Health services utilization in areas covered by the family health program (Qualis) in Sao Paulo City, Brazil

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Abstract

Objective
The Family Health Program (FHP) is a strategy for reorganizing the healthcare attendance system within the Brazilian National Health System. The objective of the study was to assess whether there had been changes in the utilization profile of the healthcare services following implementation of the program, and to identify factors associated with any changes observed.

Methods
Data on service utilization and demand for attendance were analyzed by means of two cluster-based population samples, representing areas covered (n=1865) and not covered (n=2036) by the FHP, in two districts of the municipality of São Paulo. The data formed part of a population survey carried out in 2001. Statistical methods for cluster analysis were used.

Results
In the area covered by the FHP, no statistically different prevalence ratios (PR) according to schooling and income levels were observed for service utilization. In the area not covered by the FHP, service utilization was positively associated with greater schooling and income. Among individuals with illnesses, the demand for attendance in the area covered by the FHP was higher (higher PR) among those with severe physical limitations. In the area not covered, the PR was higher among those with greater schooling and lower among those who were inactive (unemployed or retired).

Conclusions
In the areas studied, for the population covered by the FHP, income and schooling levels did not constitute factors that significantly differentiated the utilization profile of the healthcare services and the demand for attendance. This indicates that the program may be contributing towards greater equity under these conditions.

INTRODUCTION

The Family Health Program (FHP) is a strategy for reorganizing the healthcare attendance system within the Brazilian National Health System (*Sistema Único de Saúde* - SUS). It has been described as a tool for promoting equity in the offer of services.[5] This program started to be disseminated at a national level in 1996. It consists of a method of primary attendance that is implemented, as a priority, for populations at high risk, both from the biological and socioeconomic points of view. The proposition behind the FHP is characterized by family-centered actions, so as to seek integration with the community that it forms part of; perform active searches for cases, for early and opportune intervention; and to give emphasis to prevention and education in health. It stands for extension of coverage and facilitation of access, continuity of healthcare actions, multiprofessional teamwork and increased powers to solve problems.[8] The FHP in

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the municipality of São Paulo began with the Qualis program in Itaquera, in 1996, and São Lucas Park, Sapopemba and the Nova Cachoeirinha district, in 1997. It was differentiated from the national program in how it was managed, in establishing working agreements with social organizations, and in incorporating other attendance resources for supporting family healthcare teams, such as oral health, mental health and specialized outpatient services.[10]

There is a pressing need to verify what possibilities the program has for producing an impact in a large metropolis like São Paulo. The impact can be measured through the changes in the utilization profile of the healthcare services among the populations that it covers, and by analyzing whether these changes converge with the objectives of the program. The need for verification comes firstly because it has to be taken into consideration that the populations on the periphery of São Paulo may have a variety of other resources available for healthcare.[11] In this municipality, there is a high degree of development of healthcare attendance, with great complexity of the network of services present. The FHP is therefore not the only alternative in the basket of options that these populations have. Secondly, verification is needed because the impact of the FHP has to be distinguished from the trend towards expanding the utilization of services that has been described for the period 1989-1997.[12] This effect was the result from the implementation of SUS, during a period in which the actions followed the traditional model and the FHP was just beginning. During this period, a small reduction in inequality of service provision could be seen.

Several questions need to be considered when evaluating a given utilization profile for healthcare services. The type of service sought, chosen from within a range that includes basic healthcare units, urgent services, emergency services, specialized outpatient services or clinics, and public or private hospitals, depends on its proximity and the access offered, as well as the social and cultural values associated with such consumption. The reasons for utilization and its frequency, the seeking of attendance at the right moment or late, and the preventive, attendance, laboratory or therapeutic procedures involved are also important aspects to be analyzed.[14] The dynamics established between the clientele and the service, or between demand and offer, are reflected in the degree of problem-solving powers within the healthcare service and the degree of user satisfaction.

The literature relates the intensity and manner of utilizing healthcare services to the level of quality of life and the level of individuals' knowledge of healthcare and the network of services. Individuals' capacity to self-assess their state of health and also their expectations and needs for attendance, their self-care practices, the existence of alternative networks and the relative degree of autonomy that these have also collaborate in this determination.[4] Prominent among the factors associated with the utilization of healthcare services are sex, age, socioeconomic conditions and the morbid condition. In general, healthcare services are utilized more by women, children and the elderly, the more wealthy and more educated, those who have healthcare plans, and those who present morbid conditions.[9]

Equity in healthcare, according to Braveman,[1] consists of the minimization of existing disparities between groups that present differing degrees of social privilege. This implies that need must be considered in healthcare attendance. Part of this inequality in the utilization of healthcare services may be a representation of iniquity, especially in relation to socioeconomic conditions, that does not correspond to inequality in the need for healthcare attendance.[13] Culyier[3] made a distinction between two forms of equity: horizontal, which signifies equal attention to equal needs; and vertical, which signifies unequal attention for different needs.

By comparing two samples, one representing a population covered by the FHP and the other not covered by it, the present study had the objective of analyzing differences in the degree of service utilization (preventive or curative) and in the demand for attendance among those who report some episode of illness. The study also had the objective of analyzing the distribution of service utilization and demand for attendance, according to some indicators of socioeconomic conditions, and sex, age and morbidity (or the respective limitations of activities). For this, it was decided to perform a population-based health survey, since this is one of the best ways for making health diagnoses. This method has the capacity to reveal a more complete picture than an investigation built up from the records of services and institutions.[2]

METHODS

This study formed part of a larger project with the name "Study of morbidity and utilization of healthcare services among the population covered by the Qualis project".* It was also a component of the national multicenter project "New healthcare attend-

ance models: Evaluation of the healthcare program (FHP) in the municipality of São Paulo" which was developed between 1998 and 2002.*

This project was evaluated and approved by the Ethics Committee of Hospital das Clínicas, School of Medicine of the University of São Paulo.

This was a cross-sectional study, for which the data collection was done in two districts attended by the Qualis project (Nova Cachoeirinha and Curuçá districts) between January and March 2001. It covered a total of approximately 190,697 inhabitants. Sampling by clusters was performed. The population analyzed consisted of residents of the Curuçá and Nova Cachoeirinha districts, divided into four strata:

a) 33,949 residents of the part of the Nova Cachoeirinha district that was within the coverage area of the Qualis project units of the Galvão and Ilza Hutzler districts;

b) 76,638 residents of the Cachoeirinha district, outside of the area of coverage of the Qualis project;

c) 27,589 residents of the part of the Curuçá district that was within the coverage area of the Qualis project units of Silva Teles and Santa Rita;

d) 52,521 residents of the Curuçá district, outside of the area of coverage of the Qualis project.

For each stratum, the census sector and the home were adopted as the primary and secondary sampling units, respectively. All those living in the home that was drawn were included in the sample and were interviewed. For the strata b and d, 30 census sectors were drawn, with a probability proportional to the size of the district and, within these, 10 homes were drawn. For the strata a and c, the areas were divided into micro-areas that corresponded to the geographical spaces covered by a single community healthcare agent. For each micro-area (out of a total of 30), 10 homes were drawn. This procedure allowed 300 families to be identified in each stratum.

The present study analyzed the variables sex, age, income, schooling, work situation, pension coverage, healthcare service utilization over the 15 days prior to the interview, demand for attendance among those who reported they had had an episode of illness during the 15 days prior to the interview, and limitations on activities resulting from this episode (only the earliest episode mentioned was analyzed).

For the statistical analysis, the variables were grouped into the categories described in the Tables.

The schooling level attained by the mother or guardian was attributed to children aged less than 15 years. The income classification was based on the minimum salary in force at that time (R$151.00). For the work situation and pension coverage, the classification was based on the information relating to the head of the family.

The data from the questionnaires was recorded in Epi-6 and transferred to Stata 7, for the statistical analysis appropriate for clusters.

Proportions appropriate for clusters were estimated, and Pearson's chi-squared test was utilized with correction using Satterwaite's approximation and transformation into F distribution, as recommended in the Stata 7 program. Through this, it was sought to analyze the differences in the distribution of the "factor" variables, or in other words, the sociodemographic and morbidity variables reported in the two samples. This same method was utilized in univariate analysis of the distribution of the "outcome" variables of service utilization or demand for attendance, according to the sociodemographic variables and reported morbid conditions reported, for each sample. Multivariate analysis of the "outcome" variables in each sample, adjusted for the sociodemographic variables and morbid conditions, was performed by means of Poisson's regression for clusters.[6] The prevalence ratio, 95% confidence intervals and significance level of the associations were estimated. In the multivariate analysis, the sample in question was first selected (area covered by the FHP, or not covered by it), and then the outcome variable being studied was put into the model along with the potential confounding variables (sex, age, reported morbid conditions and indicators of socioeconomic conditions that presented p<0.20 in the univariate analysis).

RESULTS

Table 1 describes the distribution of the variables investigated, in the two samples. It can be seen that there were no significant differences between the samples with regard to sex (p=0.64), morbidity/limitation on activities (p=0.69), or pension coverage (p=0.30). There were no significant differences between the samples in relation to schooling (p=0.05), income (p=0.07) or work situation (p=0.07). Nonetheless, it can be seen that the area covered by the FHP presents lower proportions of individuals with higher levels of education (5.1%), individuals with per capita family income of more than five minimum salaries (4.8%) and em-

ployed individuals (42.0%), and a higher proportion of inactive individuals (25.7%). These same proportions in the area not covered by the FHP were 9.2%, 10.9%, 50.6% and 17.8%, respectively. There was, however, a significant difference in the age distribution (p=0.03), such that the area covered by the FHP had a greater proportion of elderly people (10.4%) than did the area not covered (6.4%). It can also be seen that there was a very low loss of information, which was greatest in relation to income (216/3,901 =5.54%).

In Table 2, it can be seen that the distribution of service utilization in the area covered by the FHP presented significant differences according to sex (females =16.4% and males =10.2%; p<0.001), age (for example, 10-19 years =4.6% and over 60 years =22.9%; for all categories, p<0.001), morbidity (p<0.001), and work situation (for example, employed individuals =11.8% and inactive individuals =18.4%; for all categories, p=0.04). In the area covered by the FHP, no significant differences were observed in relation to schooling (p=0.32), income (p=0.93), or pension coverage (p=0.44). In the area not covered by the FHP, the distribution of service utilization also presented significant differences according to sex (females =17.1% and males =13.1%; p=0.01), age (for example, 20-29 years =8.1% and 50-59 years =23.5%; for all categories, p<0.001) and morbidity (p<0.001). However, no significant differences were observed in relation to work situation (p=0.25), schooling (p=0.26), income (p=0.09) or pension coverage (p=0.81). Comparing the totals for the areas, the service utilization was not significantly different: 15.2% in the area not covered and 13.5% in the area covered (p=0.25).

In Table 3, it can be seen that the demand for attendance in the area covered by the FHP presented significant differences in relation to the degree of limitation on activities resulting from morbidity (for example, 49.75% for slight limitation and 72.76% for severe limitation; for all categories, p=0.04). In the area covered by

Table 1 - Distribution of sociodemographic variables and reported morbidity according to the coverage of the Family Health Program (Qualis). Vila Nova Cachoeirinha and Vila Curuçá, São Paulo, 2001.

Factor	Total area N**	Area covered by the FHP N (%)*	95% CI	Area not covered by the FHP N (%)*	95% CI	p
Sex						0.64
Male	1,852	879 (47.4)	45.4-49.3	973 (48.0)	46.0-50.0	
Female	2,047	986 (52.6)	50.7-54.6	1,061 (52.0)	50.0-54.0	
Age (years)						0.03
<10	717	341 (17.9)	16.2-19.8	376 (17.4)	15.4-19.6	
10-19	793	359 (18.8)	17.0-20.9	434 (19.6)	17.1-22.2	
20-29	685	302 (16.4)	14.6-18.5	383 (19.5)	17.1-22.2	
30-39	589	293 (15.5)	13.8-17.2	296 (15.2)	12.8-17.8	
40-49	482	225 (12.4)	10.8-14.2	257 (13.4)	11.0-16.2	
50-59	312	157 (8.6)	7.2-10.2	155 (8.5)	6.9-10.4	
60 or over	309	186 (10.4)	8.9-12.2	123 (6.4)	4.9-8.3	
Reported morbidity						0.69
None	3,330	1,558 (83.3)	80.2-86.0	1,772 (85.6)	82.4-88.3	
Yes, without limitation	245	127 (6.8)	5.1-8.9	118 (6.0)	4.5-7.9	
Yes, slight limitation	76	40 (2.2)	1.5-3.3	36 (2.0)	1.3-3.0	
Yes, moderate limitation	107	60 (3.2)	2.5-4.2	47 (2.8)	2.0-3.8	
Yes, severe limitation	143	80 (4.4)	3.3-5.8	63 (3.7)	2.7-5.0	
Schooling						0.05
None	172	92 (4.9)	3.6-6.6	80 (3.9)	2.8-5.4	
1st to 4th year of elementary school	1,131	545 (29.6)	26.5-32.9	586 (25.4)	21.4-29.8	
5th to 8th year of elementary school	1,272	613 (32.7)	29.7-35.8	659 (32.9)	28.2-38.0	
1st to 3rd year of high school	1,037	509 (27.8)	24.4-31.4	528 (28.6)	25.5-31.9	
College	226	86 (5.1)	3.7-7.0	140 (9.2)	7.0-11.9	
Per capita family income (minimum salaries)						0.07
<0.5	552	215 (11.6)	7.9-16.7	337 (14.0)	9.8-19.5	
0.5-0.99	781	413 (22.6)	18.5-27.3	368 (17.0)	13.1-21.9	
1-1.99	1,108	541 (29.8)	25.2-34.8	567 (28.1)	23.0-33.8	
2-4.99	1,004	537 (31.2)	26.2-36.7	467 (30.0)	24.0-36.8	
5 or more	240	85 (4.8)	3.2-7.2	155 (10.9)	7.5-15.5	
Work situation						0.07
Employed	1,686	764 (42.0)	36.9-47.2	922 (50.6)	44.1-57.1	
Unemployed	316	137 (7.3)	5.2-10.3	179 (7.9)	5.4-11.6	
Informal/self-employed	988	468 (25.0)	20.4-30.4	520 (23.6)	18.7-29.5	
Inactive	845	461 (25.7)	21.4-30.5	384 (17.8)	13.8-22.8	
Pension coverage						0.30
None	1,339	673 (36.4)	3.1-42.6	666 (31.0)	24.8-37.9	
INSS (state pension)	2,034	905 (49.7)	4.4-55.6	1,129 (56.2)	49.9-62.3	
Private	240	120 (6.9)	4.6-10.4	120 (8.3)	5.8-13.2	
Public servant	197	114 (6.9)	4.3-10.9	83 (4.5)	2.5-7.8	
Total	3,901	1,865 (100.0)		2,036 (100.0)		

*The proportions calculated take into account the different weights of the individuals in the different clusters
**Numbers of individuals for whom no data was available in relation to sex =2; age =14; schooling =63; income =216; work situation =66; pension coverage =91
FHP: Family Health Program

Table 2 - Utilization of healthcare services during the 15 days preceding the interview, according to factors investigated within the Family Health Program (Qualis). Vila Nova Cachoeirinha and Vila Curuçá, São Paulo, 2001.

Factor	Area covered by the FHP				Area not covered by the FHP			
	Total	Services utilized	95% CI	p	Total	Services utilized	95% CI	p
	N	N (%)*			N	N (%)*		
Sex			<0.001				0.01	
Male	986	162 (16.4)	13.9-19.2		1,061	167 (17.1)	14.7-19.9	
Female	879	94 (10.2)	8.1-12.9		973	103 (13.1)	10.7-15.9	
Age (years)				<0.001				<0.001
<10	341	47 (13.3)	9.5-18.3		376	63 (19.2)	14.6-24.8	
10-19	359	16 (4.6)	2.7-7.6		434	42 (11.0)	8.1-14.6	
20-29	302	41 (13.4)	9.4-18.6		383	29 (8.1)	5.2-12.2	
30-39	293	36 (12.2)	8.9-16.4		296	34 (17.2)	11.6-24.7	
40-49	225	46 (20.0)	15.0-26.1		257	37 (16.3)	12.0-21.7	
50-59	157	25 (15.5)	10.2-22.8		155	37 (23.5)	15.8-33.6	
60 or over	186	45 (22.9)	17.1-30.0		123	28 (22.3)	14.6-32.5	
Reported morbidity				<0.001				<0.001
None	1,558	85 (5.3)	4.1-6.8		1,772	92 (6.5)	5.0-8.3	
Yes, without limitation	127	67 (51.8)	41.5-61.9		118	78 (67.5)	56.5-76.9	
Yes, slight limitation	40	21 (47.2)	31.2-63.9		36	23 (55.0)	40.6-68.7	
Yes, moderate limitation	60	29 (47.6)	34.7-60.7		47	35 (74.0)	50.4-88.9	
Yes, severe limitation	80	54 (67.0)	54.3-77.5		63	42 (66.6)	49.0-81.0	
Schooling			0.32				0.26	
None	92	19 (20.9)	13.0-31.8		80	8 (9.3)	4.2-19.3	
1st to 4th year of elementary school	545	81 (14.2)	10.9-18.3		586	85 (15.4)	12.0-19.6	
5th to 8th year of elementary school	613	76 (12.1)	9.3-15.7		659	75 (13.6)	11.0-16.7	
1st to 3rd year of high school	509	68 (13.4)	10.5-17.0		528	77 (17.5)	13.9-21.7	
College	86	10 (12.0)	6.7-20.8		140	24 (18.1)	12.2-26.0	
Per capita family income (minimum salaries)				0.93				0.09
<0.5	215	30 (13.2)	8.0-21.0		337	25 (10.0)	6.5-15.1	
0.5-0.99	413	56 (13.4)	9.8-18.0		368	47 (12.5)	7.6-19.8	
1-1.99	541	81 (14.8)	11.6-18.7		567	74 (14.8)	11.3-19.2	
2-4.99	537	75 (13.7)	10.8-17.3		467	80 (19.0)	15.5-23.2	
5 or more	85	10 (11.4)	6.7-18.8		155	30 (19.2)	13.0-27.6	
Work situation			0.04				0.25	
Employed	764	91 (11.8)	9.5-14.7		922	124 (16.6)	14.0-19.5	
Unemployed	137	17 (12.3)	7.5-19.4		179	16 (9.9)	5.8-16.2	
Informal/self-employed	468	59 (12.2)	8.3-17.7		520	73 (14.4)	11.3-18.2	
Inactive	461	88 (18.4)	14.8-22.7		384	55 (15.4)	13.4-21.2	
Pension coverage			0.44				0.81	
None	673	86 (11.9)	8.8-15.8		666	90 (14.7)	11.5-18.5	
INSS (state pension)	905	139 (15.3)	12.7-18.3		1,129	150 (15.7)	12.7-19.3	
Private	120	12 (11.6)	6.9-18.9		120	13 (14.0)	9.3-20.7	
Public servant	114	18 (15.4)	9.2-24.8		83	15 (18.6)	11.9-28.0	
Total	1,865	256 (13.5)	11.6-15.7		2,036	270 (15.2)	13.3-17.3	0.25

*The proportions calculated take into account the different weights of the individuals in the different clusters

the FHP, there were no significant differences in the distribution of the demand for attendance, in relation to sex (p=0.12), age (p=0.42), schooling (p=0.19), income (p=0.79), work situation (p=0.65) or pension coverage (p=0.48). In the area not covered by the FHP, significant differences were seen in the distribution of the demand for attendance with regard to schooling (for example, none =41.9% and college-level =85.2%; for all categories, p=0.02) and work situation (for example, inactive individuals =53.0% and informal/self-employed =77.6%; for all categories, p=0.03). On the other hand, no significant differences were seen regarding sex (p=0.13), age (p=0.10), degree of limitation (p=0.76), income (p=0.97) or pension coverage (p=0.61). Comparing the total for the areas, the demand for attendance was significantly different: 56.8% in the area covered and 69.4% in the area not covered (p=0.02).

Tables 4 and 5 describe the results from the multivariate analysis, i.e. associations between the variables of outcome and each factor investigated, after

adjustment for potential confounding variables, within each area studied.

In Table 4, it can be seen in relation to service utilization that, in the area covered by the FHP, there were significantly lower prevalence ratios for the male sex (PR=0.77) and for the age range of 10 to 19 years (PR=0.36), and significantly greater prevalence ratios for those who presented morbidity with some degree of limitation. No significantly different prevalence ratios regarding schooling, income, work situation and pension coverage were observed. In the area not covered by the FHP, there was also a lower prevalence ratio for the male sex (PR=0.80) and a greater prevalence ratio for morbidity with some degree of limitation. It was, however, noted that with regard to age there were lower prevalence ratios for the categories of 10-19 years (PR=0.58) and 20-29 years (PR=0.44). For schooling there were greater prevalence ratios for the categories of 5th to 8th grade (PR=2.31), high school (PR=2.53) and college edu-

Table 3 - Demand for attendance during the 15 days preceding the interview, among the individuals who mentioned episodes of illness, according to factors investigated within the Family Health Program (Qualis). Vila Nova Cachoeirinha and Vila Curuçá, São Paulo, 2001.

Factor	Area covered by the FHP				Area not covered by the FHP			
	Morbidity reported N	Attendance sought N (%)*	95% CI	p	Morbidity reported N	Attendance sought N (%)*	95% CI	p
Sex				0.12				0.13
Female	184	113 (60.2)	52.9-67.1		158	114 (73.3)	63.3-81.5	
Male	123	66 (51.6)	41.2-61.9		106	68 (56.8)	53.0-74.3	
Age (years)				0.42				0.10
<10	47	33 (69.6)	51.5-83.1		53	46 (88.8)	78.6-94.5	
10-19	37	17 (45.2)	27.3-64.4		42	28 (67.5)	52.6-79.5	
20-29	42	26 (60.4)	45.2-73.8		35	21 (52.8)	29.5-75.0	
30-39	50	26 (51.6)	39.3-63.8		34	24 (73.8)	57.6-85.4	
40-49	46	29 (60.1)	45.3-73.4		34	22 (70.2)	49.5-85.0	
50-59	37	20 (52.6)	35.6-69.0		34	23 (63.7)	43.5-80.0	
60 or over	48	28 (55.7)	40.9-69.6		31	18 (65.6)	43.5-82.5	
Degree of limitation				0.04				0.76
No limitation	127	68 (51.96)	41.6-62.1		118	77 (66.5)	54.4-76.8	
Slight	40	22 (49.75)	33.8-65.7		36	26 (65.1)	46.5-80.0	
Moderate	60	30 (50.08)	36.8-63.3		47	35 (74.0)	50.4-88.9	
Severe	80	59 (72.76)	57.5-84.0		63	44 (72.8)	56.4-84.9	
Schooling				0.19				0.02
None	17	12 (71.6)	45.4-88.5		14	5 (41.9)	17.8-70.6	
1st to 4th year of elementary school	104	56 (52.1)	40.8-63.2		98	64 (59.6)	48.4-69.8	
5th to 8th year of elementary school	99	52 (50.1)	39.6-60.6		64	46 (74.1)	59.1-85.0	
1st to 3rd year of high school	73	51 (69.3)	55.0-80.7		71	52 (76.3)	65.2-84.8	
College	11	6 (52.9)	18.6-84.8		16	14 (85.2)	56.7-96.2	
Per capita income (minimum salaries)				0.79				0.97
<0.5	33	19 (56.1)	34.5-75.7		22	15 (68.8)	47.4-84.4	
0.5-0.99	63	37 (56.7)	42.8-69.6		47	32 (69.6)	47.1-85.5	
1-1.99	82	53 (64.1)	52.9-74.0		80	56 (67.1)	50.8-80.0	
2-4.99	106	61 (54.4)	42.8-65.7		73	49 (71.4)	59.9-80.7	
5 or more	11	6 (57.7)	29.9-81.4		27	20 (71.6)	55.1-83.9	
Work situation				0.65				0.03
Employed	120	70 (56.3)	45.2-66.8		121	89 (73.9)	63.2-82.8	
Unemployed	24	12 (49.0)	26.2-72.3		14	9 (67.3)	39.0-86.8	
Informal/self-employed	67	36 (52.8)	35.8-69.3		64	49 (77.6)	64.4-86.9	
Inactive	92	60 (63.2)	51.6-73.5		62	33 (53.0)	35.7-69.6	
Pension coverage				0.48				0.61
None	113	60 (51.3)	39.4-63.0		87	64 (73.7)	62.4-82.5	
INSS (state pension)	154	97 (61.0)	51.9-69.4		145	95 (66,0)	54.1-76.3	
Private	10	7 (70.8)	34.6-91.8		10	8 (83.8)	41.9-97.4	
Public servant	23	14 (58.4)	35.2-78.4		19	13 (70.5)	39.1-89.9	
Total	307	179 (56.8)	49.9-63.5		264	182 (69.4)	60.9-76.8	0.02

*The proportions calculated take into account the different weights of the individuals in the different clusters

cation (PR=2.99), with a significant linear trend (p<0.001). For income, there were greater prevalence ratios for the categories of 2-4.99 minimum salaries (PR=1.52) and >5 minimum salaries (PR=1.61), also with a significant linear trend (p=0.036).

In Table 5, with regard to the demand for attendance among those who reported episodes of illness, it can be seen that, in the area covered by the FHP, there was a significantly lower prevalence ratio for the ages of 10-19 years (PR=0.64), and a greater prevalence ratio for a severe degree of limitation (PR=1.38). No significantly different prevalence ratios were observed for sex, schooling, income, work situation and pension coverage. In the area not covered by the FHP, significantly lower prevalence ratios were observed for the ages of 10-19 years (PR=0.71), 20-29 years (PR=0.55), 30-39 years (PR=0.77) and 40-49 years (PR=0.75), and also for inactive individuals (PR=0.69). Higher prevalence ratios were observed for schooling, in the categories of 5th to 8th grade (PR=1.90), high school (PR=2.01) and college

education (PR=2.38). These latter categories also presented a significant linear trend (p=0.001).

DISCUSSION

Various cross-sectional analyses are possible in examining the question of access to and utilization of healthcare services. The present study gave priority to two fundamental aspects of this: the utilization of services and demand for attendance among those who reported some episode of illness. Both aspects related to the 15 days preceding the interview. The utilization of services was considered to be any preventive or curative motive or type of service provided that would translate the user-provider relationship in a broader sense. The demand for attendance, among the individuals who reported some episode of illness, brought into evidence how this relationship was reconciled with specific situations. In such cases, certain needs were established, thereby generating the seeking of healthcare attendance, in which there

were more intense and specific expectations that needed to be attended to.

In the attendance model implemented through the FHP, the organizing of the attendance and the types of professionals differed from those in the "traditional" basic attendance. This could modify the utilization patterns or demand for healthcare services. The actions of community healthcare agents, in particular, in forming the link between the home and the healthcare services, may contribute towards lower demand for services, without this necessarily signifying decreased access or lack of attendance. This is because the needs are possibly being attended to through the agent's intermediation, without the individual having to go to the healthcare unit.[10]

The fact that the samples from the areas covered and not covered by the FHP were very similar regarding sociodemographic variables, with the sole exception of the age distribution, has very important significance.

The choice of the Curuçá and Nova Cachoeirinha districts for the original implementation of the FHP was made without significant sociodemographic bias. The areas studied reflect the general characteristics of the districts that they form part of, which occupy the 18th and 19th places in the ranking of Human Development Indices for the 31 administrative subdivisions of the city of São Paulo.[7] The sampling methodology for the present study succeeded in obtaining two samples with a high degree of comparability. Thus, the internal validity (comparison between samples) and external validity (generalization to the population studied) are strengthened. Other positive points of the study were the low loss of information and the successful treatment of confounding effects through the multivariate analysis.

Although the intensity of service utilization reported did not differ between the samples, its distribution according to the sociodemographic variables presented important differences. According to age, while the area not covered by the FHP presented greater utilization

Table 4 - Distribution of the utilization of healthcare services during the 15 days preceding the interview, according to factors investigated within and coverage of the Family Health Program (Qualis). Vila Nova Cachoeirinha and Vila Curuçá, São Paulo, 2001.*

Factor	Utilization of services	
	Area covered by the FHP OR (95% CI)	Area not covered by the FHP OR (95% CI)
Sex		
Male	1.00	1.00
Female	0.77 (0.62-0.95)	0.80 (0.64-0.99)
Age (years)		
<10	1.00	1.00
10-19	0.36 (0.22-0.61)	0.58 (0.44-0.77)
20-29	0.93 (0.68-1.28)	0.44 (0.30-0.64)
30-39	0.77 (0.57-1.04)	0.79 (0.53-1.17)
40-49	1.12 (0.80-1.58)	0.79 (0.53-1.17)
50-59	0.73 (0.50-1.08)	0.79 (0.57-1.09)
60 or over	0.99 (0.67-1.45)	0.94 (0.63-1.40)
Reported morbidity		
None	1.00	1.00
Yes, without limitation	9.16 (6.85-12.24)	10.17 (7.60-13.62)
Yes, slight limitation	8.54 (5.87-12.43	7.28 (4.92-10.77)
Yes, moderate limitation	8.16 (5.65-11.78)	10.99 (7.93-15.22)
Yes, severe limitation	10.52 (7.80-14.18)	9.79 (6.78-14.13)
Schooling		
None	1.00	1.00
1st to 4th year of elementary school	0.74 (0.47-1.15)	1.55 (0.95-2.52)
5th to 8th year of elementary school	0.78 (0.49-1.26)	2.31 (1.27-4.20)
1st to 3rd year of high school	0.92 (0.59-1.45)	2.53 (1.49-4.31)
College	0.83 (0.45-1.53)	2.99 (1.50-5.96)
Per capita family income (minimum salaries)		
<0.5	1.00	1.00
0.5-0.99	1.04 (0.68-1.60)	1.29 (0.87-1.90)
1-1.99	1.07 (0.73-1.58)	1.18 (0.81-1.72)
2-4.99	0.85 (0.54-1.35)	1.52 (1.02-2.24)
5 or more	0.92 (0.50-1.69)	1.61 (1.05-2.45)
Work situation		
Employed	1.00	1.00
Unemployed	1.03 (0.64-1.67)	0.73 (0.46-1.16)
Informal/self-employed	1.09 (0.75-1.58)	1.02 (0.78-1.33)
Inactive	1.23 (0.95-1.58)	0.79 (0.60-1.05)
Pension coverage		
None	1.00	1.00
INSS (state pension)	1.15 (0.86-1.54)	1.07 (0.86-1.35)
Private	1.28 (0.75-2.17)	1.32 (0.76-2.30)
Public servant	1.09 (0.70-1.69)	0.92 (0.61-1.39)

*In the area covered by the FHP, data on sex, age, morbidity and work situation were adjusted between each other, and data on pension coverage, income and schooling were each separately adjusted for sex, age and morbidity. In the area not covered by the FHP, data on sex, age, morbidity and income were adjusted between each other, and data on work situation, pension coverage and schooling were each separately adjusted for sex, age and morbidity

among the youngest and oldest among the population, the area covered by the FHP presented lower utilization only for the 10-19 age group (i.e. adolescents). According to schooling and income, while the area not covered by the FHP showed growing utilization among the more privileged categories, the area covered by the FHP did not present any differences between the categories. These results may indicate that one of the impacts of the program could be service utilization that is less unequal and less dependent on socioeconomic conditions, in the area covered by the FHP.

With regard to the demand for attendance among individuals who reported some episode of illness, two matters need to be considered: the proportion of the demand was greater in the area not covered by the FHP, and the demand distribution according to socioeconomic variables differed between the two populations. With the presupposition that there is no repressed demand, it can be supposed that the lower degree of de-

mand may have occurred because of the support from the PSF team, and in particular because of the actions of the community healthcare agents. This is coherent with the observation that, in the area covered by the FHP, the demand was greater among those who reported a severe degree of limitation, a difference that did not occur in the area not covered. Furthermore, the pattern of greater demand was repeated according to age in the area not covered, with greater demand among the youngest and oldest parts of the population, while in the area covered the demand was only lower among adolescents.

According to the indicators of socioeconomic conditions, there was growing demand from the categories with more privileged schooling in the area not covered, while such differences did not exist in the area covered. There were also differences according to work situation, with lower demand from inactive individuals in the area not covered, which did not occur in the area covered. Once again, the results seem

Table 5 - Distribution of the demand for attendance, among the individuals who presented episodes of illness during the 15 days preceding the interview, according to factors investigated within and coverage or the Family Health Program (Qualis). Vila Nova Cachoeirinha and Vila Curuçá, São Paulo, 2001.*

Factor	Demand for attendance	
	Area covered by the FHP OR (95% CI)	Area not covered by the FHP OR (95% CI)
Sex		
Female	1,00	1.00
Male	0.92 (0.73-1.14)	0.82 (0.66-1.02)
Age (years)		
<10	1.00	1.00
10-19	0.64 (0.41-0.98)	0.71 (0.55-0.92)
20-29	0.79 (0.59-1.07)	0.55 (0.35-0.87)
30-39	0.70 (0.52-0.95)	0.77 (0.63-0.96)
40-49	0.79 (0.56-1.10)	0.75 (0.60-0.95)
50-59	0.67 (0.45-1.02)	0.82 (0.64-1.07)
60 or over	0.73 (0.48-1.12)	1.03 (0.78-1.36)
Degree of limitation		
No limitation	1.00	1.00
Slight	0.96 (0.66-1.40)	0.88 (0.67-1.15)
Moderate	0.93 (0.66-1.32)	1.13 (0.85-1.50)
Severe	1.38 (1.09-1.74)	1.08 (0.86-1.37)
Schooling		
None	1.00	1.00
1st to 4th year of elementary school	0.72 (0.49-1.06)	1.43 (0.76-2.68)
5th to 8th year of elementary school	0.72 (0.49-1.07)	1.90 (1.06-3.40)
1st to 3rd year of high school	0.98 (0.67-1.43)	2.01 (1.06-3.81)
Collage	0.80 (0.38-1.67)	2.38 (1.22-4.65)
Per capita family income (minimum salaries)		
<0.5	1.00	1.00
0.5-0.99	1.05 (0.68-1.64)	1.04 (0.72-1.50)
1-1.99	1.18 (0.78-1.81)	1.09 (0.73-1.62)
2-4.99	1.07 (0.67-1.72)	1.17 (0.85-1.60)
5 or more	1.10 (0.63-1.94)	1.16 (0.81-1.65)
Work situation		
Employed	1.00	1.00
Unemployed	0.89 (0.53-1.47)	0.88 (0.59-1.33)
Informal/self-employed	0.91 (0.64-1.28)	1.03 (0.86-1.25)
Inactive	1.11 (0.86-1.42)	0.69 (0.50-0.97)
Pension situation		
None	1.00	1.00
INSS (state pension)	1.19 (0.92-1.53)	0.93 (0.76-1.12)
Private	1.39 (0.90-2.15)	1.06 (0.74-1.52)
Public servant	1.10 (0.73-1.66)	0.93 (0.63-1.35)

*In the area covered by the FHP, data on sex, age, morbidity and schooling were adjusted between each other, and data on income, work situation and pension coverage were each separately adjusted for age, sex and morbidity. In the area not covered by the FHP, data on sex, age and morbidity were adjusted between each other, plus schooling and work situation, and data on schooling, work situation, income and pension coverage were each separately adjusted for sex, age and morbidity

to indicate that one of the impacts of the program has been a distribution of healthcare attendance that has lower dependence on the socioeconomic conditions of the area covered and, importantly, higher dependence on the degree of need (morbidity).

The results from the present study have confirmed the inequalities in the utilization of healthcare services described in the literature in relation to sex, age, schooling and income, and in the demand for attendance according to age, schooling and work situation. Nevertheless, these inequalities are smaller in the area covered by the FHP, which demonstrates coherence with the objective of program relating to the promotion of horizontal equity. Inequality in the utilization of services in the situation of morbidity reported within the last 15 days was confirmed, with greater inequality in the demand for services in the area covered and in accordance with the degree of severity. This is coherent with the objective relating to vertical equity.

These findings indicate that a certain level of access to and utilization of healthcare services among the population living in the poorer areas of the municipality of São Paulo does exist, even in the areas not covered by the FHP. However, in such areas, the presence of the FHP has been shown to be capable of diminishing the effect of the unequal social conditions (as measured via the variables selected), on the access and utilization profile that exists there, with improvement in the social equity in this respect. The present study was not aimed at measuring the social iniquity by reference to an ideal service consumption pattern, or a pattern that would be needed for there to be an impact on healthcare conditions. Rather, it has sought to identify the difference that the FHP, when effectively implemented (as in the cases studied here), may make to the access and utilization profile of healthcare services among a population with these living conditions. This type of study is of great importance for better comprehension of the results and impacts that are possible through the implementation of the FHP, which may be distinct, depending on the living conditions and access to healthcare service among the target population.

ACKNOWLEDGEMENTS

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