Abdominal obesity in adults from the State of Pernambuco, Brazil: a cross-sectional epidemiological study

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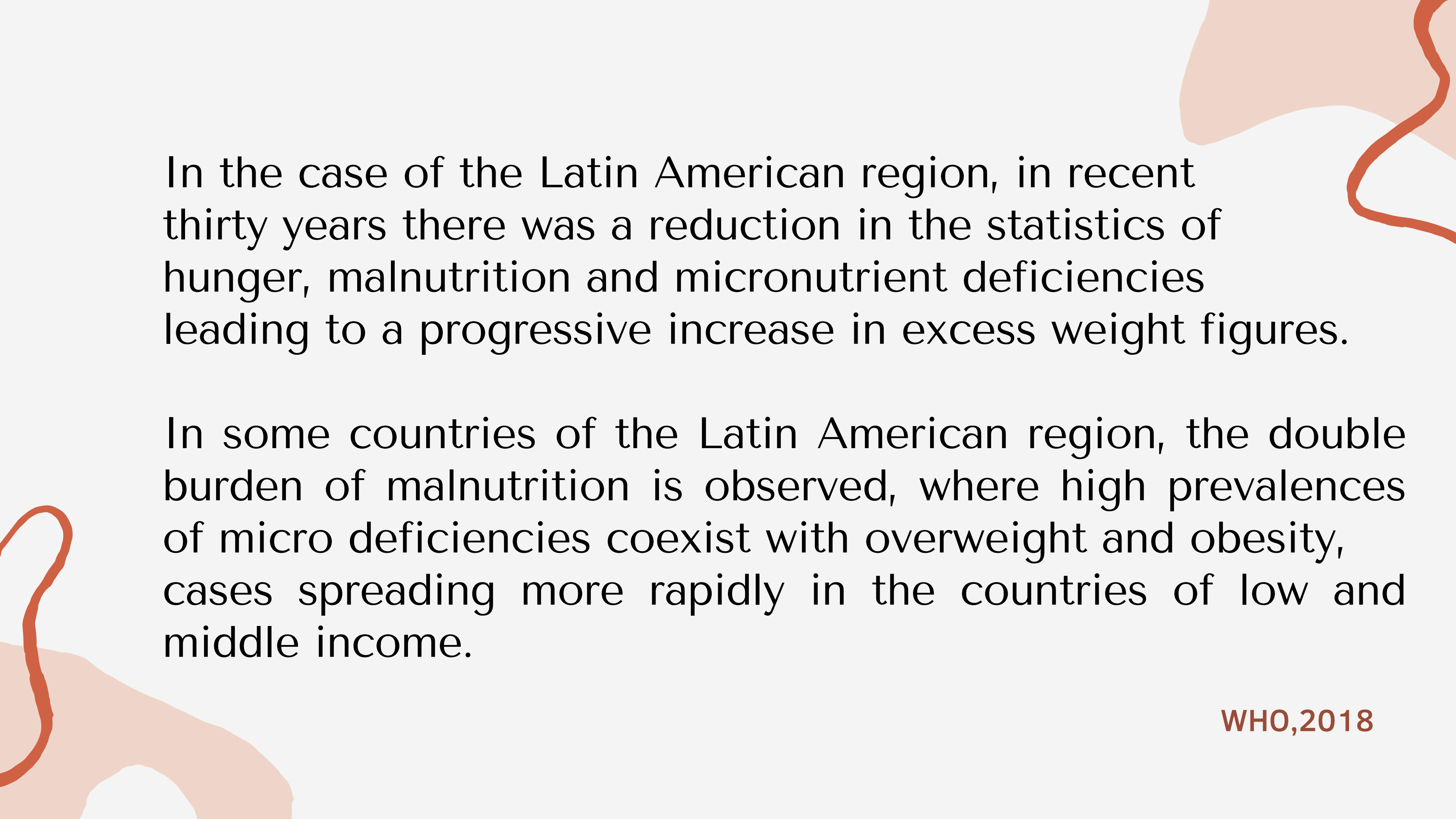
THE AUTHORS DECLARE TO BE FREE OF CONFLICTS OF INTEREST IN THE PREPARATION OF THIS PROJECT

Introdution

Obesity has been classified as "Pandemic of the century XXI "according to the WHO due to its increasing in last 40 years, not only in rich countries but also due to its progressive advance in developing countries, being one of the main risk factors for the development of others chronic non-communicable diseases (cardiovascular disease, type 2 diabetes, high blood pressure, certain types of cancer.
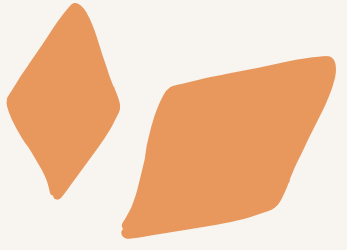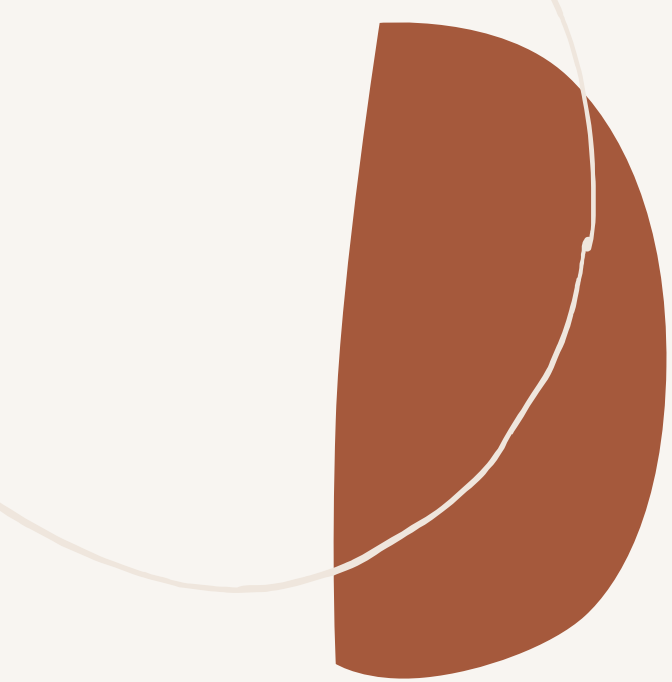
Swinburn BA, et.al. 2019

In the case of the Latin American region, in recent thirty years there was a reduction in the statistics of hunger, malnutrition and micronutrient deficiencies leading to a progressive increase in excess weight figures.

In some countries of the Latin American region, the double burden of malnutrition is observed, where high prevalences of micro deficiencies coexist with overweight and obesity, cases spreading more rapidly in the countries of low and middle income.

WHO,2018

Latest information from the Ministry of Health of Brazil showed that more than half of the Brazilian population was overweight; in ten years the country became have a prevalence of overweight of 42.6% in 2006 to 53.8% in 2016

The objective of this study was to estimate the prevalence of abdominal obesity and to analyze the factors associated between adults from urban and rural areas of the State of Pernambuco.

METHODOLOGY

- FOR THE ANALYSIS OF THE RESULTS, THE DATABASE OF THE IV STATE HEALTH AND NUTRITION SURVEY OF THE STATE OF PE IS USED.

- CROSS-SECTIONAL EPIDEMIOLOGICAL STUDY
  DATA COLLECT
  1 PART (MAY – SEPTEMBER 2015)
  2 PART (AUGUST TO DECEMBER 2016).

- ANTHROPOMETRIC, DEMOGRAPHIC, SOCIOECONOMIC AND LIFESTYLE, FOOD CONSUMPTION

THE SAMPLE

WAS CARRIED OUT USING THE EPI INFO PROGRAM, VERSION 6.04 (CENTERS FOR DISEASE CONTROL AND PREVENTION, ATLANTA, UNITED STATES), WITH A PREVALENCE OF ABDOMINAL OBESITY OF 62.1% BEING CONSIDERED (OLIVEIRA ET AL., 2009)
- ESTIMATION ERROR OF 2.5
- 95% CONFIDENCE LEVEL,
- SAMPLE ERROR OF 5% RESULTING IN A FINAL SAMPLE OF 1,446 INDIVIDUALS AS A MINIMUM.

For the analysis of associated factors

95% SIGNIFICANCE LEVEL

80% POWER

MINIMUM SAMPLE OF 1,208 INDIVIDUALS

A 1:1 PREVALENCE RATIO

DATA PROCESSING AND ANALYSIS

1. DESCRIPTIVE ANALYSIS
   CHARACTERIZE THE DISTRIBUTION OF OCCURRENCE OF EVENTS.

2. UNIVARIATE ANALYSIS BETWEEN THE DEPENDENT VARIABLE (ABDOMINAL OBESITY) AND THE INDEPENDENT VARIABLES. (SPSS 13.0) SOFTWARE.

3. MULTIVARIATE ANALYSIS, THIRD STAGE, WAS PERFORMED USING STATA/SE 9.0 SOFTWARE (STATA, TEXAS, US), USING THE LOG-POISSON REGRESSION METHOD. FOR ACCEPTANCE OF THE INVESTIGATED ASSOCIATIONS IN THE FINAL MODEL, A VALUE OF $P<0.05$ WAS ADOPTED.
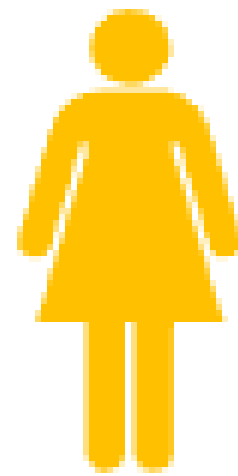
ETHICAL CONSIDERATIONS

THE STUDY WAS SUBMITTED AND APPROVED BY CAAE NO.07803512.9.0000.5208 BY THE HUMAN RESEARCH ETHICS COMMITTEE OF THE HEALTH SCIENCES CENTER OF THE FEDERAL UNIVERSITY OF PERNAMBUCO.

RESULTS

Prevalência da obesidade abdominal em homes e mulheres de 20 A 59 anos do estado de PE.

Prevalência global 66,6%

n=1,492
P 0,001

80.8%
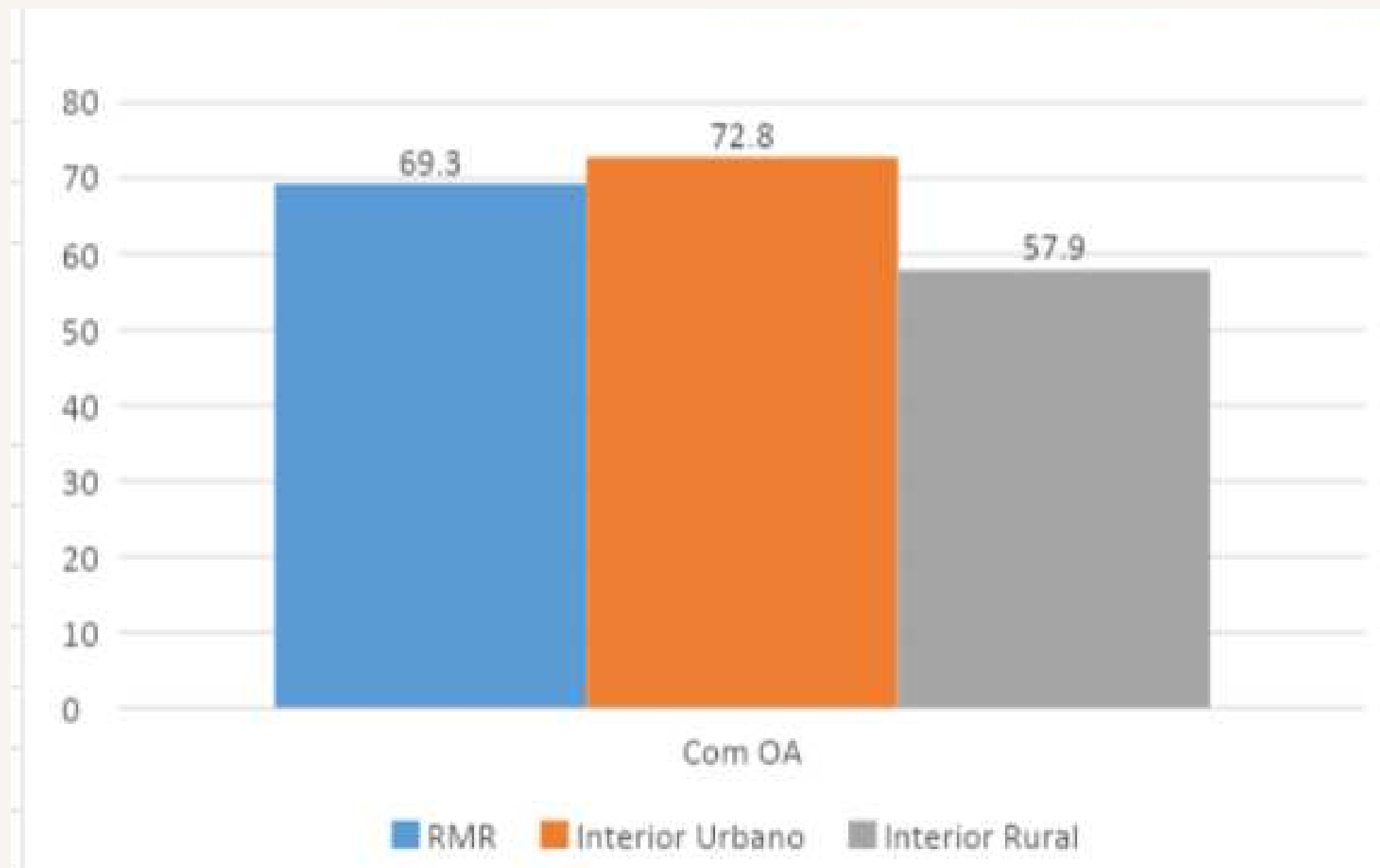
37,8%

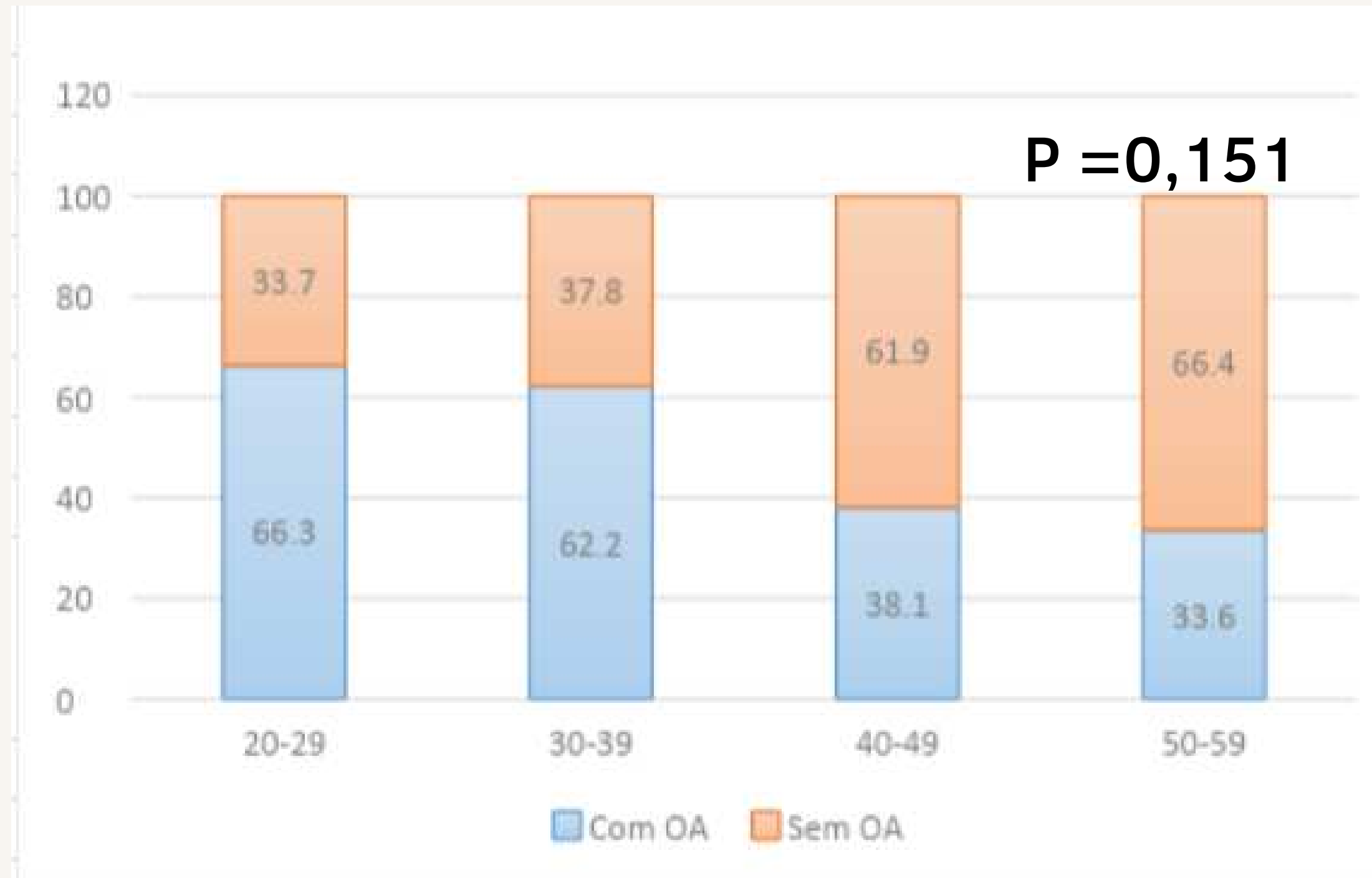Fonte: IV Pesquisa Estadual de Saúde e Nutrição, 2015-2016

RESULTS UNIVARIATE ANALYSIS

ABDOMINAL OBESITY ACCORDING TO AREA OF RESIDENCE IN ADULT MEN AND WOMEN AGED 20 TO 59 YEARS IN THE STATE OF PERNAMBUCO.

P =0,541

ABDOMINAL OBESITY ACCORDING TO AGE GROUP IN ADULT MEN AND WOMEN AGED 20 TO 59 YEARS IN THE STATE OF PERNAMBUCO.

TABLE 2 - PREVALENCE RATIO OF ABDOMINAL OBESITY ACCORDING TO DEMOGRAPHIC CHARACTERISTICS OF MEN AGED 20 TO 59 YEARS IN THE STATE OF PERNAMBUCO, 2015

	TOTAL	Sim	Não			P
Variáveis	N (%)	N (%)	N (%)	RP	IC $_{95\%}$	
Idade (anos)						0,0037**
20-29	131 (30,1)	35 (26,7)	96 (73,3)	1,00	-	
30 – 39	140 (32,2)	56 (40,0)	84 (60,0)	1,49	1,05-2,12	
40-49	85 (19,5)	43 (50,6)	42 (49,4)	1,89	1,33-2,69	
50-59	79 (18,2)	33 (42,8)	46 (58,2)	1,56	1,06-2,29	
Ocupação						0,0035
Sem emprego	93 (20,5)	28 (23,4)	65 (21,9)	1,00		
Trabalho formal	209 (44,0)	92 (44,0)	117 (56,0)	1,46	1,04-2,07	
Outra fonte de renda*	173 (64,5)	59 (32,6)	114 (22,4)	1,43	0,78-1,64	

* TESTE QUI-QUADRADO DE TENDÊNCIA LINEAR; *** TESTE QUI-QUADRADO DE PEARSON; •TESTE DE FISHER

Table 6 Prevalence ratio of abdominal obesity according to demographic characteristics of women aged 20 to 59 years in the state of Pernambuco, 2015

		Obesidade Abdominal				
	Total	Sim	Não			
Variáveis	N (%)	N (%)	N (%)	RP	IC $_{95\%}$	p
Idade (anos)						0,001**
20-29	318 (36,2)	210 (66,0)	108 (34,0)	1,00	-	
30 – 39	**263 (30,0)**	**228 (86,7)**	35 (13,3)	1,31	1,20-1,44	
40-49	163 (18,6)	152 (93,3)	11 (6,7)	1,41	1,29-1,54	
50-59	134 (15,3)	120 (89,6)	14 (10,4)	1,36	1,23-1,50	
Escolaridade						0,0015**
>11 anos	349 (37,0)	260 (74,5)	89 (25,5)	1,00		
8 a 10 anos)	174 (18,5)	142 (81,6)	32 (18,4)	1,10	1,00-1,20	
4 – 7 anos	219 (23,2)	184 (84,0)	35 (16,0)	1,13	1,04-1,23	
< 4 anos	200 (21,2)	174 (87,0)	26 (13,0)	1,17	1,08-1,27	
Climatério						0,0008***
Sim	123 (19,8)	116 (94,3)	7 (7,1)	1,16	1,09-1,23	
Não	497 (80,2)	405 (81,5)	92 (18,5)	1,00	-	

** TESTE QUI-QUADRADO DE TENDÊNCIA LINEAR; *** TESTE QUI-QUADRADO DE PEARSON; ·TESTE DE FISHER

FINAL THOUGHTS

- AFTER MULTIVARIATE ADJUSTMENT, ALL AGE GROUPS AFTER 30 YEARS AND FORMAL EMPLOYMENT IN MALES REMAINED INDEPENDENTLY ASSOCIATED WITH ABDOMINAL OBESITY. FOR WOMEN, THE AGE GROUP AFTER 40 YEARS OF AGE, SCHOOLING OF LESS THAN 4 YEARS OF STUDY AND THE FACT OF BEING IN MENOPAUSE REMAINED ASSOCIATED.

- IT IS IMPORTANT TO EMPHASIZE THAT THE DETERMINANTS OF ABDOMINAL OBESITY ARE NUMEROUS AND COMPLEX AND THE RAPID INCREASE IN ITS PREVALENCE IN RECENT DECADES HAS BEEN ATTRIBUTED TO DEMOGRAPHIC, ENVIRONMENTAL, SOCIOECONOMIC AND LIFESTYLE FACTORS, MAINLY ACCESS TO PROCESSED FOODS AND PHYSICAL INACTIVITY (OBESOGENIC ENVIRONMENT).

- ALTHOUGH THE LITERATURE SHOWS WAIST CIRCUMFERENCE MEASUREMENT AS AN IMPORTANT PREDICTOR FOR MONITORING AND CONTROLLING THE DISTRIBUTION OF ABDOMINAL FAT, IN ADDITION TO BEING A LOW-COST INSTRUMENT FOR EPIDEMIOLOGICAL STUDIES. MORE BASELINE STUDIES ARE NEEDED TO ASSESS, IN DIFFERENT POPULATIONS, THE CUTOFF POINTS RECOMMENDED BY THE WHO ($\geq$ 80 CENTIMETERS FOR WOMEN AND 94 CENTIMETERS FOR MEN $\geq$) (WORLD HEALTH ORGANIZATION, 1995B).

THANK YOU

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Abstract

Introduction

The objective of this project was to describe the prevalence and factors associated with abdominal obesity in adults aged 20 to 59 in the State of Pernambuco, Brazil.

Material and Methods

This is a cross-sectional epidemiological study with a representative sample of the adult population of urban and rural areas of the State of Pernambuco, Brazil (1,496 people). The circumference of the waist (CC) was used as an indicator of cardiovascular disease risk and predictor of abdominal obesity.

Results

The prevalence of abdominal obesity in adults of the State of Pernambuco was 64.4% of which 37.7% (IC: 33.4-42.1) corresponds to men and 80.7% (IC: 78.1-83.1) in women. In the multivariate analysis adjusted for the male sex, variables such as age and formal work were associated with abdominal obesity. With regard to women: age, schooling and being in climacteric.

Conclusions

High prevalence of abdominal obesity in the adult population of the Northeast region of Brazil, associated with some social and biological factors, reflect the need for greater planning and implementation of intersectoral strategies linked to the control and prevention of this important nutritional problem.

Keys words : Obesity, Abdominal; Adult; Waist Circumference.