Distributive justice in specialized health service and in access to medication

André Luiz Cândido Sarmento Drumond Nobre [1], *Orlene Veloso Dias* [2], *Maisa Tavares de Souza Leite* [3], *Daniel de Melo Freitas* [4], *Simone de Melo Costa* [5]

Abstract

When speaking of chronic illnesses and the public health system, the lack of resources is on the agenda. The study analyzed the referencing and access to medication in individuals assisted by the State Public Service Hiperdia. It is a transversal study, with 250 individuals referred for this secondary level of attention to hypertension and diabetes. The study investigated biological criteria, access to medicine, socio-demographic and economic profile and health condition. The level of statistical significance was 5%. The correct referencing was 64.0%, although incorrect for nearly half of those that used municipal public transportation. The total access to medicine (69.6%) was associated with the lowest family incomes ($p < 0.05$). The discussion, based on the principle of distributive justice, was concluded by recommending better training of professionals in referencing assistance services, with a reduction of waste in public transport and specialized attention, because such investment should be reverted to a wider distribution of medicine.

Keywords: Ethics. Equity in the resource allocation. Health care (Public Health). Pharmaceutical trade-Health care rationing. Social Justice-Disease.

Resumo

Justiça distributiva no serviço de saúde especializado e no acesso a medicamentos

Quando se fala de doenças crônicas e do sistema público de saúde, a escassez de recursos está sempre em pauta. O estudo analisou o referenciamento e o acesso à medicação em indivíduos assistidos pelo serviço público estadual Hiperdia. Trata-se de pesquisa transversal, com 250 indivíduos referenciados para esse nível secundário de atenção à hipertensão e diabetes. Investigaram-se critérios biológicos, acesso aos medicamentos, perfil sociodemográfico e econômico e condição de saúde. O nível de significância estatística foi de 5%. O referenciamento correto foi de 64,0%, embora incorreto para quase metade dos que utilizaram o transporte público municipal. O acesso total à medicação (69,6%) estava associado à menor renda familiar ($p < 0,05$). A discussão, fundamentada no princípio da justiça distributiva, concluiu pela recomendação de melhor capacitação dos profissionais no referenciamento de serviços assistenciais, com redução do desperdício em transporte público e atenção especializada, além do que, tal investimento deve ser revertido em maior distribuição gratuita de medicamentos.

Palavras-chave: Ética. Equidade na alocação de recursos. Atenção à saúde. Comercialização de medicamentos-Alocação de recursos para a atenção à saúde. Justiça social-Doença.

Resumen

Justicia distributiva en el servicio de salud especializado y en el acceso a medicamentos

Cuando se habla de enfermedades crónicas y sistema público de salud, la escasez de recursos está en agenda. El estudio analizó la derivación y el acceso a la medicación de individuos asistidos por el servicio público estatal Hiperdia. Se trata de un estudio transversal, con 250 individuos derivados hacia el nivel secundario, para la atención de hipertensión y diabetes. Se investigaron criterios biológicos, acceso a los medicamentos, perfil sociodemográfico y económico y condición de salud. El nivel de significación estadística fuel del 5%. La derivación correcta fue del 64,0%, aunque incorrecto para casi la mitad de los que utilizaron transporte público municipal. El acceso total a la medicación (69,6%) estuvo asociado al menor ingreso familiar ($p < 0,05$). La discusión, basada en el principio de la justicia distributiva, concluyó recomendando mejor capacitación de los profesionales en la derivación de servicios asistenciales, con reducción del gasto en transporte público y atención especializada, pues tal inversión debe ser traducida en mayor distribución gratuita de medicamentos.

Palabras-clave: Ética. Equidad en la asignación de recursos. Atención de la salud. Comercialización de medicamentos-Asignación de recursos para la atención de salud. Justicia social-Enfermedad.

Aprovação CEP/Unimontes 226730/2013

1. Mestre andreluiznobre@hotmail.com – Faculdades Integradas Pitágoras, Montes Claros/MG, Brasil **2. Mestre** orlenedias@yahoo.com.br **3. Doutora** mtsiv@terra.com.br **4. Graduado** daniel-melo@hotmail.com **5. Doutora** smelocosta@gmail.com – Universidade Estadual de Montes Claros (Unimontes), Montes Claros/MG, Brasil.

Correspondência
Simone de Melo Costa – Rua Valmor de Paula, 27, Vila Regina CEP 39400-198. Montes Claros/MG, Brasil.

Declaram não haver conflito de Interesse.

Research article

In 2010. ordinance number 4279 by the Ministry of Health established the guidelines for the Network of Health Attention ("Rede de Atenção à Saúde" - RAS), within the Unified Health System ("Sistema Único de Saúde" - SUS) [1]. The document defines RAS as organizational arrangements of actions and health services of different technological densities which, integrated through systems of technical, logistic and management support seek to to ensure the integrality in health care. RAS aims to overcome the fragmentation of health attention and management in the Health Regions, as well as improve the political and institutional functioning of SUS, ensuring effective and efficient actions and services. The network is defined in three levels of health attention: primary, secondary and tertiary.

Be it due to their highly technological nature or to the high level of funding, the secondary and tertiary levels end up not absorbing the totality of referrals from the primary level. Then, for the RAS to work in a resolutive manner, inter-level referrals must respect criteria and parameters defined by the governance system. In the discussion about chronic diseases and the public health system, resource scarcity is always an issue. Such insufficiency is actually notorious and requires equity in resource distribution, implying both the correct referral among different levels of health care and the application of criteria for the access to medication prescribed by SUS professionals.

In turn, the SUS program of the Network of Health Attention – as an ensuring instrument of integrality of assistance to the different levels of complexity – is founded on the principle of distributive justice which deals with the distribution of goods and responsibilities by the public power [2], having as reference the principle of equity in the application of measures, associating the socio-economical profile and health conditions to establish priorities of access to the assistance and to medication in the public health network [3,4].

Taking the perspective of the ethical principle of distributive justice and the application of equitable measures, this article analyzes the referral from basic to specialized attention and the access to medication in the domain of the SUS, through the study of referred cases and the access to medication in a secondary level state public service.

In this sense, the present study had the goal to analyze the referral and the access to medication in individuals assisted by the Hiperdia state service, secondary level of referral for systemic arterial hypertension (SAH) patients with high cardiovascular risk and diabetes patients with poor metabolic control [5]. Patients are referred to this level by the primary health attention services of the SUS.

Materials and methods

This is a study with a quantitative approach and crosscut design, performed in a unit of the Hiperdia Program of Minas Gerais, Brazil, attending 16 municipalities in the north of the state with population estimated in 234,588 people, according to data from the "Instituto Brasileiro de Geografia e Estatística" from 2010 [6].

Instituted by the Minas Gerais State Secretary of Health (SES/MG) through resolution 2,606/2010 [5], the Hiperdia Minas program has the mission to coordinate the structuring of the network of health attention to the population living with SAH, diabetes (*diabetes mellitus*), cardiovascular diseases and chronic renal disease through an integrated system of health attention.

The study population was composed of 250 hypertensive and/or diabetic adults and elders, users of Hiperdia and referred by Basic Health Units through a referral form filled by a health professional (physician or nurse). Hiperdia is a secondary care unit and its referral criteria follow SES/MG resolution 2,606/2010 5.

Data collection took place between June and December 2013, through a questionnaire. Users who used the service more than once in the period answered the questionnaire in only one of the appointments. The questionnaire was applied by the researcher and Hiperdia physician after a pilot study with 10 individuals who were included in the main study as there were no changes in the instrument. The questionnaire consisted of questions on sociodemographic and economic characteristics, biological indicators for classification of diabetic and hypertensive patients, with the aim to check the adequacy of the referral, besides including questions on access to medication.

The collection of biological data took place during the routine appointment as part of the clinic examination; thus, it was not performed only for the purposes of this study. Risk classification for hypertensive patients follows the categories "low", "moderate" and "high", according to the Framingham risk score for a larger cardiovascular event [7]. The classification of diabetic users was based on the metabolic control evaluated as "good", "regular" and "poor", according to the definition by SES/MG Resolution 2,606/2010 [5].

The study was approved by the Research Ethics Committee of the "Universidade Estadual de Montes Claros" (Montes Claros State University - CEP/Unimontes), and participants were informed on the study before signing the term of free and informed consent, as recommended by Resolution 466/2012 of the "Conselho Nacional de Saúde" (National Health Council) [8]. Anonymity was assured to participants, as well as the confidentiality of the information used exclusively for scientific purposes and for planning actions within the domain of Hiperdia.

Data analysis was performed with the use of the IBM SPSS 22.0 software package. Bivariate analyses were performed through Pearson's Chi-square test, for purposes of comparison of proportions or by the likelihood ratio alternative test for the cases with more than 20% of the cells with units smaller than 5. The comparison of averages was performed by Student's t-test. The significance level accepted was 5% ($p < 0.05$) with confidence interval of 95%.

Results

Of the 250 Hiperdia users in the study, 5.6% were not diagnosed with SAH and/or diabetes. As to the presence of other health conditions previous to Hiperdia enrollment, 58.4% of the users presented dyslipidemia, often detected along with other pathologies. From the data on Table 1, the percentages of the most frequent diseases were calculated, which also were present along with other health conditions: infarction (11.6%), cerebrovascular accident or CVA (10.4%), and especially depression (25.2%) and Chagas disease (23.2%). The absence of pathologies previous to the enrollment at Hiperdia was observed in 17.2% of the research participants.

Table 1. Distribution of research subjects according to the occurrence of systemic arterial hypertension (SAH) and/or diabetes and other health conditions previous to the enrollment in a Hiperdia Minas center (Jun-Dec 2013)

Health condition – SAH and/or diabetes	N	%
SAH	127	50,8
SAH/diabetes	104	41,6
Diabetes	5	2,0
Absence of SAH and/or diabetes	14	5,6
Health condition previous to Hiperdia enrollment	**N**	**%**
Absence of pathologies	43	17,2
CVA	8	3,2
Dyslipidemia	56	22,4
Myocardial infarction	4	1,6
Chagas disease	16	6,4
Kidney failure	2	0,8
Diabetic foot	3	1,2
Depression	12	4,8
CVA/dyslipidemia	5	2,0
CVA/Chagas disease	3	1,2
CVA/diabetic foot	1	0,4
CVA/Depression	1	0,4
Dyslipidemia/Infarction	15	6,0
Dyslipidemia/Chagas disease	20	8,0
Dyslipidemia/Kidney failure	2	0,8
Dyslipidemia/Diabetic foot	3	1,2
Dyslipidemia/Amputation due to diabetes	1	0,4
Dyslipidemia/Depression	27	10,8
Infarction/Kidney failure	1	0,4
Infarction/Depression	1	0,4
Chagas disease/Depression	4	1,6

Continua

Conclusão

Health condition previous to Hiperdia enrollment	N	%
CVA/Infarction/dyslipidemia	2	0,8
CVA/Infarction/dyslipidemia	1	0,4
CVA/Infarction/Chagas disease	1	0,4
CVA/Infarction/Depression	1	0,4
CVA/Chagas disease/Depression	3	1,2
Dyslipidemia/Infarction/Depression	2	0,8
Dyslipidemia/Chagas disease/Depression	7	2,8
Dyslipidemia/Diabetic foot/Depression	1	0,4
Dyslipidemia/Infarction/Depression/Chagas disease	2	0,8
Dyslipidemia/Chagas disease/Depression/Diabetic foot	2	0,8

Concerning the classification of diabetics (according to SES/MG criteria), among the 106 patients evaluated, 34.0% had poor metabolic control. In the analyses of individuals by isolated SES/MG criteria for high cardiovascular risk, in a sample of 95 people, 28.4% presented left ventricle hypertrophy (LV), 27.4% presented coronary insufficiency and 18.9% presented vascular encephalic accident (VEA) or transient ischemic attack (TIA). As to the classification of the 250 participants in relation to arterial pressure, according to Framingham criteria [7], high cardiovascular risk was most frequent (61.2%) among Hiperdia users (Table 2).

Table 2. Distribution of the research subjects according to the criteria established for the classification of diabetics and cardiovascular risk in Hiperdia Minas centers (Jun-Dec 2013)

Classificação de diabéticos – critérios da SES/MG (n = 106)	n	%
Good metabolic control	26	24,5
Regular metabolic control	44	41,5
Poor metabolic control	36	34,0
High cardiovascular risk classification – SES/MG criteria (n = 95)	**n**	**%**
Coronary insufficiency	26	27,4
Heart failure	4	4,2
LV hypertrophy	27	28,4
Peripheral arterial failure	1	1,1
Chronic kidney failure (advanced stages)	1	1,1
EVA or TIA	18	18,9
Resistant arterial hypertension (AH)	2	2,1
Suspected secondary AH	4	4,2
Coronary insufficiency/LV hypertrophy	2	2,1
Coronary insufficiency/Peripheral arterial failure	1	1,1
Coronary insufficiency/EVA or TIA	3	3,2
Heart failure/LV hypertrophy	1	1,1
LV hypertrophy/EVA or TIA	1	1,1
LV hypertrophy/Suspected secondary AH	1	1,1
Peripheral arterial failure/EVA or TIA	1	1,1
Coronary insufficiency/Heart failure/LV hypertrophy	1	1,1
Coronary insufficiency/LV hypertrophy/EVA or TIA	1	1,1
Hypertensive cardiovascular risk – Framingham criteria	**n**	**%**
Low	41	16,4
Moderate	56	22,4
High	153	61,2

Referral to Hiperdia was correct for 64.0% of users, as these fit the criteria established for secondary level assistance. Most (75.1%) of the referral forms were filled by physicians. Among Hiperdia users, 29.2% got to the service by means of public free transportation by the city administration, and most (69.6%) informed they had total access to the medication prescribed for their health condition. (Table 3).

Table 3. Distribution of research subjects according to referral variables and to health access to a Hiperdia Minas center (Jun-Dec 2013)

Referral variables	n	%
Correct	**160**	**64,0**
Incorrect	**90**	**36,0**
Referring professional		
Physician	187	75,1
Nurse	62	24,9
Health service access variables	**n**	**%**
Transportation to Hiperdia		
Public municipal free	73	29,2
Other	177	70,8
Access to the medication prescribed		
Total	174	69,6
None	6	2,4
Partial	70	28,0

Among the diabetics with or without systemic arterial hypertension (SAH), the percent of people correctly referred was much higher than the incorrect, 80.0% and 81.7%, respectively (p=0.001). The percent of correct referrals was also larger among people who mentioned the presence of conditions previous to Hiperdia enrollment; had already had CVA/Infarction; lived in the same municipality where the Hiperdia unit is located; had high cardiovascular risk by the Framigham Classification [7]; were diabetic with poor metabolic control; presented the longer times of SAH diagnosis, all of these associations being statistically significant, with $p < 0.05$. (Table 4).

Table 4. Assessment of the correct referral to the Hiperdia Minas unit, according to the study independent variables (Jun-Dec 2013)

Variables	Referral		P-value
	Correct n (%)	Incorrect n (%)	
Disease			
SAH	70 (55,1)	57 (44,9)	0,001*
Diabetes	4 (80,0)	1 (20,0)	
SAH/diabetes	85 (81,7)	19 (18,3)	
Absence of SAH and/or diabetes	1 (7,7)	12 (92,3)	
Diseases previous to Hiperdia enrollment			
Yes	141 (67,8)	67 (32,2)	0,005
No	19 (45,2)	23 (54,8)	
Had Chagas disease			
Yes	58 (65,2)	31 (34,8)	
No	101 (63,2)	59 (36,9)	0,748
Had CVA/Infarction			
Yes	48 (94,1)	3 (5,9)	< 0,001
No	111 (56,1)	87 (43,9)	
Age group			
Adult (23-59)	79 (60,8)	51 (39,2)	0,268
Elderly (60-95)	81 (67,5)	39 (32,5)	
Sex			
Female	110 (62,9)	65 (37,1)	
Male	50 (66,7)	25 (33,3)	

Continua

Conclusão

Variables	Referral		P-value
	Correct n (%)	Incorrect n (%)	
Education			
Illiterate	50 (64,1)	28 (35,9)	0,982
Literate	110 (64,0)	62 (36,0)	
Residence			
Municipality where Hiperdia is located	100 (74,1)	35 (25,9)	< 0,001
Other	60 (52,2)	55 (47,8)	
BMI Classification			
Normal	55 (57,9)	40 (42,1)	0,238
Overweight	53 (65,4)	28 (34,6)	
Obese	52 (70,3)	22 (29,7)	
Framingham criteria for cardiovascular risk			
Low	1 (2,5)	39 (97,5)	< 0,001
Moderate	10 (17,9)	46 (82,1)	
High	148 (96,7)	5 (3,3)	
SES/MG cardiovascular risk criteria			
1 health condition	80 (96,4)	3 (3,6)	0,503
2 or more health conditions	12 (100,0)	0 (0,0)	
Classification of diabetics by metabolic control – SES/MG criteria (n = 106)			
Good	17 (65,4)	9 (34,6)	0,001
Regular	35 (79,5)	9 (20,5)	
Bad	36 (100,0)	0 (0,0)	
Referring Professional			
Physician	123 (65,8)	64 (34,2)	0,273
Nurse	36 (58,1)	26 (41,9)	
Transportation to Hiperdia			
Public municipal free	38 (52,1)	35 (47,9)	0,273
Other	122 (68,9)	55 (31,1)	
Access to medication			
Total	111 (63,8)	63 (36,2)	0,918
None/partial	49 (64,5)	27 (35,5)	

Variáveis	Referral		P-value
	Correct Average (SD**)	Incorrect Average (SD**)	
Years since diagnosed with SAH	13,32 (± 9,62)	10,66 (± 8,17)	0,038
Years since diagnosed with diabetes	8,56 (± 7,27)	5,68 (± 4,98)	0,103
Age in years	61,49 (± 13,52)	58,56 (± 13,48)	0,100

** Likelihood ratio.*

*** Standard deviation*

On the access to medication, most people with hypertension and/or diabetes diagnosis got total access to medication in the SUS network. Among adults, there was the highest percentage of full access to medication, when compared to the elderly ($p < 0.05$). There was no significant difference about the access to medication among the variables "sex", "education", "Framigham cardiovascular risk criteria" and "Classification of diabetics by metabolic control" ($p > 0.05$). It was possible to associate total access to medication in the public health service both to the shorter time since diabetes diagnostic and to lower family monthly income. (See Table 5).

Research article

Table 5. Assessment of the access to medication in the SUS network in a Hiperdia Minas center, according to the study independent variables (Jun-Dec 2013)

Variables	Access to medication		P-value
	Total n (%)	None/partial n (%)	
Disease			
SAH	89 (70,1)	38 (29,9)	0,591
Diabetes	4 (80,0)	1 (20,0)	
SAH/diabetes	70 (67,3)	34 (32,7)	
None	11 (84,6)	2 (15,4)	
Age group			
Adult (23-59)	98 (75,4)	32 (24,6)	0,038
Elderly (60-95)	76 (63,3)	44 (36,7)	
Sex			
Female	119 (68,0)	56 (32,0)	0,401
Male	55 (73,3)	20 (26,7)	
Education			
Illiterate	57 (73,1)	21 (26,9)	0,421
Literate	117 (68,0)	55 (32,0)	
Diabetics classification by metabolic control – SES/MG (n = 106)			
Good	29 (72,5)	11 (27,5)	0,885
Regular	38 (67,9)	18 (32,1)	
Bad	106 (69,3)	47 (30,7)	
Classificação de diabéticos pelo controle metabólico – SES/MG (n = 106)			
Bom	16 (61,5)	10 (38,5)	0,335
Regular	33 (75,0)	11 (25,0)	
Ruim	22 (61,1)	14 (38,9)	

Variables	Access to medication		Valor p
	Total (SD*)	None/partial (SD*)	
Years since diagnosed with SAH	12,05 (± 9,03)	13,30 (± 9,70)	0,343
Years since diagnosed with diabetes	6,99 (± 5,88)	10,32 (± 8,56)	0,019
Monthly family income R$	915,51 (± 483,79)	1.074,00 (± 691,54)	0,040

** SD = Standard deviation*

Discussion

Research data

Not all users of Hiperdia presented a diagnosis of systemic arterial hypertension and/or diabetes and over a third of them were incorrectly referred to Hiperdia from a primary heath care service. Among these, are users without hypertension and/or diabetes or those under these conditions but without justification for secondary level assistance in the terms of Resolution SES/MG 2.606/2010 [5].

The presence of other comorbidities previous to enrollment at Hiperdia was a finding for the majority of the participants (83.1%). Among these conditions are dyslipidemia, CVA, myocardial infarction, Chagas disease, kidney failure, diabetic foot and depression, appearing individually or in groups of two, three and up to four comorbidities. We can reflect on the prevalence of Chagas disease detected in this study: 23.2%. According to the Sociedade Brasileira de Cardiologia (Brazilian Cardiology Association) [9] and Punukollu *et al.* [10] chronic Chagas heart disease may manifest itself by heart failure, thromboembolic events and ventricular arrhythmias – conditions involving high mortality –, besides sudden death.

Thus, the inclusion of patients diagnosed with Chagas disease according to severity criteria is suggested here – mainly when it shows as chronic heart disease – in the booklet of Hiperdia centers, mainly those located in the north of Minas Gerais, in the endemic area for the disease. This proposal is under evaluation by the Secretaria de Estado de Saúde (State Health Department).

http://dx.doi.org/10.1590/1983-80422015232076

According to the classification of diabetics based on the SES/MG criteria, among the 106 people evaluated, only a small group (24.5%) showed good metabolic control; consequently, regular and poor metabolic controls were found in the majority of participants (75.5%).

The classification of cardiosvascular risk by SES/MG criteria, in a sample of 95 people detected isolated situations of the following pathologies in the majority of them: coronary insufficiency; heart failure or left ventricle hypertrophy; peripheral arterial failure; chronic kidney failure in advanced stages; vascular encephalic accident or transient ischemic attack; resistant arterial hypertension; or suspected secondary arterial hypertension. Associations of these conditions were present in less than 20.0% of the research subjects. According to the Framingham classification, most of these present high cardiosvascular risk.

Correct referrals were more frequent among diabetics with or without hypertension. However, the time since diagnosis did not influence correct referral to Hiperdia. The occurrence of diseases previous to the the enrollment at Hiperdia was associated to correct referral, as in the cases o CVA/ Infarction. These situations, by themselves, place the individual in the high cardiovascular risk group by the isolated criteria of SES/MG, which justifies the correct referral.

As to the people diagnosed with diabetes, th access to Hiperdia is extremely important. If it is no adequately controlled, this condition represents a heavy economic load on the subject and on society. Most costs of diabetes are related to complications that may often be avoided [11]. Chronic kidney disease, peripheral neuropathy with onset of ulcers in the lower limbs and amputations, retinopathy and cardiovascular disease are manifested in the final stages of diabetes with poor metabolic control. Thus, access to specialties offered by Hiperdia, such as cardiology, endocrinology, nephrology, angiology and care of the diabetic foot is of paramount importance.

To reside in the same municipality where the Hiperdia is located was associated to higher correctness in referral. The hypothesis for this finding is that the geographic proximity between primary and secondary level professionals may have contributed to better clarification about the correct criteria for referral to Hiperdia, mainly through local meetings between the team that works in Hiperdia and the professionals in the units of primary attention of the municipality.

People classified as having high cardiovascular risk by the Framingham criteria presented higher percentage of correct referrals. The same happened in diabetics with poor metabolic control who were all referred correctly. These are important results, as these situations require special care, given the risk of complications (Infarction and CVA in the case of hypertensive patients, and amputations and chronic kidney disease in the case of diabetics) and of mortality. The actions proposed by the multi-professional team of Hiperdia make it possible to monitor and seek more effective interventions in the preventive aspect of the service.

Longer times since diagnosis of SAH was associated to correct referrals, which suggests that the longer time living with the disease contributes to the onset of complications and aggravations which justify the referral for the secondary level of health attention. On the other hand, profile characteristics of users, such as age group and education, did not affect correct referral.

As to the benefit of public municipal transportation to Hiperdia, almost half were incorrectly referred. This is object for concern, as the failure in referral puts a load on municipal funds since it makes transportation available to individuals whose health condition is not in accordance with the referral criteria determined by the public policies for the sector. In this context, one may think of possible frailties in the training of the professionals who made the referrals based on incorrect clinical diagnoses. Another explanation for incorrect referrals of a large group of people who received the benefit of free transportation may be credited to the fact that public health managers have not implemented projects of permanent education to professionals which would orient them about the clinical criteria to refer patients to Hiperdia.

A positive result found in this investigation is that most people diagnosed wit high blood pressure and/or diabetes have full access to the prescribed medication at SUS, mainly among adults and people with lower monthly family incomes, considering that education did not influence in the access to medication. This finding suggests proactive attitudes of professionals in orienting users since, in principle, illiteracy could restrict the probability of access to information in such a way that, without proper orientation by the health professionals, these subjects might have been unable to make use of a benefit guaranteed by the law, for mere ignorance.

As the purchase of hypertension and diabetes medication may compromise 12% of the budget of

low income families[12], in 2011 the campaign "Saúde Não Tem Preço" ("Health Has no Price") was launched with the aim to disseminate at the national level, the gratuity of these medicines available in the "Programa Farmácia Popular do Brasil" (Brazil Popular Pharmacy program), instituted by decree 5,090/2004 [13]. The popular pharmacy program was regulated by ordinance 971/2012 of the Ministry of Health [14], which considers the need to offer alternatives alternatives of access to medication assistance in order to promote the integral health care, ensuring essential medicines to treat aggravations of higher incidence in the population.

This study has the limitation of having been performed in a portion of the users of the Hiperdia center, despite the fact that the sample was defined form a sample calculation to represent the total number of people enrolled. Another issue that deserves to be discussed is the possibility of bias in the information provided by the research subjects, which may underestimate or overestimate the findings. Besides, due to the cross cut design of this research, it was not possible to draw conclusions on cause and effect based on the associations observed among the dependent variables (referral and access to medication) and the independent variables. However, the present study is important for investigating themes that involve public health policies: referral and access to medication for hypertension and diabetes.

Distributive justice and equity

Justice, in its strict sense, is manifested in in the distribution of functions, money or other resources that should be shared among people who share benefits granted by the public power. Two individuals may show different levels of participation in the benefits offered by the public health system [3]. Thus, it would be injustice to offer benefits and responsibilities in larger or smaller amounts than what is due to a certain individual [15]. Thus. It would be unfair to refer someone without demand to the specialized service, since this service offers benefits in a larger amount than required by the subject. This implies the allocation of specialized clinical hours to health conditions that can be assisted and cared for in the primary level, that is, in the basic care of the public health system.

Authors like Beauchamp and Childress agree that, in the field of health, justice must be distributive, that is, it must contemplate and equitable distribution of rights and benefits which must be made explicit in the situations of resource scarcity and competition [16]. In the allocation of treatments of little availability on the public sector, a reflection is due on the fact that not all people in need of specialized treatment have access to it. In this line of thought, individuals incorrectly referred, in using specialized and scarce treatments, compromise the access of those who really need this type of treatment.

The increase in chronic degenerative diseases results in the need to establish limits, criteria and parameters to prioritize both the offers in health and the beneficiaries. Such decisions involve the moral values and ethical principles prevailing in a society, as well as political and legal issues [17]. Improving the efficiency of the use of public funds is an ethical procedure. Thus, the scientific validity and the success of the procedure constitute ethically correct criteria as the use of a scarce resource without chance of benefit from it, is an unfair waste [17]

In the field of public health policies, the theme of equity gains evidence since the 1990s decade, articulated with the debate of the profile of expenditure in public health, marked by the great increase in expenses in this sector [18]. Polysemic, the principle of equity can be interpreted as prioritizing resources for the most under-served people in contradiction with the full assistance of all individuals according to their health needs [19].

However, in cases of people with high cardiovascular risk, public investment is justified to the extent that actions at the secondary level - such as those performed at Hiperdia - offer better cost-benefit outputs, based on an assistance model focused on attention to chronic conditions, such as SAH and diabetes. This, it is possible to state that, according to distributive justice theory, the correct referral to the secondary level is fair [3]. The correct referral of people who should receive special attention, at the Hiperdia center in this case – for health treatment, reaches the objective of distributive justice: to give every individual what is due, according to his/her needs.

In decisions that involve the fair distribution of resources in health, a reflection is due on the responsibility of the State in proposing policies, in the definition of the resources to be directed to the sector and in the distribution of priorities among the health institutions [20]. Policies in the sector frequently opt for measures that will reach few individuals, contrary to the utilitarian theory [3]. There are several parameters to define the criteria of distributive justice, such as individual freedom, individual needs, equity, besides social utility. Despite the fact that

the latter criterion is the most adopted by health planners, what is fair is to allocate resources in order to grant more benefits to more people [20]. In this study, the correct referral to Hiperdia employed the criteria individual needs to fundament the fair distribution of resources in health.

Concerning the construct of distributive justice, the theory of Deutsch [21], defends that the distributive principles – equality, necessity and equity – be used according to the distributive context. Different from equity, equality establishes the equivalent division of goods in society and, as to the principle of necessity. It is proposed that economically less favored people must receive more benefits than the rest [21]. In the case of the present study, the offer of free transportation to Hiperdia to poor people respects the principles of equality and necessity, considering the absence of their own vehicle and lack of resources to use public transportation. However, if the individual does not present health conditions that justify the referral, equity was not respected, since transportation should be made available only to those with real need to be cared for at Hiperdia. In the reflection about distributive justice, as Nedel states, *if something is to be distributed, the distribution must not be arbitrary, it has to be fair* [22].

In this context, it is due to discuss a burning issue in Brazil with regard not only to insufficient resources, but especially to their poor distribution. When comparing the health social expenditure with that of other countries, it is observed that there is no insufficiency, but inefficiency [23]. The results of this study show the inadequate use of resources to transport people who did not fit the criteria for specialized health care of SAH and diabetes.

From this perspective, it is important to point out the concern with the sustainability of health care services . The bioethical reflection should focus on limiting the rights to health care and specify the health services that could be effectively funded with public resources. The main issue lies more on the possibility of justifying social spending on health, than on the right to health as an inalienable or pre-existing right [24].

For users with no access to prescribed medication, or partial access, it is important to reflect on the following question: why were these users unable to take advantage of the benefits offered to hypertensive and diabetic patients? One hypothesis is the simple lack of knowledge about the right to free medicine for hypertension or *diabetes mellitus*. Another answer may be that these people do not belong to organized groups that fight for the fulfillment of their constitutional rights, whether through cooperation among its participants to face the problems, or by petition of demands addressed to public managers. In both situations, social vulnerability is evidenced, which added to the physical vulnerability due to the disease itself, would indicate the specific need for these patients to receive priority attention in the public health system.

Still about the inequality of access to medicines, this study found that, for the users contemplated with all prescribed medication, the justice obtained can be considered individualistic [25]. This would be an individualistic ethic, conservative of inequalities in the society [22]. Another factor that may have contributed to the medication access inequality is the origin of respondents, from 16 municipalities, each possibly relying on different logistical organization of community pharmacies of the SUS network. For those individuals with no or partial access to medication, it is fundamental that the health team make them aware of the problem and encourage the organization for the search for solutions and for the construction of citizenship.

Final considerations

In the present study, we observed flaws in the referral of cases of SAH and diabetes to the secondary level of attention in the state public health service Hiperdia. Despite being a specialized level of care for the more severe cases, Hiperdia Minas receives individuals whose monitoring can be done by the primary care of SUS. Adding to this situation, incorrect referrals included almost half of the people who benefited from free public transport to get to the health center, from the health departments of the municipalities in the coverage area of the Hiperdia unit. In this case, providing benefits in greater amounts than the need is characterized as injustice in the allocation of public resources in health.

A positive aspect to highlight is that the vast majority of people diagnosed with high blood pressure and / or diabetes have full access to medication in the SUS, benefit associated with the group of lower monthly family income.

The study raises the need to promote continuing education activities for workers in primary care, in the themes “case management” and “definition of referencing criteria” to Hiperdia. The professional qualification proposed would contribu-

te to minimize the waste of public money that in this case, was unnecessarily used both in transport and in specialized secondary level SUS attention. This investment could be allocated to other health services within the SUS, for example, the creation or expansion of community pharmacies for free distribution of medicines. This would minimize the complications of living with high blood pressure and / or diabetes and who do not have access to this therapeutic resource.

Finally, it is concluded that the distribution of health benefits in secondary care in the SUS network should be based on the ethical principle of distributive justice and the adoption of fair measures in order to contribute to the full functioning toward the aims of Hiperdia.

The research that served as a basis for the present article counted with support from the Fundação de Amparo à Pesquisa do Estado de Minas Gerais (Foundation for Support of Research of the State of Minas Gerais - Fapemig).

Referências

1. Brasil. Ministério da Saúde. Portaria nº 4.279, de 30 de dezembro de 2010. Estabelece diretrizes para a organização da Rede de Atenção à Saúde no âmbito do Sistema Único de Saúde (SUS). Diário Oficial da União. 31 dez 2010:seção 1, p. 89.
2. Aristóteles. Ética à Nicômaco. São Paulo: Nova Cultural; 1996. (Coleção Os Pensadores).
3. Fortes PAC. Orientações bioéticas de justiça distributiva aplicada às ações e aos sistemas de saúde. Rev. bioét. (Impr.). [Internet]. 2008 [acesso 10 fev 2015]; 16(1):25-39. Disponível: http://revistabioetica.cfm.org.br/index.php/revista_bioetica/article/view/53/56
4. Deutsch M. Equity, equality, and need: what determines which value will be used as the basis of distributive justice. Journal of Social Issues. 1975;31(3):137-49.
5. Minas Gerais. Secretaria de Estado de Saúde. Resolução nº 2.606, de 7 de dezembro de 2010. Institui o Programa Hiperdia Minas e dá outras providências. [Internet]. 2010 [acesso 15 out 2014]. Disponível: http://www.saude.mg.gov.br/images/documentos/Resolucao%202606_10.pdf
6. Instituto Brasileiro de Geografia e Estatística. Censo demográfico 2010. [Internet]. [acesso 14 mar 2013]. Disponível: http://www.ibge.gov.br/home/estatistica/populacao/censo2010/
7. D'Agostinho RD, Vasan RS, Pencina MJ, Wolf PA, Cobain M, Massaro JM *et al.* General cardiovascular risk profile for use in primary care: the Framingham heart study. Circulation. 2008;117(6):743-53.
8. Brasil. Ministério de Saúde. Conselho Nacional de Saúde. Resolução nº 466, de 12 de dezembro de 2012. Aprova diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos. Diário Oficial da União. 13 jun 2012;(12):seção 1, p. 59.
9. Sociedade Brasileira de Cardiologia. I Diretriz Latino Americana para o Diagnóstico e Tratamento da Cardiopatia Chagásica. Arq Bras Cardiol. 2011;97(3 Suppl):1-48.
10. Punukollu G, Gowda RM, Khan IA, Navarro VS, Vasavada BC. Clinical aspects of the Chagas' heart disease. Int J Cardiol. 2007;115(3):279-83.
11. Brasil. Ministério da Saúde. Secretaria de Assistência à Saúde. Diabetes mellitus: guia básico para diagnóstico e tratamento. 2ª ed. Brasília: Ministério da Saúde; 1997.
12. Brasil. Ministério da Saúde. Portal da Saúde. Farmácia popular. [Internet]. 2014 [acesso 19 maio 2015]. Disponível: http://portalsaude.saude.gov.br/index.php/o-ministerio/principal/leia-mais-o-ministerio/346-sctie-raiz/daf-raiz/farmacia-popular/l1-farmacia-popular/9678-farmacia-popular-do-brasil
13. Brasil. Ministério da Saúde. Decreto nº 5.090, de 20 de maio de 2004. Regulamenta a Lei nº 10.858, de 13 de abril de 2004, e institui o "Programa Farmácia Popular do Brasil", e dá outras previdências. [Internet]. 2004 [acesso 10 fev 2015]. Disponível: http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2004/decreto/d5090.htm
14. Brasil. Ministério da Saúde. Portaria nº 971, de 15 de maio de 2012. Dispõe sobre o Programa Farmácia Popular do Brasil. [Internet]. 2012 [acesso 10 fev 2015]. Disponível: http://bvsms.saude.gov.br/bvs/saudelegis/gm/2012/prt0971_15_05_2012.html
15. Bittar ECB. Curso de filosofia do direito. 8ª ed. São Paulo: Atlas; 2010.
16. Beauchamp TL, Childress JF. Princípios de ética biomédica. São Paulo: Loyola; 2002.
17. Fortes PAC. Reflexão bioética sobre a priorização e o racionamento de cuidados de saúde: entre a utilidade social e a equidade. Cad Saúde Pública. 2008;24(3):696-701.
18. Berlinguer G. Equidade, seletividade e assistência à saúde. Lua Nova. 1999;(47):73-103.
19. Campos GWS. Reflexões temáticas sobre equidade e saúde: o caso do SUS. Saúde Soc. 2006;15(2):23-33.
20. Fortes PAC. Reflexões sobre o princípio ético da justiça distributiva aplicado aos sistemas de saúde. In: Fortes PAC, Zoboli ELPC, organizadores. Bioética e saúde pública. 2ª ed. São Paulo: Centro Universitário São Camilo/Loyola; 2004.

21. Deutsch M. Equity, equality, and need: what determines which value will be used as the basis of distributive justice. Journal of Social Issues. 1975;31(3):137-49.
22. Nedel J. Ética, direito e justiça. Porto Alegre: Edipucrs; 2000.
23. Rocha S. Alguns consensos sobre a questão da pobreza no Brasil. In: Dowbor L, Kilsztajn S, organizadores. Economia social no Brasil. São Paulo: Senac; 2008.
24. Beauchamp TL, Faden RR. The right to health and the right to the health care. J Med Philos. 1979;4(2):118-31.
25. Oliveira SLC, Lunardi Filho WD. Aids e diabetes mellitus versus justiça distributiva no sistema público de saúde. Rev Bras Enferm. [Internet]. 2004 [acesso 19 jun 2014];57(6):750-53. Disponível: http://www.scielo.br/scielo.php?pid=S0034-71672004000600025&script=sci_arttext

Recebido: 19.9.2014
Revisado: 18.2.2015
Aprovado: 26.2.2015

Participation of the authors

André Luiz Cândido Sarmento Drumond Nobre and Simone de Melo Costa participated of all stages of research and production of the present article. Orlene Veloso Dias, Maisa Tavares de Souza Leite and Daniel de Melo Freitas participated in data analysis and in the critical review of the article. All authors approved the final version of the manuscript and are responsible for every aspect of the work, including the guarantee of its precision and integrity.

Annex

Script for data survey

HIPERDIA – 2013 **Date of appointment**: ___ / ___ / 2013 **Record Number** _____

HEALTH CONDITION AND APPOINTMENT CONTROL:
(1) Hypertensive (2) Diabetic (3) Hypertensive and diabetic (4) Nenhuma das duas (HAS e diabetes)

How long since diagnosis of (1) **Diabetes mellitus**: _____ years and/or (2) **SAH**: _____ years

SOCIOECONOMIC, DEMOGRAPHIC AND RELIGIOUS QUESIONNAIRE:

	Date of birth: / / **Idade**: years
Sex:	(1) Male (2) Female
Marital Status:	(1) Single (2) Married/cohabiting/Stable union (3) Widowed (4) Separated/divorced
Skin color:	(1) White (2) Black (3) Yellow (4) Mulatto (5) Indigenous
Education:	years of study
Monthly family income:	**R$** **Nr. of people** **Income per capita: R$**
Municipality where lives:	(1) Brasília de Minas (2) Campo Azul (3) Ibiracatu (4) Icaraí (5) Japonvar (6) Lontra (7) Luislândia (8) Mirabela (9) Patis (10) Pintópolis (11) São Francisco (12) São João da Ponte (13) São Romão (14) Ubaí (15) Urucuia (16) Varzelândia
Job/Occupation:	(1) Retired (2) Unemployed (3) Homemaker (4) On pension (4) Others. Activity:
If retired:	(1) Age/ Labor time (2) Disease support (3) Invalidity
	(1) No (2) Catholic (3) Evangelical (4) Other:

PREVIOUS HISTORY AND LIFESTYLE:

Previous diseases:	(1) No (2) CVA (3) Dyslipidemia (high cholesterol / triglycerides) (4) Infarction (5) Chagas disease (6) Kidney failure (7) diabetic foot (8) Amputations for diabetes (9) Depression (10) Other:

BIOLOGICAL DATA:

Height: m **Weight**: kg **BMI**:
(1) Normal (2) Overweight (3) Obesity – level I (4) Level II (5) Level III
Capillary glycemia: mg/dL
PA (office, sitting, ideal conditions): SAP × DAP mmHg

Research article

 http://dx.doi.org/10.1590/1983-80422015232076

Global risk rating (Framingham) Category	Isolated high cardiovascular risk criteria (SES/MG)
(1) Low	(1) Coronary insufficiency (2) Heart failure (3) LV Hypertrophy (4)Peripheral arterial failure (5) Chronic kidney failure - stage 3 or above (6) EVA or TIA (7) Resistant Arterial Hypertension (AH) (8) Suspected secondary AH
(2) Moderate	
(3) High	

Diabetics classification (SES/MG)

Condition	Criterion
(1) Good metabolic control	Glycated hemoglobin < 7% / fasting glycemia < 130 mg/dL
(2) Regular metabolic control	Glycated hemoglobin between 7% and 9% / fasting glycemia between 130 and 200 mg/dL
(3) Poor metabolic control	Glycated hemoglobin > 9% / fasting glycemia > 200 mg/dL

Reference form completed by:	(1) Physician (2) Nurse (3) Other:
Correto referenciamento:	(1) Yes (2) No

ACCESS (TRANSPORTATION / MEDICATION)

Type of transport to get to Hiperdia:	(1) Your own (2) Free transport form the municipality (3) Bus (public transport) (4) Other:
Has access to all medicines prescribed?	(1) Yes (2) No (3) Partial