



Prevalence of Risk Factors for Metabolic Syndrome in Uninsured Hispanic Adults from Low Income Communities in El Paso, Texas

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BACKGROUND

- Metabolic syndrome (MetS) is defined as having 3 out of the 5 risk factors shown in the diagram^{1,2}.
- Having MetS is a risk for cardiovascular disease and other related chronic diseases³.
- In the U.S. nearly 35% of the adult population have MetS⁴.
- This study researched the prevalence of risk factors for MetS among uninsured, low socioeconomic status adult Hispanics in El Paso, Texas.

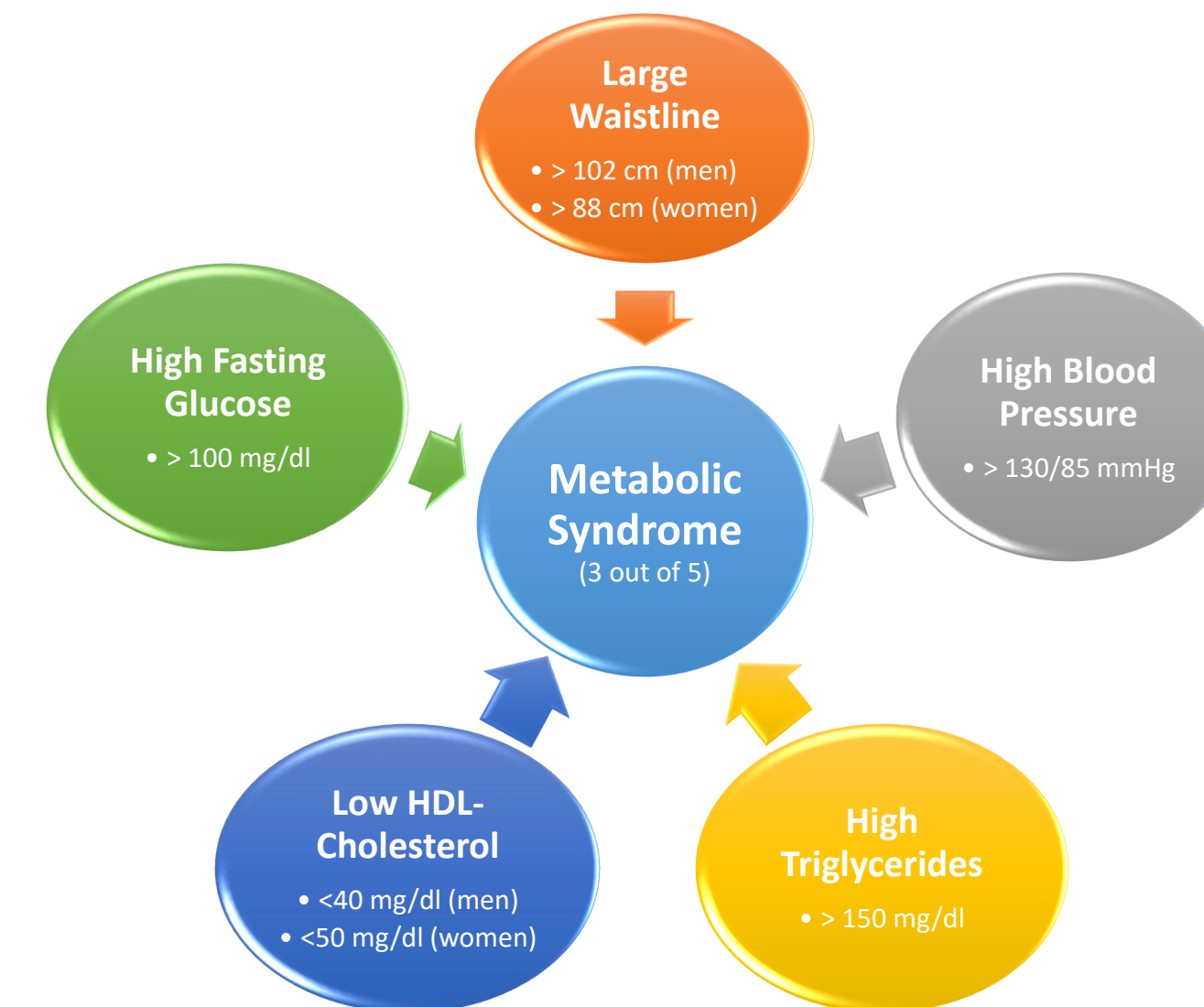


Fig. 1: Metabolic syndrome risk factors and their current diagnostic values⁵.

METHODS

- This study is part of a large scale epidemiological study; data were collected and include 657 uninsured Hispanic residents in the Housing Authority of the City of El Paso, Texas.
- Socio-demographic information, biometric and biochemical measurements were gathered on site by a trained team of health professionals.
- Logistic regression analyses were used to determine the odds ratio (OR) for each risk factor and for MetS itself through a model that included their demographics.

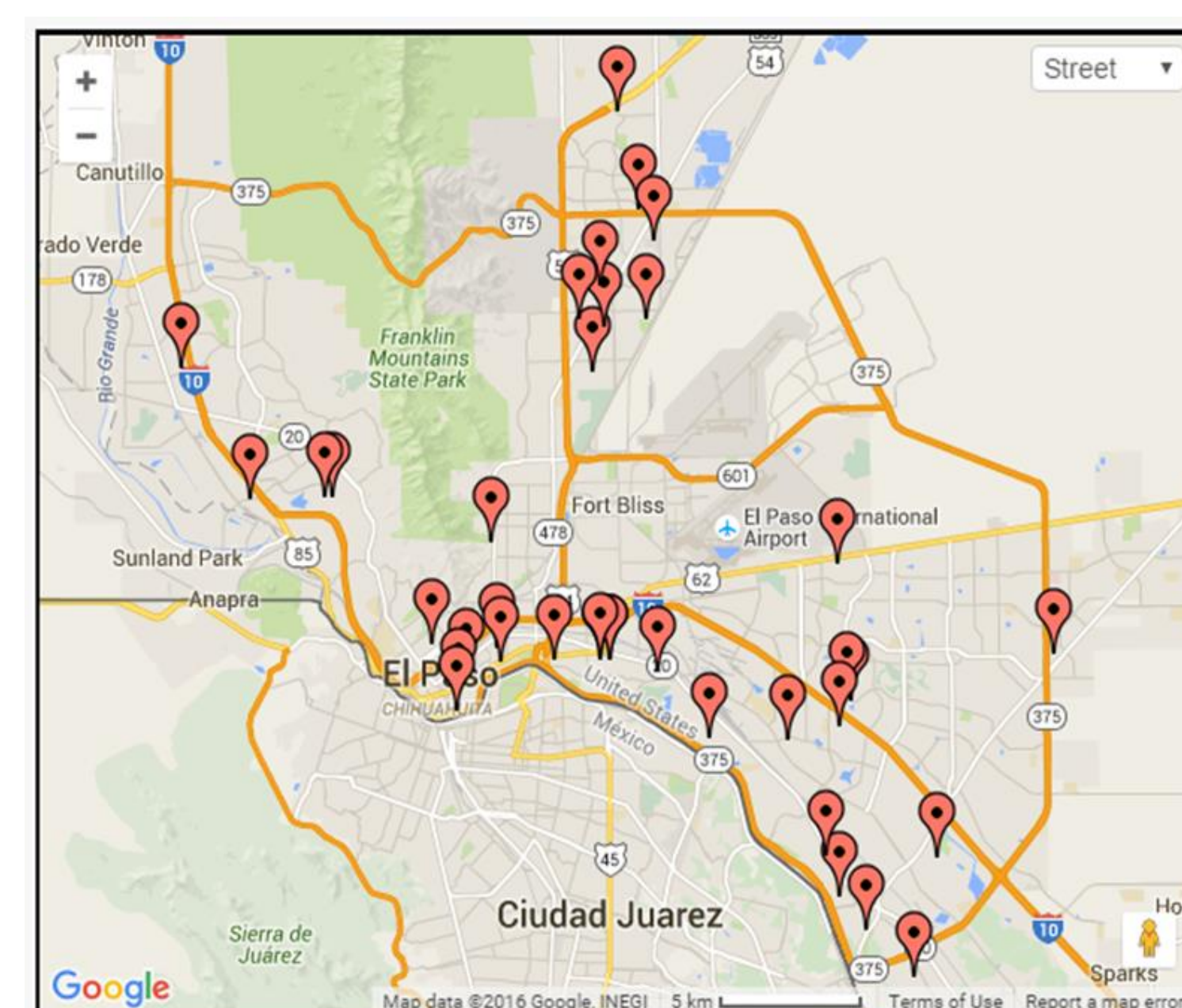


Fig. 2 : The Housing Authority of the City of El Paso sites visited.



Fig. 3-8 : Team of health professionals collecting the measurements.

RESULTS

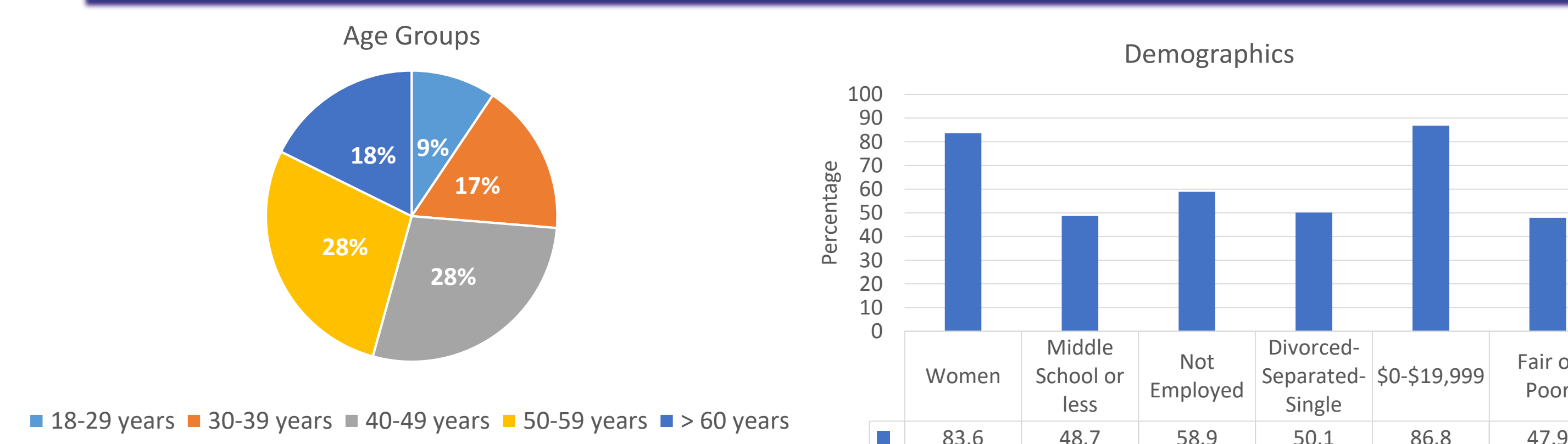


Fig. 9 : Participant distribution by age group

Fig. 10 : Demographic characteristics of participants

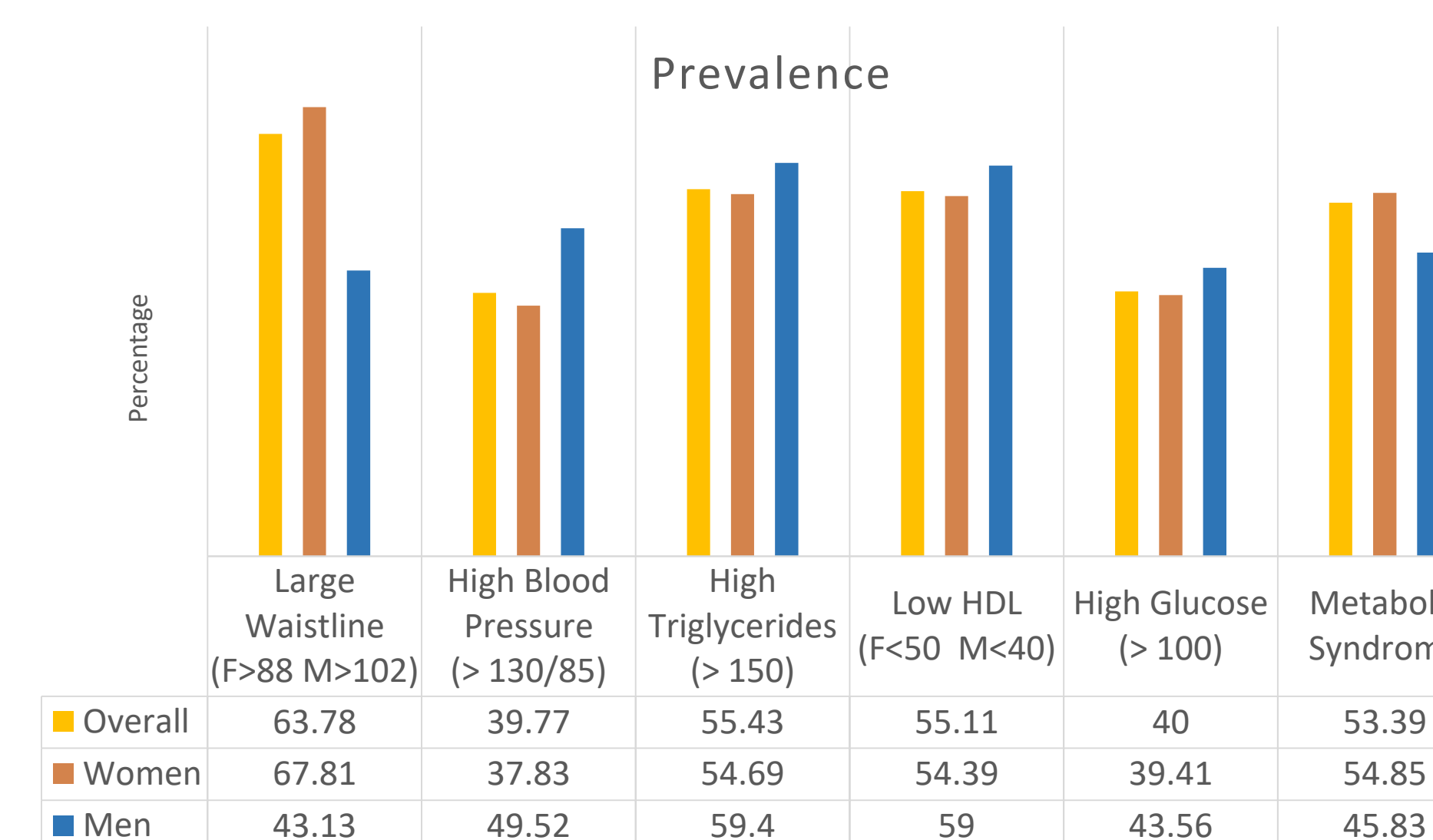


Fig. 11 : Risk factor and MetS prevalence (overall and by sex)

- Having a large waistline was significantly higher in women (68%) compared to men (43%) despite taking in considering the different diagnostic values by sex ($p < 0.001$).
- The overall prevalence of MetS in the study population was 53%.

RESULTS

Variable	Categories	Large Waistline		High Blood Pressure		High Triglycerides		Low HDL-Cholesterol		High Fasting Glucose		Metabolic Syndrome	
		OR (CI 95%)	P-value	OR (CI 95%)	P-value	OR (CI 95%)	P-value	OR (CI 95%)	P-value	OR (CI 95%)	P-value	OR (CI 95%)	P-value
Age Groups	18-29 years	1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)	
	30-39 years	1.1	0.810	1.15	0.770	1.93	0.080	1.45	0.300	1.02	0.970	1.36	0.500
	40-49 years	2.48	0.010*	2.42	0.040	2.51	0.010*	2.57	0.500	1.57	0.240	3.9	<0.001*
	50-59 years	2.28	0.030	4.17	<0.001*	4.52	<0.001*	0.96	0.910	3.04	<0.001*	5.68	<0.001*
	60 or more years	1.78	0.150	8.49	<0.001*	3.77	<0.001*	0.73	0.400	2.73	0.010*	6.42	<0.001*
Sex	Men	1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)	
	Women	2.48	<0.001*	0.43	<0.001*	0.74	0.230	0.78	0.290	0.78	0.330	1.28	0.360
Education level	High School and above	1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)	
	Middle School or less	1.4	0.090	0.91	0.630	0.91	0.730	1.07	0.990	1	1.15	0.480	
Occupation Status	Employed	1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)	
	Not Employed	1.43	0.060	2.01	<0.001*	0.85	0.380	1.09	0.640	1.02	0.900	1.64	0.010*
Marital status	Divorced-Separated-Single	1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)	
	Married-Widowed-Couple	1.01	0.970	0.7	0.070	0.97	0.860	0.94	0.710	1.15	0.460	1.04	0.850
Yearly Income	\$20,000 or more	1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)	
	\$0-\$19,999	0.84	0.580	0.65	0.200	0.79	0.440	0.72	0.270	0.76	0.380	0.53	
Perceived Health	Good, great or excellent	1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)		1.0 (Ref)	
	Fair or Poor	1.69	0.010*	1.49	0.040*	1.41	0.050*	1.4	0.050*	1.86	<0.001*	2.06	<0.001*

Table 1: Logistic regression model for each of the risk factors stratified by socio-demographic characteristics ($P < 0.05$ was considered significant).

- MetS increases with age starting from groups of 40 years old and above.
- Women have increased odds of having a large waistline.
- Men have increased odds for high blood pressure.
- Not being employed was associated with high blood pressure and MetS.
- A fair or poor perceived health was associated with all risk factors for MetS.

CONCLUSIONS

- Compared to national rates⁴, and other studies in Hispanics^{5,6} this research reports that the study population has a much higher prevalence of risk factors for MetS.
- A fair or poor perceived health status seems to be overall a good and cost-effective predictor for all risk factors for MetS.
- People without access to healthcare should be a priority group for interventions focused on preventing the development and the mitigation of risk factors for MetS.
- Based on results, preventive strategies should focus on reducing high triglycerides while improving low HDL-cholesterol, and weight loss to decrease their waistline, especially in women.

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