

Access of hypertension and/or diabetes patients to healthcare services in Baixada Santista

Abstract

Arterial Hypertension (AH) and Diabetes Mellitus (DM) are considered a worldwide epidemics whose control poses a challenge to health care services. Within the National Health System, the Family Health Program currently has the dual role of being a system gateway and reference structure. Bearing in mind this scenario, this study assessed the access of AH and DM patients to health care and therapeutic drugs. A household survey was conducted in five municipalities with over 100,000 inhabitants in the *Baixada Santista*. A two-stage self-weighted probabilistic sample was used. Results estimated a prevalence of 26.3% for AH and of 8.8% for DM, AH being more prevalent among women. As to health care, 85.3% of the individuals with AH interviewed reported having had their arterial pressure checked, and 70.2% of those with DM reported having had their glucose blood serum level tested in the preceding six months. Drug treatment was prescribed to 99.4% of these patients, and 62.8% of AH patients purchased such drugs from private drugstores, and 57.9% of DM patients received drugs provided by health centers. Over 90% of the patients had no access to educational group activities, and 78% of AH and 92.5% of DM patients had no supervising home visits. These findings suggest the need for primary health care as the mainstay for the care provided to HA and DM.

Keywords: Diabetes Mellitus. Hypertension. Unified health System.

Ana Aparecida Sanches Bersusa^I

Áurea Eleutério Pascalicchio^I

Umberto Catarino Pessoto^{II}

Maria Mercedes Loureiro Escuder^I

^I Instituto de Saúde. Secretaria de Estado da Saúde de São Paulo.

^{II} Superintendência de Controle de Endemias

Corresponding author: Ana Aparecida Sanches Bersusa, Instituto de Saúde, Rua Santo Antônio, 590 – São Paulo, SP, Brasil. 01314-000 - E-mail: anab@isaude.sp.gov.br

Introduction

Studying chronic–degenerative diseases, e.g., Hypertension (HTN) and *Diabetes Mellitus* (DM) at the current health system in Brazil should be included in the available technological practices under the health care called Basic Care. The care federal programs for patients of such pathologies (articulated at Unified Health System – SUS) have suggested that patients' routine follow-up should be performed at the service entrance doors, which has currently gotten as structure the Family Health Strategy (ESF).

Having ESF as a focus in the context of the access problem to these services, organizational and/or functional dimensions as well as cultural dimensions seem to be more relevant due to the own service organization structure. Theoretically speaking, impeachment factors to services related to geographical and economical-financial dimensions would not be present, as in the case of basic health unities that are fixed at an urban area, demanding patients' displacements¹.

These diseases, due to their high cost to patients and their families, are nowadays a public health problem that must be faced in all its magnitude. After all, World Health Organization (OMS) estimates are that, in 2025, people with DM will be 350 million around the world. And Brazil's estimate concerning HTN is that about 30% of the adults will be this disease patients^{2,3,4}. Studies suggest diversity at prevalence estimates in the studied cities, making them pertinent to the local knowledge reality when related to health planning. Besides, ESF coverage is not homogenous in Brazilian municipalities, often acting concomitantly with the traditional basic health care model.

In this context, this study has had as a target to point at HTN and DM prevalence in Santos Lowland according to sex and age, describing characteristics of health care process to these diseased patients .

Methodology

In order to achieve the proposed objectives, the current study, developed by the Health Institute, has analyzed the household survey information on health service access. It is about a transversal study performed in municipalities with more than 100,000 inhabitants of Santos Lowland: Cubatão, Guarujá, Praia Grande, Santos, and São Vicente, comprehending 84.9% of the population from the metropolitan area. In 2007, the population covered by ESF was of 44.6% in Cubatão, 8.6% in Guarujá, 62.6% in Praia Grande, 5.4% in São Vicente and 6.5% in Santos.

Aiming at comparing the estimates among cities with different health care model and the analysis of questions related to regionalization, Guarujá and São Vicente were considered independent areas. The other three cities (Cubatão, Praia Grande and Santos) were analyzed together.

It was used a sampling technique of clustering in two stages, with probabilities proportional to size (PPS). The first stage had consisted of the random selection from census tracts in each area: 30 in Cubatão, 40 in São Vicente, 30 in Guarujá, Praia Grande and Santos together. The second one was the random selection from dwellings, applying the sample fraction calculated by using 2000 census data⁵.

The sample size was calculated by adopting an estimate of 50% for P interest parameter (use of health systems in the last 15 days), with a sample error of 8% and a 2 delimitation effect, totalizing 300 people. To study aspects related to this event, estimated in 20% of population occurrence, at least 1,500 people living in urban area should be interviewed in each sample area. Considering the different populational quantities of the involved cities, estimating 20% of non-answering rate and introducing necessary burden for estimate calculations, it was defined for the sample size 1,506 interviews for Cubatão, 2,459 for São Vicente and 2,035 for Guarujá, Praia Grande and Santos, totalizing 6,000 people. Considering the ratio of

3.14 people by dwelling in Santos Lowland, it was necessary to visit 1,725 dwellings from which 4.9% of them refused to receive the interviewers, and 5.6% of them were closed at least after three visits in different days.

A total of 6,815 people living in Santos Lowland were interviewed, being distributed among São Vicente (2,663), Cubatão (1,965) and Santos, Guarujá and Praia Grande (2,187) cities from March to June of 2007. The population aged 20 years or over who participated in the survey totaled 4,379 individuals.

Measures for quality control of the data collection and typing of it were adopted, such as interviewers' training, survey 5% of the interviewed people again, questionnaires checking and double-typing.

At this survey, questions on HTN and DM were included, what allowed to estimate the prevalence of these diseases separately, and still the concomitant prevalence of these injuries. The description of this prevalence was analyzed by sex and age according to the categories used in the literature. The following questions presented to the interviewees were extracted from the National Households Sample Survey (PNAD 2003): "Do you have hypertension?"; if the answer was "yes", "Who diagnosed it?"; "When was the last time you had your blood pressure measured?"; "Do you have diabetes?"; if the answer was "yes", "Who diagnosed it?"; "When was the last time you made a blood test because the diabetes?" Regarding the medication, the individual who reported hypertension was asked about their medicament and about whom had prescribed it (a doctor, a pharmacist or another).

To analyze the access conditions to the health services for HTN and DM people, the HTN and DM Health Care Reorganization Plan was adopted as an analytical framework; this plan has been implanted by the Ministry of Health⁵ since 2001. Access to practices and procedures defined as basic for morbidities treatment was investigated as well as their complications at SUS services.

Indicators proposed by Szwarcwald, Mendonça and Andrade⁶ were used in order to evaluate the access on the period when the blood pressure had been measured for the last time for HTN participants as well as for blood glucose test in DM participants; access to specific medicines; participation in educational groups; home visit to people registered at ESF or Community Health Agent Program (PACS); and physical regularity.

Among HTN and/or DM participants who reported being registered at ESF or PACS of the region, issues on home visits and the food care information received, physical exercises and medicines were analyzed, thus aiming at analyzing the access to practices and procedures defined as basic specifically for the ESF covered population.

All estimates and their respective confidence intervals (95%) were calculated considering the complex sample design through the data analysis statistical program STATA. For the analysis of the differences in prevalence estimates among the cities, Chi-Square was used.

The study was approved by Ethical Committee of Health Institute – SES in 2007 under the number 11/97.

Results

The prevalence of each one of the morbidities in individuals aged 20 years or over in this survey was measured through the interviewee's reference. All of them who reported HTN or DM said there had been medical confirmation in it. For the total interviewed population, there were not any differences at HTN and MD prevalence among the studied areas.

Related to the sex, there was difference in the HTN prevalence. Among women, 26.4% (95% CI: 24.3–28.5) reported having HTN, while among men this percentage was 20.1% (95% CI: 17.3–23.0). Related to DM, there was not a significant difference between the genders – 8.3% (95% CI: 7.0–9.6) for women and 7.1% (95% CI: 5.6–8.7) for men.

Figure 1 – Prevalence of hypertension and diabetes in adults aged 20 years or over, according to sex and age. Access Project, 2007.

	Hypertension		Diabetes	
	%	IC (95%)	%	IC (95%)
Sex				
Female	26.4	24.3 – 28.5	8.3	7.0 – 9.7
Male	20.1	17.5 – 23.1	7.1	5.7 – 8.8
Total	23.7	21.8 – 25.7	7.8	6.8 – 8.9
Age group				
20 -- 40 years-old	7.6	5.8 – 9.9	1.5	0.9 – 2.3
40 -- 60 years-old	31.1	28.4 – 34.0	8.7	7.0 – 10.7
60 years-old and more	48.2	44.3 – 52.2	18.4	15.5 – 21.6
Total	23.7	21.8 – 25.7	7.8	6.8 – 8.9

The most important differences were found among the studied group ages. Figure 2 shows the significant increase due to age in both diseases, reaching 48.2% of HTN reported among people aged 60 years or over, and 18.4% of DM reported at the same group age.

Among the respondents aged 20 years or over, 4.3% (95% CI: 3.6–5.0) of them reported having the two injuries concomitantly (HTN and DM), characterizing co-morbidity.

Regarding the blood pressure measurement, 85.3% of the interviewees who had

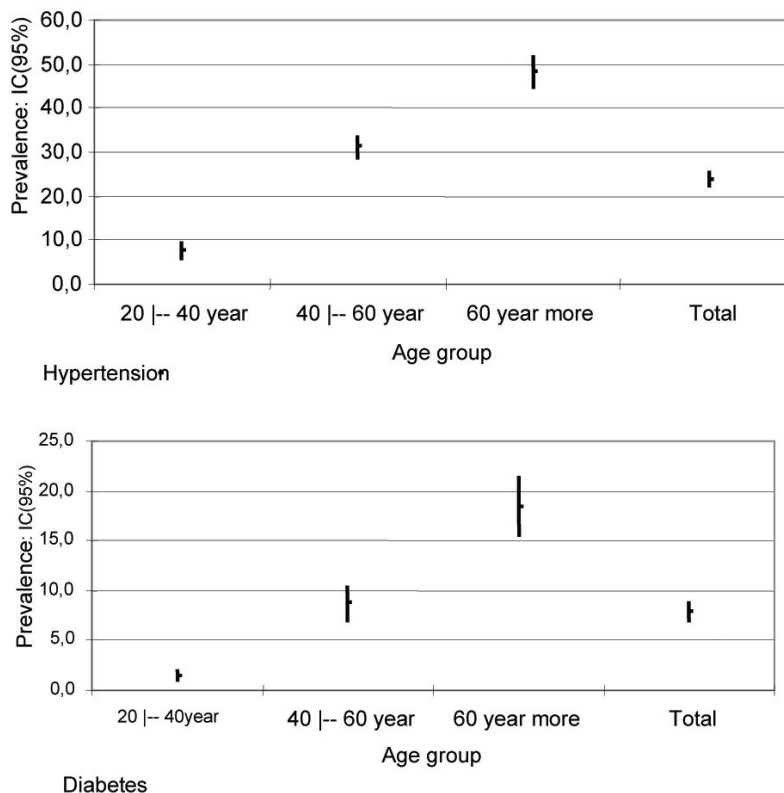


Figure 2 – Prevalence of AH and DM according to age group. Projeto Acesso, 2007.

reported HTN had their blood pressure measured in the last 6 months; 10.4 %, between 6 months and 1 year, and 4.3 %, more than 1 year ago.

As for DM participants, 70.2 % had already made the glucose test more than once, having 49.6 % of them made at least one blood test in the last 6 months; 26.2 % of them between 6 months and one year; and 24.2 % of them, more than a year ago.

Specific medicines were prescribed by a doctor for 99.4% of HTN participants and purchased at a private drugstore (62.8 %) or received at the health service (42.6 %), pointing out that the interviewees,, in this question, could opt for more than one answer, since it is a pathology that generally demands using simultaneous medicines, such as vasodilators and loop diuretics, for instance.

Besides the medicament prescription and acquisition, this study also evaluated the frequency HTN participants took the medicines: 79.3 % of them reported having taken some anti-hypertensive drugs in the last week. Among those of who had not taken any medicine in the last week, 27.3% of them had the forgetfulness as the main cause.

Among the DM interviewees, 75.6 % of them reported having taken oral medicine in the last month, and 18.1 % of them reported having taken insulin. The oral medicament was obtained at a health center or hospital by 57.9 % of the ones who took it, and the insulin, obtained at these services by 60 % of the patients.

The fact of having or not a health plan has been statistically associated with the way DM participants obtain oral medicine or insulin. Insulin was obtained at SUS health services by 95.5 % of DM participants without any health plan; and by 25.8 % of those who had reported owning a health plan or medical insurance. It is relevant to show that, in this survey, health plan coverage in Santos Lowland was of 41.6 %.

Another activity evaluated in this study refers to HTN respondents participating in educational groups. It was verified that 93.4 % had not participated in this activity until the data were collected. Similar proportion was found among those who had reported DM, 90.7 %. There were no differences among those who had or not health plans.

Related to regular search for medical appointment, the proportion between who

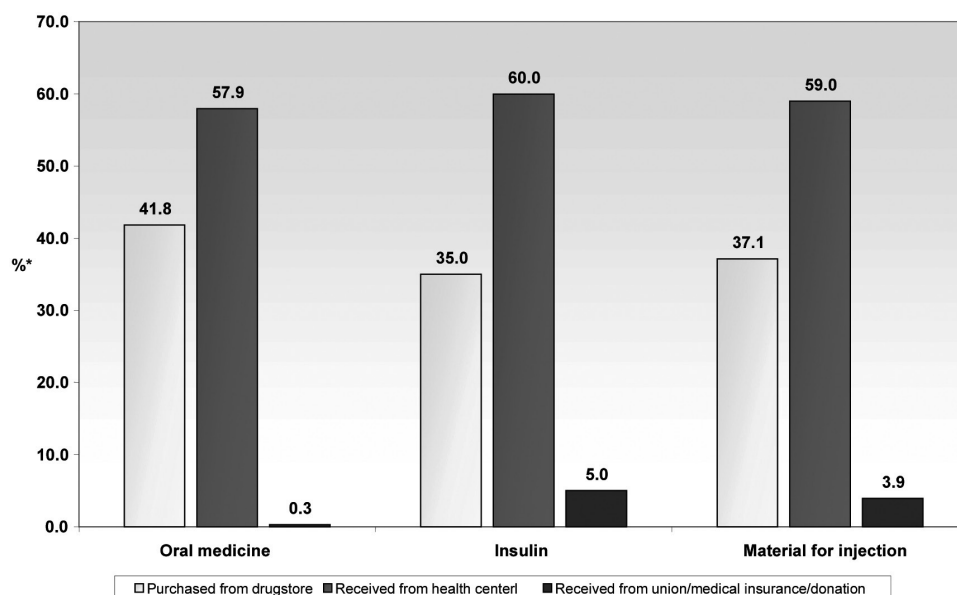


Figure 3 – Percent distribution of how interviewees with DM obtained medication and input. Projeto Acesso, 2007.

has and who does not have a health plan was similar. Among HTN participants, 68.8 % visited a doctor regularly; among DM participants, this percentage increased to 76.9%. The most frequent reason for people not to attend routine consultation is similar to participants of both pathologies: 61.6 % (HTN) and 61.1 % (DM); they did not take it because they see it as unnecessary.

HTN and DM participants' behaviors were also analyzed regarding the food and another specific care adopted before their health problem, with the following results:

Regarding the HTN participants, their diet is related to salt restriction and control, and the DM participants, it is related to restrictions of sugars and carbohydrates and consumption restriction of dietetic products. Yet in relation to DM participants, 2.3 % of them only use insulin when having the problems (the data in the figure above refer to oral medication).

Something that is worthy of notice in Figure 4 is that care related to regular physical activity and weight control is the most neglected care by the studied population.

Among the interviewed HTN participants, 17.4 % are registered at ESF and 7 %, at PACS. From these people, 78 % did not receive ESF's regular visits and 92.5 %, from PACS.

Among DM participants, the numbers are 20 % and 9.1 % recorded at ESF and

PACS respectively. Among them, 78.8 % did not receive regularly ESF's visits and 87.5 % from PACS.

Discussion

The household survey represents an important information source for health planning, mainly for measuring the prevalence of chronic diseases, as well as these services use and search. To raise the indicator of chronic diseases, the present study used the reported morbidity information, strategy used by larger surveys, such as PNAD and World Health Survey conducted by World Health Organization. Although providing less precise indicators than the surveys involving clinical consultation, it had less operational cost.

Surveys reporting prevalence of HTN and DM carried out in Brazil has shown that there are incidence differences among the cities. Sao Paulo Health Survey – ISA, in Sao Paulo, Capital, carried out in 2003, registers prevalence of HTN and DM in people aged over 20 years of 16.7 % and 4.7 % respectively, which are inferior to data found in Santos Lowland. According to V Brazilian Hypertension Guidelines⁴, in 2006, global hypertension prevalence among men is of 26.6 % and women, 26.1 %. In the world literature, reports describing higher hypertension rates have been found for men until 50 years

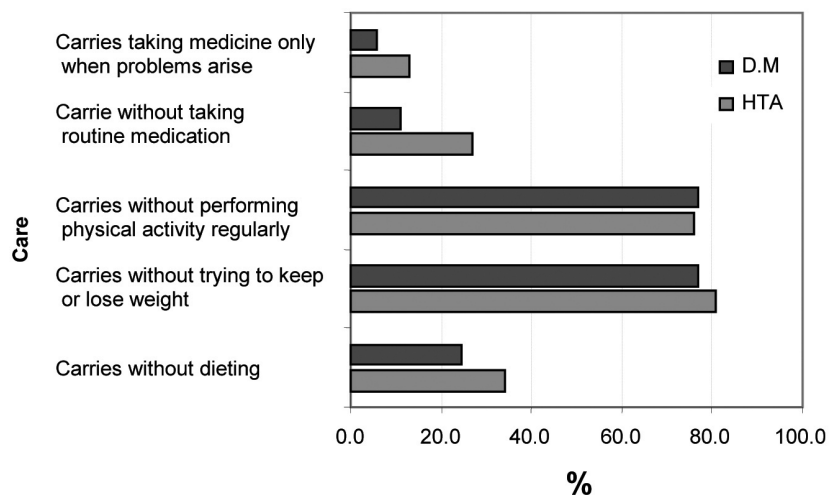


Figure 4 – Specific care neglected by individuals with DM and AH. Projeto Acesso, 2007.

old, and for women over 60 years old.

The presented results have been analyzed using the own SUS law related to basic health care^{3, 5, 9 10}. In general, what was verified is that there was a very great distance between what is recommended by law and what, in fact, occurs in the care to these pathologies participants.

With respect to glucose test, the majority of patients made it. However, when analyzing it in the last 6 months, the indicator reduces to only 49.6%. Integrated and Agreed Programming (PPI)⁹ recommends 4 glucose test per patient/year, and 2 glycolised hemoglobin test per patient/year.

Blood pressure measurement with regularity can be taken as an important quality indicator at Basic Care; however, in Santos Lowland, there are still patients who do not measure regularly their blood pressure, suggesting not having PPI⁹ in its totality, whose commitment is that the hypertensive patient have 6 consultations/nursing per and 2 medical consultations per year, opportunities in which the patient can have their pressure measured.

That is a manifestation of the great distance between what it is standardized and the “executing the action”, because it is considered that blood pressure measurement and glucose measurement is a fundamental procedure for the follow-up of these injuries. Therefore, there is an imminent need of rigorous adjustment in the services of basic care at this activity fulfilling⁹.

An expressive number of patients who use the medicament prescribed by a doctor is another datum found in this study and seen positively. This fact shows that access to medicine through health services can be easier to population who, until recently, had been looking for this at drugstores of their neighborhood.

Concerning the acquisition of prescribed medicine, the majority of patients has access to medicaments through the public sector, but it must be considered that none of all prescribed medicines are available at these places, and a large number of patients still have to buy them at drugstores, what

leads to an important income spending with health. Added to this condition is a need for these patients to take several medicines for co-morbidities and complications, increasing numbers of items to be bought.

Specifically for DM participants, this research has noticed that the majority of insulin dependents acquire the product at SUS services (95.5 % of those who do not have health plan). This datum demonstrates an important progress towards the attention to these pathology carriers because, besides the drug itself, there is a spending with others inputs such as syringes, needles and reagent strips. In Brazil, spending on these inputs represent 35.6 % of minimum wage, and with insulin and the strips it can reach until 70 % of the minimum wage in spending with metabolic control¹¹. The high medicament cost which is not obtained at public services can be an important reason for non-adhesion to the treatment¹².

Other reasons for the non-adhesion to the treatment were pointed out by the interviewees, besides the difficulties to acquire the medicines and forgetfulness. Around 25% of HTN patients had not made use of the prescribed medicament in the last week. A study on hypertensive patient's treatment adhesion has shown that the higher the disease acknowledge time, the more the patient does not take their medicine, reaching 50% of medicine abandon after 6 months of disease acknowledge¹³.

Educational activities at health services can help with the patients' adhesion to treatment, although it is practically inexistent among registered ESF patients. This type of care is recommended by Brazilian diabetes and cardiology societies, as essential for the treatment of these diseases to be more effective^{2, 14}.

PPI⁹, which is a guiding document for health assistance, recommends at least 6 educational activities for groups of up to 15 patients per year. In addition, in programs in which the health family is a health care model (ESF and PACS), group formation in diseases like DM and HTN is considered as one of the most important guidelines.

Health promotion actions aim at collaborating with the pattern of changes in people's attitude. These data of the present study on neglected care have indicated a deficit in integral care health of the assistance programs offered to HTN and DM patients.

Related to home visits, the results are alarming because in both programs ESF and PACS of the studied cities, DM and/or HTN patients have not been receiving professionals' regular visits, reaching 78%, and at the specific case of HTN patients at PACS, it reached 92%.

This result probably reflects the presented loss numbers regarding the personal care for weight maintenance, physical activities development, diets and medication use. In another study on primary diabetes care in the Southern part of the country, similar percentages were also found related to the medication: 10% of them did not take any kind of treatment¹⁵, and in our study, this percentage was of 11%. Even though it had been larger than in Santos Lowland, also in the Southern part of Brazil there was a low adhesion to diets and physical exercises among diabetic people. In this case, however, the number of consultation per year was within the recommended by the program protocol.

Conclusion

In general, the presented results do not evaluate the implementation strategy of primary health care through Family Health and community agents. Elementary actions of control and monitoring of patients have not been executed routinely. The most surprising datum of non-made visits by the teams to the interviewed patients has demonstrated a serious gap in the program structure and, consequently, in the program efficiency.

Efforts for changing the primary care model, tending to hospitalocentric and medicalizing for primary health care centered at multidisciplinary teams, have been a reality which has the federal gover-

nement as its main incentive and inductor. The launching of the Primary Care Health Program associated to the current Family Health Strategy and PACS is an attempt to amplify the primary health care not only in the Northeastern cities, but also in the ones of small territory in other regions and that have only low complexity services installed¹⁶.

However, in cities with a larger capacity installed, such as the Santos Lowland, it is possible to detect the same thing occurring in other places:

*The implementation and the management of the primary health care network, if well-managed and centrally induced, were really delegated to the municipalities, provoking not only innovations, but also some perverse effects at the other system levels, such as the one about the cities having a more complex service network. In these cities, the difficulty is to re-structure local investments in health for a progressive and necessary change in the assistance model.*¹⁷

The primary health care in the general scope of SUS is, or should be, the central focus of concerns either for financial investments or for technical orientation and primary health care organization. ESF, due to its better capillarity and mobility of its health care team, is supposed to be more present in the studied situations in Santos Lowland; however, it was not found mainly concerning the home visits to diabetes and hypertensive patients. This strategy should be urgently reviewed in order to achieve its main functions, which is to be at people's dwellings, especially at dwellings of those people with chronic diseases and with possibilities of aggravation of the morbid case. Because, contrary to what it may seem, in this way of organizing the health care occurs the "processes complexity acknowledge of health care at all levels; the guarantee of integral health care and good quality to population by the means of articulated actions of promotion, prevention, diagnosis, treatment and rehabilitation" from the "guarantee of access to all needed health care services"¹⁷.

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