

# Study of metabolic syndrome profil in gardinnage company of the university Of Yaoundé I

presented  
by

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# PLAN

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# Introduction

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- The metabolic syndrome is actually a major problem to public health
- The theme metabolic syndrome refers to a group of abnormalities which can be carbohydrates, lipids and associated vascular risk factors that can lead to diabetes type II and cardiovascular diseases linked to atherosclerosis in most individuals.
- The history of metabolic syndrome is illustrated by the evolution of its name: Plurimetabolic syndrome, X syndrome, mortal quartet, insulin-resistant syndrome and dysmetabolic syndrome

# Introduction

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- It is characterised in an individual by the simultaneous presence of the following factors:
  - Obesity
  - Dyslipidemia
  - Arterial hypertension
  - The high waistline
  - Hyperglycemia
  
- Several studies have proven that individuals having all above characteristics are exposed to high cardiovascular abnormalities ( Empara and al.,2004)

# Introduction

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- There exist several definitions of metabolic syndrome which complicates a son diagnostic, proposed by international organisations and group of experts such as;
  - OMS (1998 )
  - EGIR (1999)
  - The NCEP-ATP III (2001)
  - AACE (2001)
  - AHA/NHLBI (2004)
  - FID (2005)
  - FID/AHA/NHLBI (2009)
  
- But those proposed by the NCEP are easily applicable clinically.

# Introduction

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- The definition of the NCEP does not any criteria
  - Fasting blood sugar → 6.1 mmol/L
  - Arterial pressure → 130/80 mmHg
  - Dyslipidemia
    - TG 1.7 mmol/L
    - HDL 1mmol/L in men and 1.3 mmol/L in the women
  - Waist size → 102 cm in men et 88 in woman

# Introduction

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- Studies show the prevalence of metabolic syndrome and its components varies by ethnicity, dietary behaviors, physical activity, age, sex, and genetic differences (Cameron et al., 2004)
- The choice is between campus police based on their daily activities (duration at work, stationing station to station, stress, the daily feeding etc.)

# Introduction

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- The mastery of risk factors associated with metabolic syndrome, has brought us to set ourselves the general objectives.

The metabolic syndrome in individuals of the company baby sitting (garding) the university of yaoundé I

## ☐ Specific objectives :

- The prevalence of individual components of the metabolic syndrome,
- The prevalence of the metabolic syndrome,
- The characteristics of metabolic syndrome in the company

# Material and procedures

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- This study was sponsored by the Education and prevention of non communicable disease programm of the medical foundation Andre Fouda and authoriced by the rector of the university of yaoundé I.
- The levy and biochemical examination were made by frained personnel of the medical foundation Andre Fouda
- Investigation:
  - Interrogation;

A survery sheet enabled us to identyfy the demographie data of patients.

# Material and procedures

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- Taking anthropometric measurements ;  
the following materials (equipments) permitted us to take the anthropometric measurements .
- ❖ A measuring rod , which was used to measure the size;
- ❖ A weigh-person (balance), which was used to measure the weight;
- ❖ A meter tape , which measured the waist circumference;
- ❖ A sphygmomanometer, which was used to measure blood pressure

# Material and procedures

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- Blood sample and evaluated of biochemical parameters:
  - ❖ Blood samples were level fasting by veripimecture on heparin;
  - ❖ The test tubes with anticoagulant were used to collect the blood to dose (titrate) for glycimia;
  - ❖ The test tubes withait anti-coagulant were used to collect the blood ta titrate (dose) for lipid parameters
  - ❖ Plasma → glycemia
  - ❖ Serum → lipid properties (parameters): TG, Chol-t, Chol-HDL

# Material and procedures

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- Statistical data analysis
  - ❖ The qualitative variables were expressed by their average  $\pm$  standard deviation which the quantitative variables were expressed by their percentage of the work force;
  - ❖ The SPSS ( statistical package for social sciences) version 16.0 for window was used for the analysis of results;
  - ❖ The significance level used was of 0.05

# Results and discussion

- Individuals 53 in number responded favorable to the study

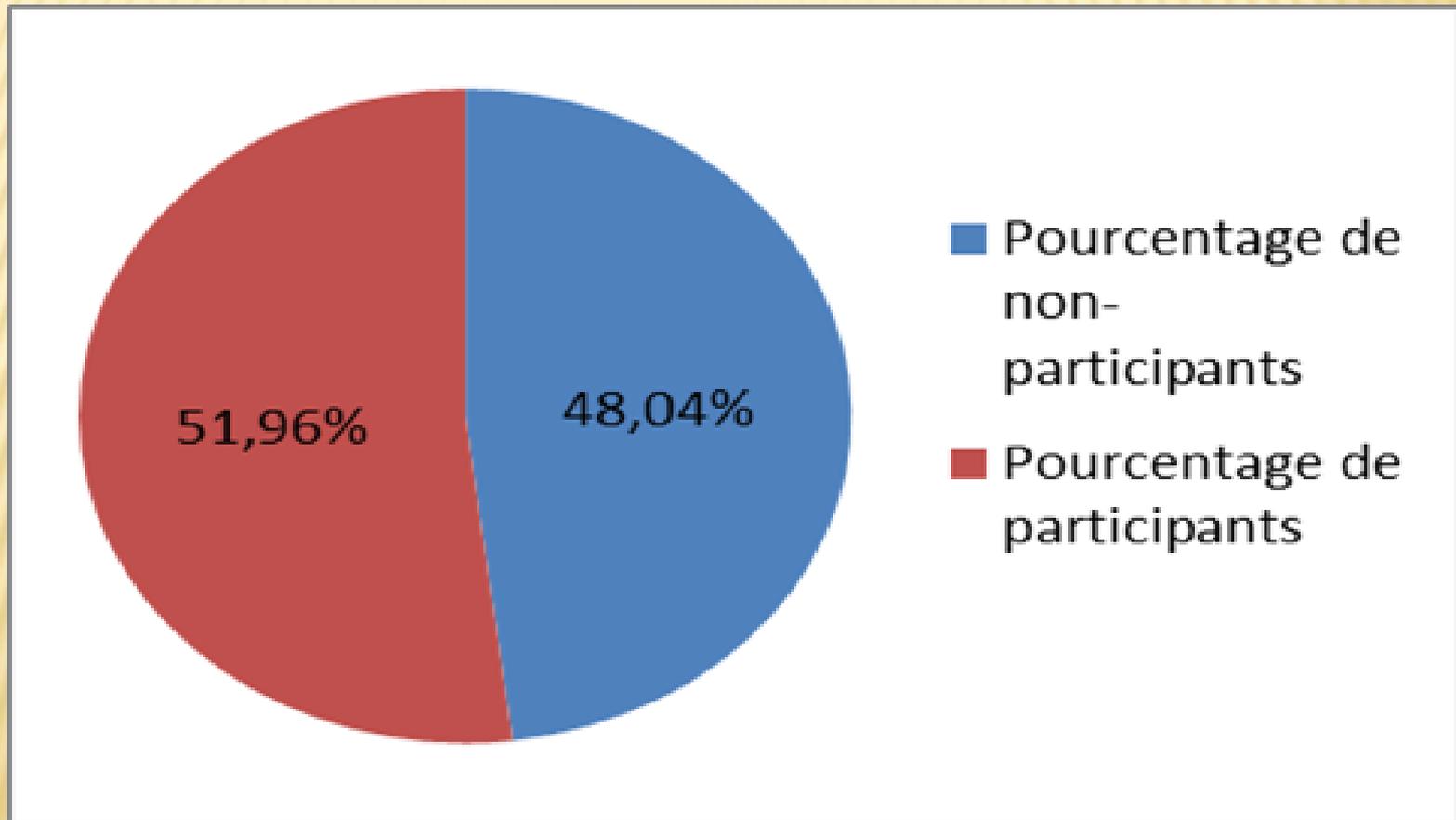


Figure 1 : Turn out of participation and non participation

## Results and Discussion

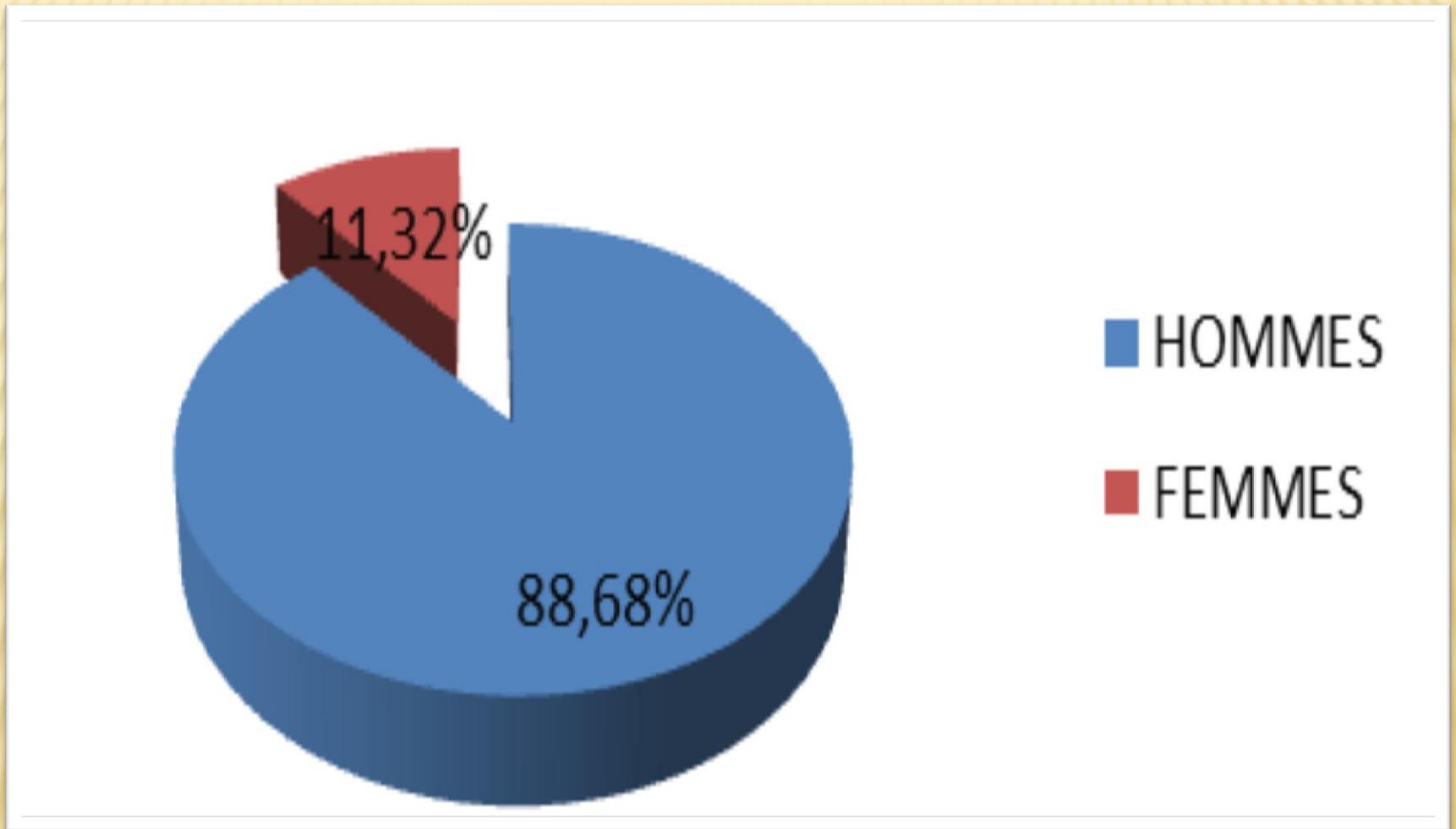


Figure 2: Distribution of population of study by sex of the person individual

# RESULTS AND DISCUSSION

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- The participation rate of 51.96 % was obtained thanks to the agreement of the president who motivates participants and also the awareness that we had conducted with the chief of campus police.
- Nearly 72 % of participation have a degree GCE E-Level.
- However 48.04 % of the rate of non-participation of the fear of screening for STDS and also the degree of understanding based on the importance of the study of non-communicable diseases at high risk.
- We find that this population is in majority of human or 88.68 %. They met the natural conditions in the genre and are more physically.
- The low proportion of the woman 11.32 % is due to the lack of substantial recruitment of woman in this body metier (type of job). The security requires certain physical competence

# RESULTS AND DISCUSSION

## ❖ Biographic and demographic characteristics

Table I: Representation of biographical and demographical characteristics

Parameter	Total
Age in (years)	37.67 ± 6.77
Waist size in cm	91.22 ± 12.38
Body mass index in kg/m <sup>2</sup>	26.38 ± 4.17
Systolic blood pressure in mmHg	119.18 ± 15.65
Diastolic blood pressure in mmHg	81.01 ± 13.57
Fasting blood sugar in mg/dL	84.22 ± 13.92
Triglycérides en mg/dL	88.39 ± 29.23
Cholesterol-HDL in mg/dL	40.07 ± 25.69
Total cholesterol in mg/dL	166,86± 26,09

## RESULTS ET DISCUSSION

- The average of  $26.38 \pm 4.7$  BMI which corresponds to the maximum normal value and the cholesterol-HDL whose average is  $40.07 \pm 25.69$  characterizes the minimum threshold hypocholesterolemia.
- Other parameters values were within normal ranges
- The high rates of overweight, high blood pressure and HDL-hypocholesterolemia observed can be explained by the high alcohol consumption including energy promotes the storage of energy from food.

## RESULTS AND DISCUSSION

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- The overweight which will lead to obesity is also responsible for the genesis of dyslipidemia with results, by the decrease in HDL-cholesterol levels and observed non-diminution of total cholesterol.
- The HDL-cholesterol deficit causes an accumulation of total cholesterol in tissues with consequence the genesis of atherosclerosis which is the main determinant of VDC

## RESULTS AND DISCUSSION

- Prevalence of metabolic syndrome and as individual components.
- Table II : Prevalence of metabolic syndrome and as individual components

	Number	Percentage
HDL-cholesterol < 40 mg/dL	29	54.72%
Systolic blood pressure > 130 mm Hg / diastolic blood pressure > 80 mmHg	22	41.51%
Waist size > 102 cm	11	20.70%
Fasting blood sugar > 110 mg/dL	02	3.77 %
Triglycérides > 150 mg/dL	02	3.77%

## RESULTS AND DISCUSSION

- HDL-cholesterol (54.72 %) blood pressure (41.51%) and waist circumference (20.75%) are the most frequency individual components.
- Glycemia and fasting triglycerides are less frequent components with each 3.77 %.
- Alcoholism and smoking are strongly associated to the occurrence of metabolic syndrome components (Tolstrup and al., 2006; Csiszar and al., 2009).
- Alcohol prevalence was high 100 % in people who consumed at least once a day , wich explains the high rate of hypercholesterolemia- HDL, blood pressure and waist circumference.

# RESULTS AND DISCUSSION

- According to NCEP, to be a bearer of metabolic syndrome , one should have at least 3 of the 5 criterria that characterize the metabolic syndrome

Table III : Evolution and sevrety of metabolic syndrome components

Parameters	Number	Percentage	Qualifier
0 Criterion	11	20.75%	individual healthing
1 Criterion	21	39.62%	Individual at risk
2 Criteria	18	33.96%	Individuals at the threshold of metabolic
3 Criteria	3	5.66%	Individual with (metabolic syndrome sererity)
4 Criteria	0	0.0%	
5 Criteria	0	0.0%	
NCEP	3	5.66%	

## RESULTS AND DISCUSSION

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- These various cardimetabolic risk factors helped determine the prevalence of metabolic syndrome in our study population.
- We got a low prevalence of metabolic syndrame in the rangs of 5.66 %.
- This low prevalence of the matabolic syndrome many be explained by the level of physical activity of the regular traning that has suffered this population .
- However 33.96 % of people are on the threshold of metabolic syndrome.
- This is explained in part by the presence of hypocholesterolemia and blood pressure elevation and partly by their physical activaty which improves insulin sensitivity ( Pater and al., 1995) and reduces some complications of obesity for example and therefore the aggregation of many components of metabolic syndrome in the population.

# Conclusion

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- In the course of this study whose general objective was :  
The metabolic syndrome in the individuals of the campus police .
- More specifically:
  - The prevalence of the metabolic syndrome individual components;
  - The prevalence of the metabolic syndrome;
  - The characteristics of the metabolic syndrome.
- The prevalence of individual components such as blood glucose, HDL-Cholesterol, TG, hypertension were respectively 3.77 %, 54.72 %, 3.77 %, and 41.51 %.
- The prevalence of the metabolic syndrome among this company is 5.66 %

## PERSPECTIVE AND RECOMMENDATION

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➤ The evolution of CVD and stroke being very dynamic in Cameroun, we will extend our study to other gardinnage companus as DAK services, G4S etc and also in the army

➤ As a recommendation

A change in lifestyle ( diet, physical activity, smoking and alcoholism) should be made;

Daily physical activity of moderne intensity for at least 30 minutes.



