# 09 - SYSTEMIC ARTERIAL HYPERTENSION AND HEARING LOSS: CROSS-SECTIONAL SURVEY IN ADULTS AND ELDERS ATTENDED IN PRIMARY CARE MACAÉ, RIO DE JANEIRO

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doi: 10.16887/85.a1.9
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## INTRODUCTION

Systemic Arterial Hypertension (SAH) is considered a public health problem in Brazil as well in the world, for being an asymptomatic disease, the care is often neglected (BRASIL, 2006).

SAH is the principal risk factor for cardiovascular diseases, which are considered the main cause of morbidity and mortality in the Brazilian population. The Ministry of Health date indicates that between 11 and 20% of the Brazilian population is affected by SAH and about 85% of users who had a cerebrovascular accident (CVA), also known as stroke, and 40% of patients with acute myocardial infarction (AMI), they had this disease as a predisposing factor (BRASIL, 2006).

An individual to be diagnosed with SAH should show greater or equal to 140 mm Hg systolic blood pressure, and greater or higher than 90mmHg diastolic blood pressure, as well as modifiable and non-modifiable risk factors, presence of lesions in target organs and associated comorbidities (MARIN et al., 2012).

Major non modifiable risk factors are: heredity, gender, age and race. And as modifiable risk factors it is detected: stress, obesity, physical inactivity, alcohol consumption, smoking, birth control and high sodium intake (CARVALHO et al., 2013).

As a preventive measure, SAH has strong correlation with changes in lifestyle, therefore, it is encouraging to practice healthy habits from childhood, respecting regional and economic characteristics of the individual. The main recommendations are controlled use of sodium and salt, healthy diet, potassium intake and practice of physical exercises (CARVALHO et al., 2013).

Data from the Brazilian Institute of Geography and Statistics (IBGE) census (2000) indicated that about six million Brazilians are hearing impaired, and its incidence is 3 carriers per 1000 individuals. Silva et al. (2007) reported that 166 365 are unable to hear, 1,050,000 have great difficulty hearing and 4,685,655 present some difficulty in hearing. Data from the Brazilian Society of Otology (2009) indicate that 350 000 people have severe hearing impairment.

In the city of Macaé, SAH in users of Family Health Strategies has a high prevalence and there are no studies of hearing impaired adults and elders with SAH.

In this perspective, the present study aimed to describe the demographic and socioeconomic profile of hearing impaired adults and elders attended in the Family Health Strategies in the municipality of Macaé - Rio de Janeiro.

## CASUISTRY AND METHODS

A descriptive, quantitative study of primary basis was performed in 7 Family Health Strategies in Macaé, in the period between December 2013 and February 2014, with permission from the Coordinator of the Family Health Strategies/Semusa-Macaé, Rio de Janeiro. The study is linked to the research project that integrates the Education Program through Work for Health (PET Health/Care Networks 2013-2015) approved to be developed at UFRJ Campus - Macaé Professor Aloisio Teixeira with promotion to the scholarship holders and tutors. The Education Program through Work for Health - Health-PET is regulated by Ministerial Decree No. 421 on March 3, 2010, providing scholarships for tutors, mentors (professional services) and graduate students in the health field.

The Family Health Strategies located in the city of Macaé, which has a total area of 1,219.8 km2, corresponding to 12.5% of the total area of North Fluminense, to which it belongs. The population is approximately 200 000 inhabitants (169 513 fixed and 50 000 floating) and the population density of 103.11 inhab /Km2 (Municipality of Macaé, 2011).

For the study, 12 scholarship holders PET Health/Networks, graduating from courses in Medicine, Nutrition, Nursing and Obstetrics at the Federal University of Rio de Janeiro (UFRJ), Campus UFRJ - Macaé Professor Aloisio Teixeira, duly trained, made the ambience of the Family Health Strategies, the survey of the medical charts to families for identification and selection of adult and elderly users diagnosed with hearing impairment. The scholarship holders interviewed all users who accepted and signed the consent form. When necessary, there was help from the family, for communication between the interviewee and the scholarship holders.

A structured questionnaire was developed for the study, including the following demographic and socioeconomic variables: gender, age, ethnicity (self-reported), schooling, origin (South, North, Southeast, Northeast, Midwest), average household income (AHI) in minimum wages (MW), number of dependants of AHI, Time that features the diagnosis of systemic arterial hypertension (SAH).

It is noted that all the rules and guidelines for researches involving humans contained in Resolution 196/96 of the National Health Board / Ministry of Health were followed. The project was submitted and approved by the Research Ethics Committee of the Faculty of Medicine of Campos dos Goytacazes.

The data were consolidated and analyzed by means of absolute and relative frequencies, and measures of central tendency (mean and standard deviation) of selected variables, using Microsoft Excel 2010 software.

## RESULTS AND DISCUSSION

Data from 18 adult and elderly users, with mean (± SD) age of 60.7 ± 11 years, 16.7% male and 83.3% female were analyzed. That corresponded to the total hearing impaired users attended in 5 Family Health Strategies. Two Family Health Strategies were excluded from the study for not having deaf or hearing impaired users in the community.

According to the color of skin (self reported), it was found that 38.9% reported being white, 33.4% black and 27.7% mixed.

Figure 1 shows the percentage distribution of schooling, detecting 16.7% had not attended school, 38.9% attended the 1st cycle of basic education (1st to 4th year), 27.7% attended the 2nd cycle of basic education (5th to 9th grade), 16.7% had completed high school.

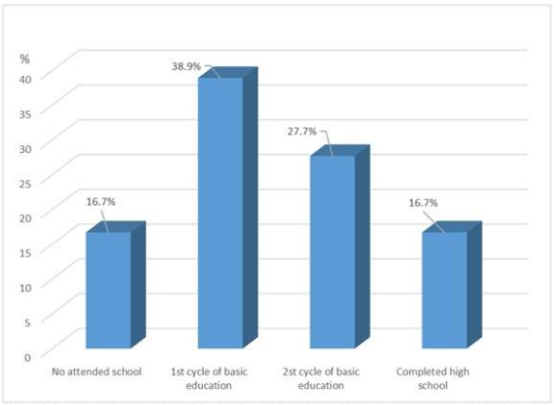


Figure 1. Percentage distribution of education of hearing impaired adults and elderly users (n=18) watched The Family Health Strategies, Macaé. Dec, 2013 to Feb, 2014.

Regarding the origin, i.e., the region of Brazil of the source user, the study found that 83.3% were from the Southeast, 11.1% from the Northeast 5.6% from the Midwest (Figure 2).

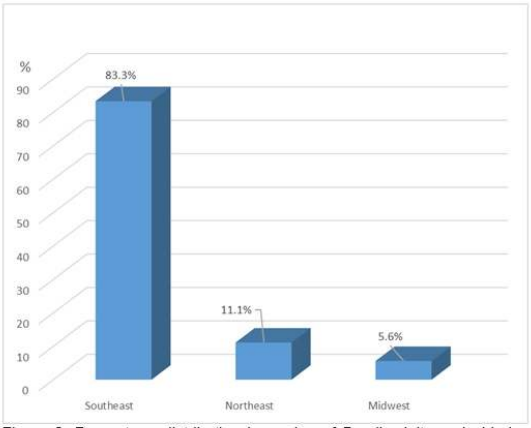


Figure 2. Percentage distribution by region of Brazil adults and elderly users (n=18) watched The Family Health Strategies, Macaé. Dec, 2013 to Feb, 2014.

The average household income of the surveyed users was 5.5% below 1 MW, 55.6% between 1 and 3 MW, 16.7% between 4 and 5 MW, 11.1% above 5 MW and 11.1 % did not respond (Figure 3), it was observed a mean (± SD) of dependants of the average household income of 2.7 ± 2.1 MW. The mean (± SD) time of diagnosis of SAH of the users was 11.7 ± 7.5 years.

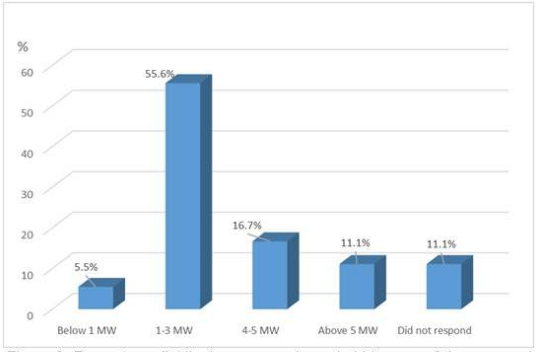


Figure 3. Percentage distribution average household income of the surveyed users adults and elderly users (n=18) watched The Family Health Strategies, Macaé. Dec, 2013 to Feb, 2014.

The present study showed the highest proportion of interviewees aged between 51 and 71 years, confirming the data obtained by Borges et al. (2012) who developed an exploratory descriptive study with qualitative approach in a Basic Family Health Unit of Fortaleza-Ceará, in the period from June to September in 2008, with 9 patients.

The aim of the study was to study the communication practices of nurses in the Nursing Consultation of arterial hypertension in the Family Health Program in Fortaleza, Ceará, "revealing the generating elements of power asymmetry between nurse and hypertensive patients in language" (Borges et al., 2012). In this study, the mean age was 53 years among the hypertensive participants.

In the observational, prospective study, with historical controls performed by Araújo & Guimarães (2007), at the Family Health Unit in Salvador, Bahia, between the start of the treatment in December 2003 and December 2004 and were followed until July 2005, 135 patients were selected with the confirmed diagnosis of hypertension. The study aimed to evaluate the impact of the implementation of the Family Health Program on hypertension control in a primary care unit. The above authors found a higher prevalence in females (83.3%), which was similar to our study.

According to schooling, the majority of the respondents claimed that they had not completed the studies. This result is

similar to that found by Faquinello et al. (2010) in their qualitative study, conducted in Maringa -. PR, together with 20 evaluated users in the period from March to June 2009, with the aim of identifying how hypertensive people perceive the actions of the Basic Health Unit in their social support network with respect to confronting the chronic condition of the disease. The authors found that 43% of the hypertensive people had not finished elementary school (1st to 9th grade).

The prevalence and severity of hypertension are higher in black people, a fact which may be closely related to ethnic factors and/or socioeconomic (BRAZIL, 2006). Our study found that the majority (38.9%) of the hypertensive hearing impaired reported being white people, unlike that observed in the national population.

The study showed that 83.3% of the patients come from the Southeastern Brazil, followed by 11.1% from the Northeast Region. This fact may be due to the survey was conducted in only one of the municipalities of the State of Rio de Janeiro, thus not covering various regional locations. However, researches show that the prevalence is between 7.2 and 40.3% in the Northeast, followed by 5.04 to 37.9% in the Southeast, 1.28 to 27.1% in the South and 6.3 to 16.75% in the Midwest (PASSOS et al., 2006).

Most users said receiving 1-3 minimum wages and had about 2 dependants in their average family income. According to Machado et al. (2012) in his descriptive qualitative study, at the reference Center for Cardiovascular Disease in Salvador, Bahia. With 33 people enrolled who were hypertensive during the period of February 24 to March 4, 2010, aiming to verify the conceptions of hypertension, the risk factors and their experiences in increasing the pressure, and found that 73.3% of respondents reported receiving an average family income, varying between 1-3 minimum wages which was also found in our study. This can be considered an important result, since this may be related to the prevalence of hypertension or non-adherence to treatment.

The time of the diagnosis of systemic arterial hypertension was on average 11.7 years among the respondents. According to Borges et al. (2012), the time of diagnosis for arterial hypertension was at least 2 years and maximum 20 years, with a mean of 10 years, which are similar results to those found in our study.

SAH is a multifactorial disease and that after its diagnosis, the factors must be understood to get success in its treatment. Thus, we can reduce the rates of morbidity and cardiovascular mortality in hypertensive individuals (BRASIL, 2006).

**CONCLUSION**

Most of the interviewed are elders and female from the southeast of Brazil, with an average income of 1-3 MW. The next step is to detect the possible causes of hearing loss in the study group and its association with hypertension. It is necessary to know the reference and counter reference of users at Network Primary Care for treatment, rehabilitation, monitoring and control of hypertension and hearing loss.

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**SYSTEMIC ARTERIAL HYPERTENSION AND HEARING LOSS: CROSS-SECTIONAL SURVEY IN ADULTS AND ELDERS ATTENDED IN PRIMARY CARE MACAÉ, RIO DE JANEIRO.**

**ABSTRACT**

Systemic Arterial Hypertension (SAH) is considered one of the major public health problems in Brazil, due to its high prevalence and low control. The aging process increases the risk of developing chronic diseases, with systemic arterial hypertension (SAH) considered a major disease in the field of Public Health Associated with the aging process, is hearing loss, whose prevalence in the elderly is about 63%. Studies suggest that changes in cochlear activity may be due to metabolic diseases, and hypertension a disease that can cause damage to the auditory system. Aimed to describe the demographic and socioeconomic profile of hearing impaired adults and elders attended in Family Health Strategies of Macaé, RJ. We conducted a descriptive, quantitative study of primary basis in the period between December 2013 and February 2014, with adults and elders

attended in 7 Family Health Strategies of Macaé. Previously trained scholarship holders interviewed the selected group, using a structured questionnaire. A total of 338 adults and elderly with hypertension in FHT 's were interviewed, representing about 36% of the assisted population, detecting 6 % of those with hearing disabilities with an average (±SD) age of 60.7±11 years, 16.7% male and 83.3% female. According to the color of skin, it was found that 38.9% reported being white, 33.4% black and 27.7% mixed. Regarding the origin, it was found that 83.3% were from the Southeast of Brazil. The average household income (AHI) of the surveyed users was 55.6% between 1 and 3 MW. It was observed a mean (± SD) of dependants of an average household income (AHI) of 2.7 ± 2.1 MW. The mean (± SD) time of diagnosis of SAH of the users was 11.7±7.5 years. The majority of respondents are elderly females from the Southeast of Brazil, with an average income of 1-3 MW.

**KEYWORDS:** Adults, Elders, Systemic Arterial Hypertension.

**SYSTEMIQUE HYPERTENSION ARTÉRIELLE ET PERTE D'AUDITION: ÉTUDE TRANSVERSALE EN ADULTES ET LES AÎNÉS FRÉQUENTÉ EN SOINS PRIMAIRES MACAÉ , RIO DE JANEIRO**

**RÉSUMÉ**

Hypertension artérielle systémique (SAH) est considéré comme l'un des principaux problèmes de santé publique au Brésil, en raison de sa prévalence élevée et un faible contrôle. Le processus de vieillissement augmente le risque de développer des maladies chroniques, l'hypertension artérielle systémique (SAH) considérée comme une maladie majeure dans le domaine de la santé publique associés au processus de vieillissement, est une perte, dont la prévalence chez les personnes âgées est d'environ 63% entendait. Des études suggèrent que les changements dans l'activité cochléaire peuvent être dus à des maladies métaboliques et l'hypertension une maladie qui peut causer des dommages au système auditif. Visant à décrire le profil démographique et socio-économique d'entendre les adultes et les aînés ayant une déficience ont assisté dans les stratégies de santé familiale de Macaé, RJ. Nous avons effectué une étude descriptive, quantitative de base primaire dans la période entre Décembre 2013 et Février 2014, avec les adultes et les aînés ont participé à 7 des stratégies de santé familiale de Macaé. Boursiers préalablement formés interviewé le groupe sélectionné, à l'aide d'un questionnaire structuré. Un total de 338 adultes et les personnes âgées souffrant d'hypertension dans ESF ont été interrogés, ce qui représente environ 36% de la population assistée, détection de 6% de ceux ayant une déficience auditive avec une moyenne (± écart-type) à l'âge de 60,7±11 ans 16,7% d'hommes et 83,3% de femmes. Selon la couleur de la peau, il a été constaté que 38,9% ont déclaré être blanc, 33,4% de Noirs et 27,7% mixte. En ce qui concerne l'origine, il a été constaté que 83,3% étaient du sudest du Brésil. Le revenu moyen des ménages (AHI) des utilisateurs interrogés était de 55,6% entre 1 et 3 MW. Il a été observé une moyenne (± écart-type) de la charge d'un revenu moyen des ménages (AHI) de 2,7±2,1 MW. Le (± écart-type) temps moyen de diagnostic de SEP des utilisateurs était de 11,7±7,5 ans. La majorité des répondants sont des femmes âgées du Sud-Est du Brésil, avec un revenu moyen de 1-3 MW.

**MOTS-CLÉS:** Adultes, Aînés, Systémique Hypertension Artérielle.

**HIPERTENSIÓN ARTERIAL SISTÉMICA Y PÉRDIDA AUDITIVA: TRANSVERSAL ENCUESTA EN ADULTOS Y ANCIANOS ATENDIDOS EN LA ATENCIÓN PRIMARIA MACAÉ , RIO DE JANEIRO.**

**RESUMEN**

Hipertensión Arterial Sistémica (HAS) es considerado uno de los principales problemas de salud pública en Brasil, debido a su alta prevalencia y bajo control. El proceso de envejecimiento aumenta el riesgo de desarrollar enfermedades crónicas, con hipertensión arterial sistémica (HAS) considera una enfermedad importante en el campo de la salud pública asociados con el proceso de envejecimiento, es la pérdida, cuya prevalencia en los ancianos es de aproximadamente 63% oyendo. Los estudios sugieren que los cambios en la actividad coclear puede ser debido a enfermedades metabólicas, y la hipertensión una enfermedad que puede causar daños en el sistema auditivo. Tuvo como objetivo describir el perfil demográfico y socioeconómico de la audición adultos y ancianos con discapacidad atendidos en Estrategias de Salud Familiar de Macaé, RJ. Se realizó un estudio descriptivo, cuantitativo de carácter primario en el período comprendido entre diciembre 2013 y febrero de 2014, con los adultos y los ancianos atendidos en 7 Estrategias de Salud Familiar de Macaé. Becarios previamente capacitados entrevistaron al grupo seleccionado, utilizando un cuestionario estructurado. Un total de 338 adultos y ancianos con hipertensión en s ESF 'fueron entrevistados, lo que representa alrededor del 36% de la población atendida, la detección de un 6% de las personas con discapacidad auditiva, con una media (± DE) de edad de 60,7±11 años, el 16,7% hombres y el 83,3% mujeres. De acuerdo con el color de la piel, se encontró que el 38,9% informó de ser blanco, 33,4% y 27,7% negro mezclado. En cuanto al origen, se encontró que el 83,3% eran del sudeste de Brasil. El ingreso familiar promedio (IAH) de los usuarios encuestados fue del 55,6% entre 1 y 3 MW. Se observó una media (±DE) de los dependientes de un ingreso familiar promedio (IAH) de 2,7±2,1 MW. La media (±DE) momento del diagnóstico de HSA de los usuarios fue de 11,7±7,5 años. La mayoría de los encuestados son mujeres de edad avanzada desde el sudeste de Brasil, con un ingreso promedio de 1-3 MW.

**PALABRAS CLAVE:** Adultos, Ancianos, Hipertensión Arterial Sistémica.

**HIPERTENSÃO ARTERIAL SISTÊMICA E PERDA AUDITIVA: ESTUDO TRANSVERSAL EM ADULTOS E IDOSOS ASSISTIDOS NA ATENÇÃO BÁSICA DE MACAÉ, RIO DE JANEIRO.**

**RESUMO**

O processo de envelhecimento eleva o risco de aparecimento de doenças crônicas não transmissíveis, sendo a hipertensão arterial sistêmica (HAS) considerada uma das principais doenças no campo da Saúde Pública. Associada ao processo de envelhecimento, está a perda auditiva, cuja prevalência em idosos é de cerca de 63%. Estudos sugerem que alterações na atividade coclear podem ser devidas a doenças metabólicas, sendo a HAS uma doença que possa causar dano no sistema auditivo. Objetivou-se descrever a prevalência de HAS em adultos e idosos deficientes auditivos e suas características demográficas e socioeconômicas, assistidos nas Estratégias de Saúde da Família de Macaé (ESF's)/RJ. Realizou-se um estudo descritivo, de base primária, entre dezembro de 2013 e fevereiro de 2014. Bolsistas, previamente capacitados, utilizaram um questionário estruturado. Foram entrevistados 338 adultos e idosos com HAS nas ESF's, representando cerca de 36% da população assistida, detectando-se 6% do grupo com deficiência auditiva e média (±DP) de idade de 60,7±11 anos, sendo 16,7% do sexo masculino e 83,3% do sexo feminino. Segundo a cor da pele auto referida, detectou-se que 38,9% referiram ter a cor branca, 33,4% preta e 27,7% parda. Em relação a procedência, detectou-se que 83,3% eram do Sudeste. A renda média familiar (RMF) foi de 55,6% entre 1 e 3 SM, e uma média(±DP) dependentes da RMF de 2,7±2,1 SM. A média (±DP) de tempo de diagnóstico de HAS foi de 11,7±7,5 anos. Conclui-se que a maioria dos entrevistados é idosa, do sexo feminino, da região Sudeste, apresentando renda média entre 1-3 SM.

**PALAVRAS-CHAVE:** Adultos, Idosos, Hipertensão Arterial Sistêmica.