
< 3 minimum wage	157 (55.9)	1.22 (0.97-1.53)	1.11 (0.88-1.39)
≥ 3 minimum wage	51 (45.9)	1	1
Family structure			
Non-nuclear	69 (61.1)	1.22 (1.01-1.47)	1.32 (1.10-1.59)
Nuclear	140 (50.0)	1	1
Only child			
No	148 (59.0)	1.37 (1.11-1.70)	1.38 (1.10-1.72)
Yes	61 (43.0)	1	1

95%CI = 95% confidence interval; PR = prevalence ratio.

* Poisson's regression.

Table 2 - Reasons reported by the mothers or caregivers for not taking their child for regular follow-up at the child health care center

Reason	n	(%)
Considering it unnecessary	131	66.2
Problems with the health service	43	21.7
Job difficulties	12	6.05
Other reasons	12	6.05
Total	198	100.0

The high frequency of children who were not regularly taken to the child care service for routine follow-up contrasted with the high coverage (90%) of up-to-date vaccination schedule. This strengthening of the understanding of the importance of immunization was mentioned by other studies, in which the main reason for using the service was the child's disease, even if the vaccination schedule regularization was free.^{12,13} The immunization program evaluation, for a decade, showed an increase in the coverage of this program, regardless of family income.¹⁵ Our results corroborate the hypothesis that the perception of the health status by the population is the absence of disease and that health care is motivated by its presence, since 66.1% of the mothers or responsible persons did not consider the regular follow-up for the children in health care services necessary in the first year of life. Data from the 1990s showed that 84% of the children registered in the health care centers of the city of Ribeirão Preto, Brazil, had their child care consultation initiated due to disease, having been suggested to the authors that child care is a priority that must be recovered.¹⁷

Social-environmental factors must be addressed in the child care consultation, considering the child as an offspring of their social environment. When questionings about the child development, the lifestyle, psychological problems and family ambiance are part of the counselling skills among health workers, the basis for the promotion of health is developed and the relation with the family is improved.²

The difficulty of access was the second reason, in terms of frequency, reported by the responsible persons to justify that their children were not taken to the child care service for follow-up. In this aspect, the points highlighted by them were related to the consultations' schedule and lack of satisfaction with the quality of health professionals' attention, in addition to the distance between the service and their homes. The impossibility due to work-related reasons, observed in this study, was also pointed by mothers in other study.¹³ The frequency of use of the health care center by the population

is indicative for its evaluation, but it must be analyzed taking into consideration the causal factors for seeking health care. This analysis points out to the 3 dimensions of a theoretical model that relates individual to institutional factors (health services), being those defined as possibility, necessity, and disposition.^{3,4} The reasons mentioned by the mothers are related to possibility factors.

In this study, factors associated to the lack of regular use of child care centers constitute the possibility (family structure) and disposition (education) dimensions. In a similar study, conducted in Maranhão, Brazil, the association with these two types of factors was also found.¹⁰ These results can be avoided, as they indicate that instruction-related and cultural reasons explain better this behavior, as proposed by the Strategic and Programmatic Actions Department of the Ministry of Health,² and they reinforce the situation of inequity in health found in the country.

For this reason, a national study on the social determinants of health was done, and it was proposed that this theme should start being a part of the health workers' training.¹⁸

Income was not a determining factor for a bigger proportion of mothers using the child care service, given that this was the result found in a similar study after adjustment for confusion factors,¹⁰ and, in other study, with a sample of only one Health Center.¹² This result shows, therefore, that socioeconomic barriers are not what influences negatively in child care service use. However, in a study with adults, low schooling and low income decreased in 56% the use of primary health medical consultation.¹⁹ In this sense, other study undertaken in Rio Grande do Sul investigated child care centers. The results, in general, were satisfactory for the Family Health Program (Programa de Saúde da Família, PSF), compared to the traditional model, but it was still below the ideal in terms of number of consultations in child care. This way, the authors suggested, as a complementary study, the assessment of characteristics of the non-users of health centers near their homes and their reasons for

not using them.¹² Thus, we consider that some answers to this questioning were presented in this study.

The investigation field on the analysis of primary health care quality is constantly growing, according to the proposal of different governmental instances, aiming at adopting it as routine and elaborating feasible instruments and methodologies for its operationalization.^{2,7,8,20}

The conclusions of this study indicate that the high frequency of children not taken to follow-up in public child care service by the families is associated to low maternal schooling and to family structure, as well as to the perception that health care without the child being ill is unnecessary. This way, it is important to establish instructional measures to sensitize the population about the importance of child care in order to reach medium and long-term improvements in health for the children in this socioeconomic level.

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