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Rising Inequity in Hypertension Prevalence: Results of a Survey in Sorocaba-SP, Brazil, 2022

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Abstract

Background: Arterial Hypertension (AH) is a leading cause of morbidity and mortality worldwide. Its prevalence among adults and the elderly is high globally and between 30-35% in Brazil. It is a primary reason for healthcare consultations, hospital admissions, and mortality.

Objectives: This study aimed to evaluate the AH prevalence and to investigate its association with sociodemographic factors. Methods: A population-based, cross-sectional study on a cluster sample of 1,080 individuals. The analysis evaluated age, gender, education level, income. The statistical model estimated prevalence ratios (PR), 95% confidence intervals, while a concentration curve assessed sociodemographic inequalities.

Results: An overall prevalence of 38.39% was observed, along with a significant association between AH and gender, age, education level, and income. The concentration curve revealed a distribution of AH higher among men and the elderly, concentration index = -0.31.

Conclusions: These findings underscore the need for public policies aimed at reducing health inequalities and strategies for prevention, diagnosis, and control of AH for populations facing greater social vulnerability.

1. Background

Recognized as a chronic disease since the 1950s [1], arterial hypertension (AH) remains a leading cause of morbidity and mortality worldwide and poses an ongoing public health challenge, particularly in developing nations such as Brazil [2, 3]. In the late 1940s, researchers first identified its association with various risk factors, a connection that scientific consensus firmly established during the 1960s and 1970s [4]. Its multifactorial nature encompasses demographic attributes, ethnic and racial factors, and socioeconomic determinants, all of which constitute components of the individual, programmatic, and structural vulnerabilities that drive AH prevalence [5]. The prevalence of AH remains high, and social inequalities heavily mark its distribution across the population, even though widely known, effective, and accessible diagnostic and treatment methods exist [6]. Arterial hypertension exhibits a high prevalence among adults and the elderly — with a global estimate of 33% and a rate of 30–35% in Brazil — and constitutes a primary driver of primary healthcare consultations, hospital admissions, and mortality due to circulatory diseases (such as stroke, acute myocardial infarction, and chronic kidney disease) and retinopathy [7, 8, 9, 10]. In 95% of hypertensive patients, no single, clear, or necessary cause explains the disease; the literature thus classifies this condition as essential or primary hypertension [11]. Epidemiological data show that the condition concentrates among young and adult men, though older age reverses this pattern, as the disease becomes more prevalent among women. It also appears more frequently among Black and Brown individuals, as well as within social groups with lower income or lower education levels. Conversely, variables such as marital status, religion, access to supplementary healthcare, occupation, and household size still require a more robust analysis [12, 13]. Population aging, lifestyle changes, urbanization, and the persistence of modifiable risk factors—such as poor diet,

physical inactivity, obesity, smoking, and excessive alcohol consumption—sustain this scenario of high prevalence [14]. Current literature highlights critical knowledge gaps regarding genetic versus environmental determinants of ethnic/racial disparities, biological mechanisms versus environmental stress (epigenetics), social gender roles versus hormonal protection, the role of urban environments (stress versus pollution)[15], and substantial underdiagnoses [16]. Thus, hypertension represents a major challenge for Brazil's Unified Health System (SUS), demanding actions that target both prevention and disease control; this reality reinforces the necessity to understand hypertension from a broader perspective that considers the social context of the population. Consequently, the analysis of health inequalities provides crucial data to inform public policies capable of reducing disparities and promoting greater equity in access to hypertension prevention, diagnosis, and treatment. Population-based studies yield vital information by identifying vulnerable groups and explaining how sociodemographic factors influence disease distribution. Despite this relevance, the literature lacks recent studies evaluating the impact of social inequalities on hypertension prevalence—specifically within the urban population of Sorocaba — which justifies this local survey. Accordingly, this study assessed the prevalence of hypertension among adults (aged 18 years and older) residing in Sorocaba, identifying potential inequalities and associations with the social and demographic factors that influence its occurrence.

2. Methods

This original observational, cross-sectional, population-based survey took place in the municipality of Sorocaba, located in the interior of São Paulo state, Brazil. The study population consisted of adults aged 18 years or older residing in private households within the urban area of Sorocaba. A multistage cluster sampling design ensured population representativeness dividing the Municipal Health Department into six strata: Central-South, East, Central-North, North, Northwest, and Southwest. Systematic sampling randomly selected 10 census tracts within each stratum, and 18 households within each tract. Participant recruitment utilized a quota divided into six domains based on sex and age group (18–39, 40–59, and ≥ 60 years), which secured three participants of each sex per age group in each tract. The sample size calculation incorporated a hypertension prevalence of 33.7%, a margin of error of 3.65%, a 0.05 significance level, a design effect (deff) of 1.5, and a non-response rate of 10%. The final analyzed sample comprised 1,080 participants. The final sampling unit weight mathematically represents the product of the weights for the individual, the tract, and the region. All statistical analyses accounted for these sampling weights and the complex sample design. Face-to-face interviews during home visits utilized a standardized form to gather data. The instrument collected information regarding age, sex, race/ethnicity, marital status, education level, occupation, religion/belief, family income, number of household members, and access to supplementary health insurance as stated in the supplementary material. Table 1 presents the categories for these variables. Blood pressure (BP) measurement protocols followed the recommendations of the Seventh Brazilian Guideline on Arterial Hypertension [17]. This study classified individuals who reported a history of hypertension as hypertensive, regardless of their normotensive status at the time of BP measurement. Stata® software, version 16.0 processed and analyzed all data. Initially, a descriptive analysis outlined hypertension

prevalence according to the studied variables and their categories. Subsequently, univariate analysis estimated crude Prevalence Ratios (PR), while multivariate analysis using Poisson regression with robust variance estimated adjusted PRs. For the multivariate analysis, the model included all sociodemographic variables simultaneously, followed by a backward stepwise procedure to exclude variables with $p > 0.05$. For variables with more than 10% missing data, a statistical imputation technique managed missing values to reduce bias. A sensitivity analysis compared results from the original data with those from the imputed data by calculating the likelihood ratio between the models and testing for differences. The Lorenz concentration curve and the corresponding concentration index assessed social and demographic inequalities in the distribution of arterial hypertension, accounting for the complex sample design. The study adopted a 5% significance level and 95% confidence intervals (95% CI). Furthermore, analysis included additive interactions and multiplicative interactions. The research adhered to the ethical principles of Conselho Nacional de Saúde's Resolution No. 466/2012, and performed in accordance with Declaration of Helsinki guidelines and regulations. The Research Ethics Committee (CEP) of the Faculty of Medical and Health Sciences (FCMS) at the Pontifical Catholic University of São Paulo (PUC-SP) approved the study (CAAE 30538520-1-0000-5373). Every human participant signed the Informed Consent Form and has given their consent to participate. There was no funding for this research. Clinical trial number: not applicable.

3. Results

Data collection occurred from August 2021 to July 2022. The overall prevalence of arterial hypertension (AH) reached 38.39% (95% CI: 34.77–42.13%), with a global design effect (deff) of 1.00 (maximum: 1.30 for women aged 18–39 years; minimum: 0.22 for women aged 60 years or older). Statistical analysis revealed a heterogeneous distribution of arterial hypertension across the studied sociodemographic groups. The univariate analysis of social and demographic variables yielded the following results:

Men exhibited an AH prevalence ratio (PR) of 1.14 (95% CI: 0.98–1.33; $p = 0.09$) compared to women;

Widowed status showed a strong association with AH (PR = 1.75; 95% CI: 1.54–2.01; $p < 0.001$). Conversely, single individuals (PR = 0.40; 95% CI: 0.30–0.53; $p < 0.001$) and separated individuals (PR = 0.57; 95% CI: 0.35–0.92; $p = 0.02$) showed a lower prevalence compared to married individuals (reference category);

None of the ethnicity categories showed a statistically significant association with AH. Individuals identifying as Black (PR = 0.99; 95% CI: 0.75–1.29; $p = 0.924$) or Brown (PR = 0.95; 95% CI: 0.78–1.16; $p = 0.628$) showed prevalence rates similar to White individuals (reference category). However, the finding for individuals of Asian descent (PR = 1.55; 95% CI: 0.99–2.42; $p = 0.053$) warrants attention;

Hypertension showed a strong association with age - individuals aged 40 to 59 years showed a PR of 2.59 (95% CI: 2.03–3.31; $p < 0.001$) and those aged 60 years or older showed a PR of 4.22 (95% CI: 3.38–5.28; $p < 0.001$) compared to the 18–39 age group (reference category);

Individuals living in households with 3 to 7 people showed a PR of 0.73 (95% CI: 0.62–0.85) compared to households with 1 or 2 individuals. Households with 8 or more people showed a PR of 0.79 (95% CI: 0.36–1.74; p = 0.56);

Economically inactive individuals showed a 45% higher prevalence of the evaluated outcome (PR = 1.45; 95% CI: 1.24–1.70; p < 0.001) compared to economically active individuals;

No statistically significant differences appeared for other Christians (PR = 0.98; 95% CI: 0.82–1.18; p = 0.842) or other beliefs (PR = 1.17; 95% CI: 0.85–1.61; p = 0.33) when compared to Catholics;

Using "None," "Incomplete Elementary Education," or "Complete Elementary Education" as the reference, individuals with "Incomplete High School" or "Complete High School" showed a PR of 0.62 (95% CI: 0.52–0.73; p < 0.001). Individuals with "Incomplete Higher Education", "Complete Higher Education", or "Postgraduate Education", showed a PR of 0.52 (95% CI: 0.42–0.64; p < 0.001), revealing a strong inverse relationship between education level and hypertension prevalence;

Those with health insurance showed a slightly lower prevalence of the outcome (PR = 0.93; 95% CI: 0.80–1.10; p = 0.410) compared to individuals without health insurance;

Fixing individuals in the lowest income bracket (R$ 0.00 to R$ 3,061.00) as the reference, a trend of decreasing outcome prevalence emerged as income increased. Respondents with an income between R$ 3,061.10 and R$ 4,650.00 showed a 19% lower prevalence compared to the reference group (PR = 0.81; 95% CI: 0.66–1.00; p = 0.050). Although this result bordered on statistical significance, it suggested a possible association between higher income and lower prevalence. Among those with an income of R$ 4,650.10 to R$ 6,190.00, a 29% lower prevalence appeared compared to individuals with lower income (PR = 0.71; 95% CI: 0.57–0.87; p = 0.001). Similarly, respondents in the highest income bracket (above R$ 6,190.00) showed a 35% lower prevalence of the outcome compared to the reference group (PR = 0.65; 95% CI: 0.52–0.82; p < 0.001). An analysis using imputed data for the family income variable yielded these results; however, a sensitivity analysis revealed no significant differences when comparing them to the results from the original dataset without imputation.

Table 1 presents the prevalence ratio (PR) values, 95% confidence intervals (95% CI), and p-values for each variable.

Table 1
– Univariate analysis of the association between arterial hypertension and social and demographic variables. Sorocaba, 2022.

Variable	Category	Sample proportion (%)	AH proportion (%)*	PR	95%CI	*p*
Gender						
	Women	53.28	36.01	1		
	Men	46.72	41.1	1.14	0.98–1.33	0.09
Marital status						
	Married	48.08	46.66	1		
	Singles	32.99	18.8	0.40	0.30–0.53	< 0.001
	Informal union	7.79	43.43	0.93	0.72–1.20	0.58
	Separated	5.21	26.68	0.57	0.35–0.92	0.02
	Widows	5.92	81.96	1.75	1.54–2.01	< 0.001
Self-declarated ethinicity						
	Whites	61.73	38.43	1		
	Blacks	10.47	37.92	0.99	0.75–1.29	0.92
	Browns	25.78	36.57	0.95	0.78–1.16	0.63
	Yellows	1.59	59.64	1.55	0.99–2.42	0.05
	Indigenous	0.43	65.81	1.71	0.86–3.42	0.13
Age (years)						
	18–39	50.03	18.63	1		
	40–59	33.8	48.32	2.59	2.03–3.31	P < 0.001
	60 ou +	16.18	78.71	4.22	3.38–5.28	P < 0.001

Variable	Category	Sample proportion (%)	AH proportion (%)*	PR	95%CI	*p*
Gender						
Number of Household members						
	1 ou 2	33.38	46.95	1		
	3 a 7	65.32	34.1	0.73	0.62–0.85	< 0.001
	8 ou +	1.3	37.02	0.79	0.36–1.74	0.56
Occupation						
	Active	59.87	32.52	1		
	Inactive**	40.13	47.2	1.45	1.24–1.70	< 0.001
Religion						
	Catholic	50.2	42.01	1		
	Another Christians	43.46	41.24	0.98	0.81–1.18	0.84
	**Another religions/faiths	6.34	49.19	1.17	0.85–1.61	0.33
Education						
	None to Fundamental	19.47	58.37	1		
	Median	43.89	36.18	0.62	0.52–0.73	< 0.001
	Superior	36.64	30.34	0.52	0.42–0.64	< 0.001
Health insurance						
	No	56.12	39.43	1		
	Yes	43.88	36.83	0.93	0.80–1.10	0.41
Family income group (Reais)						

Variable	Category	Sample proportion (%)	AH proportion (%)*	PR	95%CI	*p*
Gender						
	from 0 to 3061	20.27	49.18	1		
	3061,1 to 4650	24.38	39.89	0.81	0.66–1.00	0.05
	4650,1 to 6190	26.35	34.87	0.71	0.57–0.87	0.001
	6190,1 to maximum	29	32.01	0.65	0.52–0.82	P < 0.001

*The proportion of normotension is the complement = (100% – reported value); PR = Prevalence Ratio; 95% CI = 95% Confidence Interval; p < 0.05 considered significant. **Other religions/beliefs include non-Christian religions, deists, atheists, and agnostics; "Inactive" includes retirees, pensioners, homemakers, and the unemployed. Missing data: 21 for race/ethnicity; 4 for marital status; 8 for occupation; 371 for non-imputed family income; 4 for health insurance coverage.

Multivariate Analysis: Following the backward stepwise procedure, only sex and age remained in the final multivariate model. Men showed a prevalence ratio (PR) of 1.21 (95% CI: 1.05–1.40; p = 0.011; regression coefficient beta = 0.19) compared to women. Regarding age groups, individuals aged 40–59 years showed a PR of 2.62 (95% CI: 2.06–3.34; p < 0.001; regression coefficient beta = 0.96) and those aged 60 years or older showed a PR of 4.27 (95% CI: 3.41–5.34; p < 0.001; regression coefficient beta = 1.45) using the 18–39 age group as the reference. Stratification of the association between sex and hypertension by age group revealed a significantly higher prevalence among men in the 40–59 age group (52.2% for men vs. 47.8% for women; p = 0.002). Conversely, no statistically significant differences emerged in the 18–39 age group (56.3% for men vs. 43.7% for women; p = 0.23) or in the 60-and-older group (44.0% for men vs. 57.3% for women; p = 0.34), although descriptive data showed a higher prevalence among women in the oldest age group.

Figure 1 - Lorenz Concentration Curve - Hypertension Prevalence. Sorocaba-Brazil, 2022.

Concentration Curve: Fig. 1 shows the concentration curve yielded an index of -0.31, indicating an unequal distribution of hypertension, with a higher concentration among older individuals and men. Multiple survey regression—including the sex and age variables—generated the data to construct the concentration curve, ordering individuals by decreasing hypertension risk on the x-axis against the corresponding cumulative prevalence of hypertension cases on the y-axis. The diagonal line represents an equitable distribution. A curve tracking above the diagonal indicates a concentration of hypertension among higher-risk groups. The regression coefficients (beta) that informed this model were 0.19 for male sex, 0.96 for the 40–59 age group, and 1.46 for the 60-and-older age group.

In the sensitivity analysis, multivariate Poisson regression models using the original Family Income variable (n = 707) compared with those using imputed Family Income (n = 1080), accounting for all social and demographic variables included in the study, showed no significant difference (Likelihood-ratio test: (chi2 = 0.07), (p = 0.7867). Family Income represented the only variable with data loss exceeding (10%). Additive interaction showed no significance (p = 0.60), and multiplicative interaction involving gender and age showed no significance (p = 0.11).

4. Discussion

This study identified a higher-than-expected prevalence of arterial hypertension (AH). The multivariate analysis confirmed that significant associations with gender and age persisted. While univariate analysis showed associations between AH prevalence and marital status, education level, family income, number of household members, health insurance coverage, and occupation [18], these effects lost significance in the final multivariate model. Race/ethnicity analysis did not reveal the expected association with Black or Brown individuals; instead, the data suggested an association with Indigenous and Asian individuals. Overall, these results clarify the social and demographic factors that determine hypertension prevalence. Regarding gender, the results align with existing literature. The data show a higher prevalence among men in young and adult age groups, but a higher prevalence among women in the elderly age group. Greater exposure to risk factors among men—such as smoking, alcohol abuse, hazardous working conditions, violence, and healthcare non-adherence—may explain this pattern. For women, contributing factors include physical inactivity, obesity, and the loss of hormonal protection after menopause [19]. Both genders, however, exhibit a significant intersection between social vulnerability and population aging. Age maintained a strong link to AH, reflecting the natural aging of the circulatory system. Individuals aged 60 or older showed a high Prevalence Ratio (PR) in both univariate and multivariate analyses. This progressive risk increase with age matches widely documented literature and reflects physiological changes like arterial stiffening and a worsening metabolic profile. Aging also relates to the lifelong accumulation of risk factors, including a sedentary lifestyle, obesity, and dyslipidemia [16]. Race/ethnicity analysis did not show the expected higher prevalence among Black and Brown individuals. The concentration of Black and Brown individuals within the younger age group (56%) partially explains this finding [20, 21]. Conversely, the trend toward higher prevalence among Asian and Indigenous individuals matches published data. Studies show increased risk when these groups move away from traditional dietary habits (low in sodium and rich in unprocessed foods) and adopt less healthy local habits. This shift leads to a higher prevalence of AH and associated comorbidities like obesity and dyslipidemia. However, the small proportion of this group in the sample reduced statistical power [22]. Marital status analysis showed the highest AH prevalence among widowed individuals, an intermediate prevalence among married individuals or those in informal unions, and the lowest prevalence among single and separated individuals [23]. These results match the literature regarding widowed individuals but differ for the other groups. Differences in age, gender, and income distributions explain these deviations. For example, single and separated individuals are younger, women comprise a higher proportion of separated individuals, and single or separated individuals report higher incomes.

Literature often attributes lower prevalence among married individuals to reduced stress and lower exposure to risk factors driven by feelings of security and support [24]. Religion or beliefs showed no association with hypertension prevalence. However, studying this variable presents difficulties in this setting. The population includes predominantly Christian groups alongside great diversity—including Afro-religions, Judaism, Buddhism, Shintoism, Hinduism, Spiritism, minor movements, deists, and atheists, which contributes to inconclusive results. Nevertheless, the data agree with literature showing that while religious practice provides overall benefits, it does not change hypertension rates [25]. Socioeconomic Factors, Education and Income typically maintain a consistent, graded relationship with hypertension: higher education and income correlate with lower AH prevalence. Higher socioeconomic status improves the understanding and adoption of healthy behaviors, timely diagnosis, and treatment access [26]. However, these variables lost significance in the multivariate analysis.The data reveal that 56.65% of the lowest-income group are elderly, whereas only 12.93% of the highest-income group belong to this age bracket. Furthermore, 42.82% of the elderly population falls into the lowest-income bracket, while only 9.77% belong to the most affluent stratum. Adjusting for age, marital status, and number of household members therefore eliminates the independent association between income and hypertension. Illiteracy and low educational attainment rates of 51.54% among the elderly compared to 8.61% among the young drive a similar effect for education [27, 28]]. Number of Household Members, Insurance, and Occupation - Literature describes a U-shaped pattern for the number of household members, where AH prevalence peaks in households with very few or very many residents [29, 30]. This study observed a higher prevalence in households with 1–2 residents, a lower prevalence in those with 3–7 residents, and an increasing prevalence starting at 8 residents. While this matches the literature, the small number of households with eight or more residents reduced precision. Unequal distribution of the number of household members by gender and age eliminated this significance in the multivariate analysis. Private health insurance coverage correlated with lower hypertension prevalence. Literature indicates this occurs because individuals with private insurance generally have higher income and education levels, active employment, and younger age [31]. These factors explain the difference and indicate a group with better health habits. Occupation analysis showed a higher prevalence among inactive individuals (retirees, pensioners, the unemployed, and homemakers). This relationship depends heavily on age and gender. Literature notes that homemakers face higher risks for a sedentary lifestyle and obesity. A more specific breakdown of occupation types would provide deeper insight into these relationships [32].

Limitations and Strengths - The study's limitations include an urban adult sample constraint, insufficient proportions within certain analysis subcategories, s cross-sectional design that captures only a single moment in time, the need to account for self-reported past hypertension among normotensive individuals, potential recall bias regarding demographic and social variables. The study's strengths include a robust analytical approach, a highly satisfactory design effect (deff), excellent participant acceptance of interviews and blood pressure measurements, low operational costs. Future studies should employ stratified sampling to ensure the representation of specific categories regarding religion, number of household members, and race/ethnicity. Researchers should also classify occupation and

health insurance variables into categories with greater explanatory power and repeat the study at appropriate intervals.

5. Conclusions

The study revealed a significant, higher-than-expected prevalence of arterial hypertension in Sorocaba. This prevalence exhibits an uneven distribution across different sociodemographic groups, reflecting clear patterns of inequity. Accordingly, the results confirm that variables transcending individual biology strongly associate with arterial hypertension. Beyond gender and age, social variables emerge as key determinants. Understanding these factors remains crucial for planning effective interventions. Thus, by contributing to the local understanding of hypertension prevalence, the study reinforces the need for interventions targeting vulnerable populations to promote equity in the prevention, diagnosis, and treatment of chronic non-communicable diseases. Finally, these findings underscore the study's importance and highlight the strong association between hypertension and vulnerability indicators, which helps guide future public health actions.

Abbreviations

AH
Arterial Hypertension
BP
Blood pressure
CEP
Research Ethics Committee
CI
Confidence Intervals
FCMS
Faculty of Medical and Health Sciences
PR
Prevalence Ratios
PUC-SP
Pontifical Catholic University of São Paulo
SUS
Unified Health System

Declarations

Ethics approval and consent to participate

Ethics approval: *The Research Ethics Committee (CEP) of the Faculty of Medical and Health Sciences (FCMS) at the Pontifical Catholic University of São Paulo (PUC-SP) approved the study (CAAE*

30538520-1-0000-5373), and performed in accordance with Declaration of Helsinki guidelines and regulations.

Consent to participate: *All human participants who agreed to be interviewed provided written consent to participate and signed the informed consent form required by the Research Ethics Committee.*

Consent for publication

Not applicable.

Availability of data and materials

Database available at: Gianini, Reinaldo José (2026), "HAsociodemo", Mendeley Data, V2, doi: 10.17632/89ztyg4fbv.2

Competing interests

The authors declare that there are no conflicts of interest. No financial or personal relationships exist between the authors and any organizations or individuals that could inappropriately influence or bias this work.

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Author contributions

Reinaldo José Gianini (RJG) planned, supervised, analyzed and interpreted data, and wrote this article, *read and approved the final manuscript*. Maria Julia Nanartonis (MJN) planned analyzed and interpreted data, *read and approved the final manuscript*. Bruna Vitória de Carvalho (BVC) planned analyzed and interpreted data, *read and approved the final manuscript*. Natália Ferreira Caneto (NFC) planned analyzed and interpreted data, *read and approved the final manuscript*. Natália Murate Junqueira (NMJ) planned analyzed and interpreted data, *read and approved the final manuscript*. Danielle Ficher Gammal (DFG) planned, analyzed, *read and approved the final manuscript* interpreted data. Carolina Molina Salin Rezende (CMSR) planned, analyzed and interpreted data *read and approved the final manuscript*. Cibele Isaac Saad Rodrigues (CISR) planned, supervised, analyzed and interpreted data, and wrote this article, *read and approved the final manuscript*.

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Clinical trial number:

Not applicable.

Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the authors used Gemini to assist in literature review. Additionally, employed generative AI to refine the English language, improve readability, and ensure grammatical accuracy throughout the manuscript. After utilizing these tools, the authors thoroughly reviewed, verified, and edited all content to ensure academic integrity. The authors take full responsibility for the final text and the accuracy of all referenced sources.

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Figures

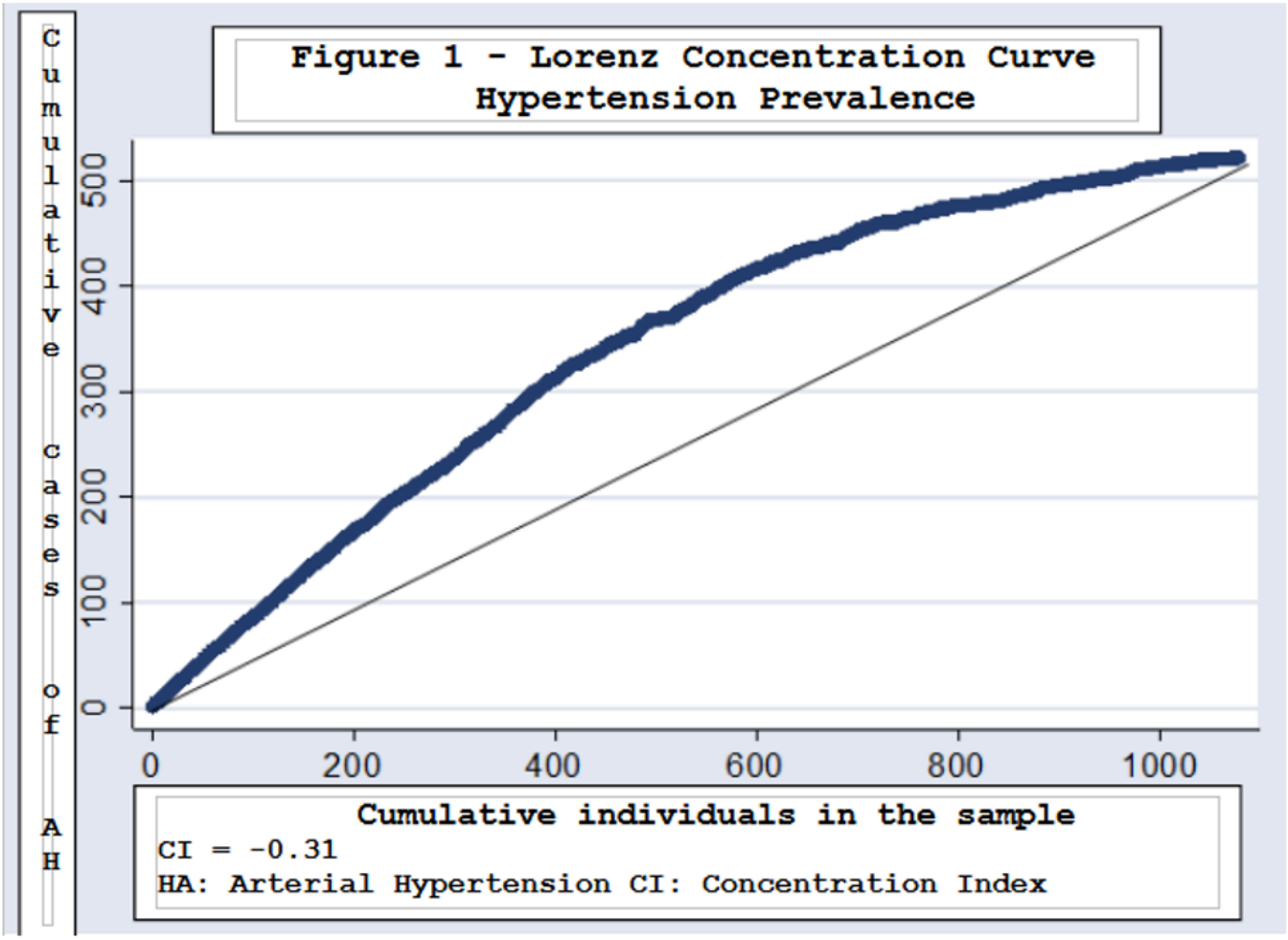


Figure 1

Lorenz Concentration Curve - Hypertension Prevalence. Sorocaba-Brazil, 2022.

Concentration Curve: Figure 1 shows the concentration curve yielded an index of -0.31, indicating an unequal distribution of hypertension, with a higher concentration among older individuals and men. Multiple survey regression—including the sex and age variables—generated the data to construct the concentration curve, ordering individuals by decreasing hypertension risk on the x-axis against the corresponding cumulative prevalence of hypertension cases on the y-axis. The diagonal line represents an equitable distribution. A curve tracking above the diagonal indicates a concentration of hypertension among higher-risk groups. The regression coefficients (beta) that informed this model were 0.19 for male sex, 0.96 for the 40–59 age group, and 1.46 for the 60-and-older age group.

Supplementary Files

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