EQUITY IN THE FAMILY HEALTH STRATEGY (FHS)

Equidade na estratégia saúde da família (ESF)

Equidad de la estrategia de salud de la família (ESF)

ABSTRACT

Objective: To associate the implementation of the Family Health Strategy (FHS) between 2001 and 2010 with the variables of the Municipal Human Development Index (MHDI) and socioeconomic indicators. **Methods:** Ecological study collected information on the MHDI, socioeconomic indicators, and the FHS, regarding the number of Community Health Workers (CHW), Family Health Teams (FHT), Oral Health Teams (OHT), and population and relative (%) coverage in 645 municipalities in the state of São Paulo, Brazil, in the period from 2001 to 2010. Descriptive analysis was conducted by means of absolute and relative frequencies for evaluation of each indicator. Non-parametric tests were used: Spearman's correlation coefficient for the FHS variables and the socioeconomic indicators, and Wilcoxon test ($p < 0.05$) for comparison between the two dates. **Results:** There was positive correlation between the increase in FHS and OHT teams, and the MHDI ($p < 0.01$). Social data (access to water, waste collection percentage, and average income presented positive correlation with FHS and population coverage. A negative correlation was found between population coverage (%) and all the social variables except illiteracy. **Conclusion:** The evolution of the FHS in the state of São Paulo during the studied period was positive in fighting the health inequalities.

Descriptors: Health Policy; Health Inequalities; Oral Health.

RESUMO

Objetivo: *Relacionar a implantação da Estratégia de Saúde da Família (ESF) entre 2001 e 2010 com as variáveis do Índice de Desenvolvimento Humano Municipal (IDH-M) e indicadores socioeconômicos.* **Métodos:** *Estudo ecológico coletou informações sobre o IDH-M, indicadores socioeconômicos e da ESF referentes ao número de Agentes Comunitários de Saúde (ACS), Equipes de Saúde da Família (ESF), Equipes de Saúde Bucal (ESB), cobertura populacional e relativa (%) em 645 municípios do estado de São Paulo no período de 2001 a 2010. A análise descritiva foi conduzida por meio de frequências absoluta e relativa para avaliação de cada indicador. Utilizaram-se testes não paramétricos: coeficientes de correlação de Spearman para as variáveis da ESF e os indicadores socioeconômicos, e Wilcoxon Test (p<0,05) para a comparação entre as duas datas.* **Resultados:** *Houve correlação positiva para o incremento das equipes de ESF e da ESB com o IDH-M (p<0,01). Os dados sociais (acesso à água, percentual de lixo coletado e renda média) apresentaram correlação positiva com ESF e cobertura populacional (p<0,05). Encontrou-se correlação negativa entre todas as variáveis sociais, exceto analfabetismo, com cobertura populacional (%).* **Conclusão:** *A evolução da ESF no estado de São Paulo durante o período estudado foi positiva no combate às iniquidades em saúde.*

Descritores: *Política de Saúde; Desigualdades em Saúde; Saúde Bucal.*

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RESUMEN

Objetivo: *Relacionar la implantación de la Estrategia de Salud de la Familia (ESF) entre 2001 y 2010 con las variables del Índice de Desarrollo Humano Municipal (IDH-M) y los indicadores socioeconómicos.* **Métodos:** *El estudio ecológico recogió informaciones del IDH-M, indicadores socioeconómicos y de la ESF referentes al número de Agentes Comunitarios de Salud (ACS), Equipos de Salud de la Familia (ESF), Equipos de Salud Bucal (ESB), cobertura poblacional y relativa (%) en 645 municipios del estado de São Paulo en el período entre 2001 y 2010. El análisis descriptivo fue realizado a través de las frecuencias absoluta y relativa para la evaluación de cada uno de los indicadores. Se utilizó las pruebas no paramétricas: coeficientes de correlación de Spearman para las variables de la ESF y los indicadores socioeconómicos; y la Prueba de Wilcoxon (p<0,05) para la comparación de las dos fechas.* **Resultados:** *Hubo correlación positiva para el aumento de los equipos de la ESF y de la ESB con el IDH-M (p<0,01). Los datos sociales (acceso al agua, el porcentaje de basura recogida y la renta media) presentaron correlación positiva entre el ESF y la cobertura poblacional (p<0,05). Se encontró correlación negativa entre todas las variables sociales, excepto entre el analfabetismo y la cobertura poblacional (%).* **Conclusión:** *La evolución de la ESF en el estado de São Paulo durante el período del estudio fue positiva para la lucha con las iniquidades en salud.*

Descriptores: Política de Salud; Desigualdades en la Salud; Salud Bucal.

INTRODUCTION

In many countries, health systems have introduced reforms intended to organize the public administration of the health sector with two main objectives: to manage financial resources in order to provide care to the entire population and to combat inequalities in the access to the public health system in order to promote equity through public health policies[1].

Efforts have been made to advance equity in the public health agenda through actions such as the World Health Organization Millennium Development Goals and the Post-2015 Development Agenda[2]. Despite the progress made towards achieving equity in recent decades, health inequalities still exist between countries and regions. Brazil is no exception, with important economic, sociocultural and political inequalities. These inequalities are present not only in the major regions of the country, but also in several localities within a single state. São Paulo, the most populous and developed state in Brazil, is one example.

The 1988 Constitution[3] brought a new political moment for Brazil. Citizenship became the center of constitutional attention, with the expansion of social rights in Brazil primarily in the education and health sectors. Brazil's National Public Health System, known as the Unified Health System (*Sistema Único de Saúde - SUS*), was created by the 1988 Constitution and has as its main principles the: universality, comprehensiveness, decentralization, equity, and social control, which together seek to guide primary health care in Brazil, ensuring the access to the health system for all[4]. Thus, the SUS became the major national social policy with the aim that every citizen, without distinction whatsoever, has access to the system (universality), with attention to the diversity of their needs (comprehensiveness), social justice (equity), and public participation, including for approval of financial resources[5-7].

The Family Health Program (*Programa Saúde da Família - PSF*) was established as the mainstay of the Brazilian health system reorganization movement, consolidating its position as a priority policy of the Brazilian government for primary health care. The evaluation of health policies and programs in Brazil takes on special relevance in a context where the large-scale implementation of strategies for the reorganization of the SUS, such as the PSF, seems to be an irrevocable process that is clearly expanding nationwide. The PSF, currently the Family Health Strategy (*Estratégia de Saúde da Família - ESF*), prioritizes actions to protect and promote the health of individuals and families in a comprehensive and continuous way in an attempt to reorganize the healthcare practice and substitute the hospital-centered model focused on the disease[8].

Naturally, the process of implementing the ESF and the Oral Health Strategy (*Estratégia de Saúde Bucal - ESB*) occurs in complex ways, making it necessary to guide its implementation in order to reduce health inequities. Moreover, health promotion and disease prevention have been targeted as priority areas in the ESF[9].

Therefore, the present study aimed to associate the implementation of the ESF between 2001 and 2010 with the variables of the Municipal Human Development Index (*Índice de Desenvolvimento Humano Municipal – IDH-M*) and socioeconomic indicators.

METHODS

This was an ecological study conducted with information about the IDH-M of the 645 cities of the State of São Paulo collected from the website of the United Nations Development Programme (UNDP)[10]. The Atlas of Human Development in Brazil presents the IDH-M of the Brazilian cities, and the most recent data were published in 2000. We chose to use the IDH-M for the evaluation of

equity in the distribution of the ESF services because of its comprehensive composition, which includes the main determinants of health of the population.

Other socioeconomic information, such as basic sanitation (access to the public water supply, sewage and garbage collection), access to the electricity network, illiteracy, and income for the year 2010 were obtained from the 2010 Census conducted by the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística – IBGE*)[11]. Data collection took place from October to November 2012.

We collected ESF data from the website of the Department of Primary Care of the Ministry of Health[12]; data included the number of Community Health Workers (*Agentes Comunitários de Saúde - ACS*), Family Health Teams, Oral Health Teams, population and relative coverage of each municipality of São Paulo in January 2001 and December 2010.

We conducted a descriptive analysis of data using absolute and relative frequencies for the assessment of each indicator. For statistical analysis, we used nonparametric tests, Spearman's correlation coefficient for the ESF variables and socioeconomic indicators, and Wilcoxon test for the comparison between years 2001 and 2010 with the ESF. Data were fitted in SigmaPlot 12.0 software. Significance level was set to 5% (p <0.05).

RESULTS

The evolution of the Family Health Strategy (ESF) and Oral Health Teams (ESB) is presented in Table I. The population grew significantly between 2001 and 2010, and so did the Family Health Strategy Teams (*Equipes da Estratégia de Saúde da Família - EESF*) and the Oral Health Teams (ESB), with weak positive correlation of the increase in the number of ESF and Oral Health teams to the IDH-M (p <0.01). Except for ACS ESF implemented.

The correlation between social data and the ESF of municipalities in the state of São Paulo in 2010 are presented in Table II. Social data (access to water, percentage of garbage collected and average income) showed a positive correlation to ESF and population coverage (p <0.05). There was a negative correlation between all social variables - except illiteracy - and population coverage (%).

Table I - Growth in the number of Family Health Teams and Oral Health Teams in the cities of the state of São Paulo between 2001 and 2010. São Paulo, 2012.

	Growth between 2001 and 2010	IDH-M 2000
ACS Implemented	17,391	0.26
ACS - Estimated population coverage	484,463	0.22*
ESF implemented	2,540	0.28
ESF - Estimated population coverage	839,231	0.12*
ESB Implemented	1,447	0.10*

ACS: *Agente Comunitário de Saúde* (Community Health Worker); ESF: *Equipes de Estratégia de Saúde da Família* (Family Health Strategy Teams); EBS: *Equipes de Saúde Bucal* (Oral Health Teams). *p<0.01 (Wilcoxon test)

Table II - Correlation between social data and Family Health Strategy in the cities of the state of São Paulo in 2010. São Paulo, 2012.

Family Health Strategy	Social Data						
	Population size	Water (%)	Sewage (%)	Electricity (%)	Garbage collection (%)	Average income	Illiteracy above 15 years of age (%)
ESF	0.51*	0.26*	0.02	-0.07	0.25*	0.17*	-0.32*
Population coverage	0.56*	0.28*	0.02	-0.07	0.29*	0.20*	-0.36*
Population coverage (%)	-0.44*	-0.28*	-0.12*	-0.13*	-0.38*	-0.34*	0.40*
ESB	0.24*	0.11*	-0.04	-0.09*	0.07	0.06	-0.11*

ESF: *Estratégia de Saúde da Família* (Family Health Strategy); ESB: *Equipes de Saúde Bucal* (Oral Health Teams) *p<0.05

DISCUSSION

The growth in the number of ESF teams during the studied period occurred in favor of the major needs of the population and was targeted to cities with smaller populations, contributing to the reduction of social inequalities. Study shows that equity in health services implies that there should be no differences where the needs are the same (horizontal equity), or that health services are provided where the greatest needs are present (vertical equity)[13].

With regard to the access to the public water supply, the growth in the number of Family Health Teams and Oral Health Teams was directly proportional to the increase in the network coverage. These parameters were not confirmed with regard to the access to the public sewer system, except for the percentage population coverage, which presented a pro-vertical equity indicator. Like the study conducted in Complexo do Alemão, we observed difficulties in the access to basic sanitation and healthy environment, showing the real picture of public policies shortcomings[14].

The correlation coefficient of social indicators and the percentage of population coverage inversely proportional in all cases. This leads to believe that the expansion of the strategy is strongly made in cities with smaller populations. The significant inverse relationship between the ESF population coverage percentage and both the sanitation conditions (water, sewer and garbage collection) and the average income of the population suggested that the population coverage of the teams is greater in communities that lack sanitation, which poses a high risk to health. Similarly, the linear and significant relationship between the percentage of illiterate individuals above 15 years and the coverage of the teams demonstrates such reality.

It is important to highlight that, although significant, the correlation found was statistically weak. However, in a more detailed analysis, it would be unwise to say that the correlation found was due to chance factors, as this relationship is as important as the biological risk factors associated with incidence of diseases. Similarly, a study conducted in the city of Porto Alegre, Rio Grande do Sul, found that the presence of the Family Health Center helped reduce the effect of unequal social conditions on the access and use of the health system with improvements in social equity[15].

In Brazil, people not provided with adequate sanitation services are concentrated in the outskirts of large and medium-sized cities and small urban centers. The Family Health Teams should be primarily implemented in these communities, as they are poverty areas where the population suffers from the occurrence of diseases and the difficult access to services[16]. Interventions on social stratification mechanisms are among the most important ways to combat health inequities, including policies to reduce differences in social conditions. In this context, the Family Health Strategy is considered a breakthrough in the organization of primary care through health promotion and disease prevention, contributing to improvements in health indicators[17].

Equitable public policies aim to reduce or eliminate differences in health care resulting from factors considered simultaneously avoidable and unfair[18]. Under this view, such differences refer to those socially determined, such as the exposure to unhealthy working and living conditions and the difficult access to essential services. Thus, the public health policies should be targeted to address the origins of the problems, i.e., eliminate the determinants that cause such differences[19]. Therefore, public policies should not be designed similarly to the entire population; in fact, they should focus on groups with greater social vulnerability.

In Brazil, the Family Health Strategy was first implemented in high-risk regions included in the Hunger Map and then instituted as a governmental strategy. It focuses on provision of health care to families, seeking an integration with the community where it is inserted, with emphasis on prevention and health education in order to act primarily in high-risk and high-vulnerability groups[20].

The inclusion of Oral Health Teams in the Family Health Strategy, which took place between 2001 and 2010, increased the number of Oral Health Teams; however, it was not significant enough to conclude that there is a difference in terms of population size. The growing importance of diseases related to lifestyle and the environment elucidates the change in the way the healthcare industry looks at the population; its organization, from a physical and social point of view, allows the planning of interventions in addition to curative and preventive practices, being close to health promotion[21].

The picture of health inequities is reproduced in the oral health status of the population. Social and economic inequalities may be related to most dental problems and the access to and use of oral health services[22]. An ecological study conducted in 52 municipalities in the state of Minas Gerais suggested that the ESB contributes to the favorable results of the indicators. Thus, with more resources, it will be possible to expand the primary care network and improve the quality of the population's oral health[17].

The expansion of Oral Health Teams coverage in the state of São Paulo, as well as the significant relationship between the Oral Health Teams implemented and water supply conditions, garbage collection and income, in addition to the inverse relationship to illiteracy rate, do not demonstrate the same relationship that Family Health Teams have evidenced[15].

On the other hand, a study conducted nationally between 2003 and 2008 found reduced inequalities in the access to oral health services among low- and high-income individuals. The study also found a slight increase in the use of public dental services by the high-income individuals, suggesting an improvement in the quality of the services and in the access to specialized treatment in the public health system[23]. Similarly, a study conducted in a municipality in Southern Brazil found that municipalities with the worst income distribution and the greatest intensity of poverty presented the highest proportions of oral health collective procedures, which, when carried out with children under the age of 14, were also associated with greater coverage by the Family Health Program[15].

Despite the increasing implementation of the Oral Health Teams in the ESF, the provision of comprehensive care to families is not yet a reality because oral health practices still occur in a piecemeal way. This is evidenced by research conducted in 34 municipalities of Minas Gerais in 2009, in which the municipalities with large ESF coverage presented the highest number of annual medical examinations. On the other hand, it was observed that the expansion of the ESF has contributed little to increasing the number of the first dental consultations[23].

The model of the social determinants of health, which focuses on the relationship between social and health inequalities, is currently a focus. However, discussing the concept of social class as being directly related to income is not enough; it creates a division between the rich and the poor and ignores the various dimensions of human life that make up the real social conditions: economic, political, cultural, ethnic, religious, gender, and other dimensions.

The United Nations, with its United Nations Development Programme (UN/UNDP), have operationalized through the Human Development Index (HDI) a more promising concept for analyzing the social differences in human populations. It is a broad concept that, in addition to incorporating the economic dimension, like the poverty line, includes other important factors in determining the quality of life: health, education, environment, among others[10].

The IDH-M aims to represent the complexity of a municipality based on the human development that it presents. Although it measures the same phenomena assessed in the HDI, the indicators taken into account in the IDH-M are best suited to evaluate the conditions of smaller social centers.

It was found that the evolution of the population coverage by the Family Health Teams and Oral Health Teams in the municipality of São Paulo is in agreement, although in a modest way, with the concept of equity[18]. The evolution is bigger in municipalities with low IDH-M, i.e., places at greater need for the implementation of public policies.

Research has confirmed the association between tooth decay and income inequality[24], demonstrating that the priority approach to groups at higher risk of becoming ill is in line with the reorganization of SUS primary health care and the use of the strategy of the Family Health Program. It is up to health services develop strategies to prevent and control health risks by identifying the groups that need special attention from the government to ensure their rights of citizenship.

The evaluation of population coverage by Family Health Teams and Oral Health Teams and its relationship to the IDH-M and parameters of access to essential public services is of utmost importance to verify the universal access to health, especially by groups with greater social vulnerability, aiming thereby to reduce inequities in access and health conditions of the Brazilian population.

CONCLUSION

The evolution of the ESF in the state of São Paulo during the study period was positive for combating health inequalities.

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