Research Article

Evaluation of the Nutritional Status by Astrometry of Adults in Three Districts of the Commune of Matoto

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Abstract

The comparative study of the nutritional status of men and women by anthropometry of a sample of the adult population of the commune of Matoto (Yimbaya, Matoto Centre, Gbessia), constitutes a public health problem to which the adult population of the city of Conakry is confronted such as: inadequate food which can lead to either overweight, or a deficit or even micronutrient deficiencies.

Indeed, it is a descriptive cross-sectional study of adults aged from 19 to 59 from different occupations living in the Commune of Matoto (Matoto Centre, Yimbaya and Gbessia), carried out from May 6 to July 17, 2021.

This is why we have set ourselves the objective of making a comparison between the nutritional status of men and that of women in certain districts of the Commune of Matoto in order to determine the causes related to malnutrition and to propose a resolution on the various health problems facing this current adult population. The study focused on the nutritional status of 575 participants, which was determined by measuring their BMI. On this sample, a survey sheet allowed us to then determine the occupations, the levels of physical activity and consumption of Fruits and Vegetables of Guinea. The analysis of the data collected showed that men were much more affected by underweight compared to women, equivalent to 11.41% against 2.89%.

The percentage of men with a normal nutritional status was higher than that of women. It was 68.48% for men against 42.51% for women. Overweight and obesity were more observed in women than in men, equivalent to 33.33% overweight and 20.77% obesity in women and 16.53% overweight and 3.53% obesity in men. Among the 207 women surveyed 0.00% were athletic, 82.61% active and 17.39% were sedentary. In contrast, on the 368 men surveyed, 11.96% were athletic, 83.2% active and only 4.62% sedentary.

Regarding the distribution of men and women according to the occupation, it follows that among normal weight men, the percentages were: pupils: 22.22%, students: 17.86% and civil servants: 15.88%. The obese, pupils: 0.00%, students: 8.33% and civil servants: 33.33%. Overweight, pupils: 3.28%, students: 9.84% and civil servants: 27.87%.

As for women, among normal weight, pupils are at 17.08%, female students: 11.36% and civil servants: 3.41%. Overweight, pupils: 7.25%, female students: 5.75% and civil servants: 5.79%. In obese, students: 6.67%, civil servants: 6.67% and housewives: 10%. For the consumption of fruits and vegetables, men consumed more than women.

Keywords: Nutritional Status; BMI; Adults

Introduction

Adult nutrition and health are of paramount importance, since it is on this age group that the economic resources of society are based. In a developing country like ours, where economic activities (agriculture, livestock and industry) are less developed, the physical skills and technical and intellectual skills of the working class play an essential role in maintaining the socio-economic integrity of the entire population.

The adults' nutritional status therefore deserves special attention. The comparison of the nutritional status between men and women in this age group, one of the objectives of this survey, is therefore of great importance for targeting social and/or health-type intervention programs.

According to the FAO (12): The nutritional status of an individual is his physiological state which results from the relationship between food consumption (in macro and micro nutrients) and needs, as well as the body's ability to absorb and use nutrients.

Malnutrition refers to a pathological condition caused by the deficiency or excess of one or more nutrients.

In 2009, for the Obépi-Roche study (Reference), the prevalence of obesity (BMI ≥ 30 kg/m2) in French adults aged 18 and over was 14.5% and that of overweight (25 ≤ BMI ≤ 30 kg/m2) by 31.9%. The prevalence of obesity was higher in women (15.1%) than in men (13.9%). It increased with age in both sexes with a peak for the 55 - 64 age group. In this age group, it was 20.1% in men and 19.5% in women. The prevalence of obesity is not uniform across the territory according to the same study. In 2009, it was in the Nord pas de Calais region that it was the most important (20.5%), followed by the East (17%) and the Paris Basin (16.6%).

In the other regions (South-West, Paris region, West, South-East, Mediterranean) the prevalence of obesity was relatively similar and lower than the national average (13.7% to 12.4%).

In Belgium, the average value of the Body Mass Index (BMI) among adults (people aged 18 and above) is 25.3, which indicates that the average Belgian is overweight. The average BMI increases with age until the age of 65, then decreases (Reference). 47% of the adult population is overweight for their height: 33% of the adult population is "overweight", while 14% is obese. Men (54%) are more affected by excess weight than women (40%); concerning obesity, there is no difference between men and women. What is downright alarming is that from the age group of 45-54, more than half of the individuals are overweight and that in the age group of 55-64, one person out of five can be classified as obese.

Being overweight tends to go hand in hand with the level of education: adults with a low level of education, as well as young people coming from a household whose members have little education, run a greater risk of being overweight (Reference).

On the other hand, we see that 3% of the adult population is underweight. They are mainly women (4.4% of them) and young people (18-34 years old) living in urban areas.

Materials and Methods

Presentation of the study area

The City of Conakry, which is the capital city of the Republic of Guinea, is a peninsula of 308 km2 in area, with a length of 36 km and a width varying between 1 and 6 km. The population is about 2 million inhabitants, the population density is estimated at 2 306 inhabitants per km2 (DSVCO2006).

The city has great disparities (high density in the city center, less dense neighborhoods in the suburbs) (Ministry of Public Health, 2006).

Administratively, it is divided into five Communes: Kaloum, Dixinn, Matam, Ratoma and Matoto. The administration and management of each commune is ensured by a Communal Council chaired by a Mayor.

The communes are in turn divided into 134 neighborhoods headed by a neighborhood council. Each neighborhood is made up of several sectors which are the smallest administrative subdivisions identified (Ministry of Public Health, 2006).

Figure 1: Map of the city of Conakry.

Source: Ministry of Public Health, 2006.

Presentation of the commune of matoto

The Commune of Matoto is one of the 5 Communes of the city of Conakry, capital city of the Republic of Guinea; it is located at 14.8 km from the Commune of Kaloum. It was created like other Communes in the country by Ordinance No. 019/SGG/PRG/90 of April 21, 1990, concerning the organization and operation of urban Communes in the Republic of Guinea. It covers an area of 37 km².

The Commune of Matoto comprises 37 neighborhoods including 226 sectors for an estimated population of 845 676 inhabitants according to the data from the 2012 update.

A Commune with a wide seafront, Matoto is largely covered with mangroves and stretches from the Dabondy lowland to Lansanayah.

It is limited

- To the East by the Prefecture of Coyah.
- To the West by the Commune of Madam.
- To the North by the Commune of Ratoma via the Conakry-Niger railway.
- To the South by the Atlantic Ocean.

Included in the coastal zone in the Southeast of the capital city, Matoto is located between 90° and 94° North latitude, 13° and 37° West longitude.

This study was carried out in the following neighborhoods

- Matoto Centre.
- Yimbaya.
- Gbessia.

Work Equipments

The equipment and tools used for the operations of measuring the height, weight and storage of the data collected are composed of

- Height chart
- Balanc
- Survey sheets
- Computer
- Pen
- Satchel
- Methodology used
- Type of survey

This work is a descriptive cross-sectional study and lasted two months 11 days (from July 6 to July 17, 2018).

- Study population
- Source population

Thus, our source population is made up of all adults from the age of 19 to 59 living in the neighborhoods of MATOTO (Matoto Centre, Yimbaya and Gbessia)

Target population

The target population of this study is part of the above-described source population. It is made up of all the adults living in the neighborhoods of Matoto Centre, Yimbaya and Gbessia.

Accessible population

For this study, the accessible population or the one whose information was really possible to access was taken from the aforementioned target population and satisfying the following condition: the adult residing in the neighborhoods of our study area, meaning Matoto, Yimbaya and Gbessia.

Non-accessible Population

For this study, the non-accessible population includes all adults outside the neighborhoods mentioned above, those over the age of 59, but also children and adolescents, pregnant women, sick people who cannot stand among others.

The diagnostic tool used is the BMI

Conduct of the survey

- Identification of persons (full identity).
- Taking anthropometric parameters (weight and height).
- BMI calculation to determine weight status (underweight, normal, overweight and obesity).
- Subtract the value equivalent to the weight of the clothes of each person surveyed (the average value of ten suits for men was equivalent to 0.69 kg and 0.60 kg for women).
- Also provide nutritional advice to certain people, in view of the need.

Data collection schedule

We made a four-day visit to the neighborhoods of our study area, during which we passed from household to household and sometimes even in markets, bar-cafés, places where young people meet…to collect information.

We worked from 9:30 a.m. to 4:30 p.m. for four days

- Two days in Yimbaya.

- One day in Matoto Centre.
- And one day in Gbessia.

Sampling

To select our sample, we used probability sampling through the technique of non-systematic random sampling by drawing lots with two-stage discount.

The first stage

To do this, we had drawn up the list of the five Communes of the capital city described in the first pages. From this list, we took five pieces of paper on which were written the names of the said communes. Then, these pieces of paper were well folded by a person from the group and put on the table. To draw the Commune, we invited only one person who, after the draw, ended up with the Commune of MATOTO.

The second stage

We proceeded in the same way as for the commune, but this time it was with the 134 neighborhoods of the city of Conakry. And for the draw, we called on three people from the group. At the end of the draw, we ended up with the three neighborhoods described above.

The choice of families (households), cafe bars, places where young people meet, workshops and markets was for convenience (accessibility, ease of understanding, acceptance of the rules of the survey).

The number of people surveyed was 575 adults.

Study parameters

- Number of people surveyed by sex
- Number of people with normal nutritional status or not
- BMI average values by weight status and sex
- The occupation
- The consumption of fruits and vegetables
- The level of physical activity.

Data processing and analysis

Data processing and analysis were done using the following software: Excel 2007 and Word 2007.

Results Interpretations and Discussions

After the analysis of the collected data, we came to enormous information regarding the comparison of the nutritional status of the two sexes of our study population. Among the 575 adults surveyed, we obtained certain results that we would like to share with you.

Different parts of the human body	Weight reference men 70 kg	Weight reference women 57kg
Reserve fat	8.4kg	8.6kg
Constitutional fat	2.1kg	6.8kg
Muscles	31.4kg	20.5kg
Bones	10.4kg	6.8kg
Other tissues	17.7kg	14.2kg

Table 1: Distribution of body mass according to sex.
Source: fundamental principles of human nutrition, Bachelor's Program 3 nutritional sciences.

This table indicates that overweight and obesity are the result of a prolonged imbalance in the energy balance: daily energy intake exceeds expenditure for a very long period. This means that the complex interactions between biological, behavioral, social and environmental factors are involved in the regulation of energy balance.

Consequences on the Cardiovascular system	Metabolic consequences	Consequences on the respiratory system	Consequences on the articulations
hypertension Atherosclerosis Venous problems: heavy legs, varicose veins	Type 2 diabetes	Shortness of breath Sleep apnea	Osteoarthritis (especially in the lower limbs)

Table 2: Consequences of obesity
Source: Fundamentals of Human Nutrition Course.

This table above explains the consequences of obesity and its diversity. Indeed, obese people can be affected physically but also psychologically.

Obesity is a disease that is hard to live with on a daily basis and difficult to fight. She leaves marks for life, physically and mentally; the embarrassment to carry out daily gestures and the possible discriminations lead to uneasiness. Depression can be a consequence but also a cause of obesity. Moreover, during obesity treatment, patients are psychologically monitored.

Lower self-esteem and anxiety are also consequences.

BMI	Weight Status
< 18.5	Underweight
18.5-24.9	Normal
≥ 25	Excess weight
≥ 30	Obesity
≥ 35	Morbid obesity
≥ 40	Very severe obesity

Table 3: Assessment of nutritional status according to BMI.

Source: Fundamentals of Human Nutrition Course.

After the evaluation of the nutritional status (the weighing and the measurement of the height, the use of this table was necessary for the interpretation of the data collected according to the value of the BMI

Weight status	Number	Percentage
Deficit	6	2.89%
normal state	88	42.51%
Overweight	69	33.33%
Obesity	43	20.77%
Total	207	100.00%

Table 4: General distribution of women according to BMI.

Among the 207 women surveyed, there are only 2.89% cases of underweight, but with high percentages of overweight, i.e., 33.33% overweight and 20.77% obesity.

Weight status	Number	Percentage
Deficit	42	11.41%
normal state	252	68.48%
Overweight	61	16.57%
Obesity	13	3.53%
Total	368	100.00%

Table 5: General distribution of men according to BMI.

With regard to this distribution, we see that men have a high percentage of underweight compared to women, but with low percentages of overweight, i.e. 16.57% overweight and 3.53% obesity.

Age groups	Number	Percentage
19-30	407	70.78%
31-40	105	18.26%
41-50	51	8.87%
51-59	12	2.09%
Total	575	100.00%

Table 6: Distribution of the sample according to age.

The analysis of this table shows us that the most represented age group in this study that of 19 to 30, with a total of 407, or 70.78%

BMI	Number	Percentage	Appreciations
< 18.5	48	8.35%	Underweight
≥ 18.5 ≤ 24.9	340	59.13%	normal state
≥ 25 ≤ 29.9	130	22.61%	normal state
≥ 30 ≤ 34.9	42	7.30%	Grade I obesity
≥ 35 ≤ 40	11	1.91%	Grade II obesity
> 40	4	0.69%	Grade III obesity
Grand total	575	100.00%	…………………

Table 7: General distribution of the sample according to BMI.

This table shows that 48 (8.35%) people out of 575 are underweight, 340 have a normal nutritional status (59.13%), 130 people or 22.61% are overweight, 42 people or 7, 30% have grade I obesity, 11 people (1.91%) are grade II and the other 4 (0.69%) are grade III.

Gender	Number	Percentage
Women	6	12.5%
Men	42	87.5%
Grand total	48	100%

Table 8: Distribution of underweight people by sex.

From this table, we notice that 42 men (87.5%) are underweight against 6 women (12.5%).

The analysis of this table shows us that 250 men or 74.12% have a normal nutritional status, while 88 women or 25.88%.

Gender	Number	Percentage
Women	88	25.88
Men	252	74.12
Total	340	100%

Table 9: Distribution of normal weight people according to gender.

We can conclude from these data that the nutritional status of men is better and better appreciated compared to that of women.

Gender	Number	Percentage
Women	69	53.08%
Men	61	46.92%
Total	130	100%

Table 10: distribution of overweight people by sex.

These data show that 53.08% of women out of 130 people are overweight and 46.92% of men are.

In the end, it allows us to conclude that in terms of overweight, women are more affected than men.

Grade I obesity

Gender	Number	Percentage
Women	30	71.43
Men	12	28.57
Total	42	100%

Table 11: Distribution of obese people according to sex.

The distribution according to this factor of the 42 individuals on both sexes allows us to deduce that women are more victims than men. That is not to say that the percentage provided by men of this rank is under estimable.

Grade II obesity

Gender	Number	Percentage
Women	10	90.91%
Men	1	9.09%
Total	11	100%

Table 12: Distribution of obese people according to sex.

Among the 11 cases of morbid obesity, men present a low percentage compared to women, i.e., 9.09% against 90.91%.

Grade III obesity

Gender	Number	Percentage
Women	4	100%
Men	0	0.00%
Total	4	100%

Table 13: Distribution of obese people according to sex.

With regard to this state, we notice through this table that the results are impressive because it is only women who are concerned.

This stage of obesity being associated with morbidity and mortality factors, it confirms the complaints made by obese people during the investigation of certain diseases such as diabetes, high blood pressure, etc.

Occupation	Number	Percentage
Students	70	19.02%
Students	59	16.03%
FUNC	67	18.21%
PL	172	46.74%
Total	368	100.00%

Table 14: Breakdown of the male population studied according to profession.

Occupation	Number	Percentage
Pupils	12	28.57%
Students	7	16.67%
Civil Servants	6	14.29%
Liberal occupations	17	40.48%
Total	42	100.00%

Table 15: Distribution of men with weight loss according to occupation.

It is important to describe by this that students are more affected by this factor than men in other professions, although men in liberal professions have the highest percentage (40.48%).

Occupation	Number	Percentage
Pupils	56	22.22%
student	45	17.86%
Civil Servants	40	15.88%
Liberal occupations	111	44.05%%
Total	252	100.00%

Table 16: Distribution of normal weight men according to profession.

The analytical observation of this table makes it possible to deduce that after the pupils comes the liberal occupation in terms of high percentage of normal state and the students who place themselves in last position with a rate of 12.86%.

Occupation	Number	Percentage
Pupils	2	3.28%
Students	6	9.84%
Civil Servant	17	27.87%
Liberal Occupation	36	59.02%
Total	61	100.00%

Table 17: Distribution of overweight men according to occupation.

Here, in this table, we observe high percentages of overweight among civil servants and among the liberal professions. But of all the professions, these results are significant in terms of this weight status.

Grade I obesity

Ocupation	Number	Percentage
Pupils	0	0.00%
University student	1	8.33%
FONC	4	33.33%
PL	7	58.33%
Total	12	100.00%

Grade I Obesity

Table 18: Distribution of obese men according to occupation.

The observation made from this table is that civil servants and liberal professionals beat the record for students with a higher rate in the liberal professions (58.33%

Grade II obesity

Occupation	Number	Percentage
Pupils	0	0.00%
Students	0	0.00%
Civil Servants	0	0.00%
LO	1	100%
Total	1	100.00%

Grade II Obesity

Table 19: Distribution of obese men according to occupation.

Occupation	Number	Percentage
Pupils	0	0.00%
Students	0	15%
Civil Servants	0	0.00%
LO	2	50%
Housewives	2	35%
Total	4	100.00%

Grade III Obesity

Table 20: Distribution of obese men according to occupation.

The liberal professions further reassure us that it is in this group that there is a significant number of malnourished by excess weight, according to the data described above.

Occupation	Number	Percentage
Pupils	1	16.67%
Students	1	16.67%
Civil Servants	0	0.00%
LO	4	66.66%
Housewives	0	0.00%
Total	6	100.00%

Table 21: Distribution of underweight women by occupation.

According to the rate of participation in the survey, individuals exercising liberal professions are among the most numerous in this study, so in this group we find different cases of malnutrition. There, is a 66.66% weight deficit among women in this state compared to women in other professions, as well as 16.67% among female students than among male students.

Occupation	Number	Percentage
Pupils	15	17.05%
Students	10	11.36%
Civil Servants	3	3.41%
LO	55	62.5%
Housewives	5	5.68%
Total	88	100.00%

Table 22: Distribution of normal weight women according to profession.

These results show us that civil servants and housewives are less healthy compared to other professions with respective rates of 3.41% and 5.68%.

Occupation	Number	Percentage
Pupils	5	7.25%
Students	4	5.79%
Civil Servants	4	5.79
LO	49	71.01%
Housewives	7	10.14%
Total	69	100.00%

Table 23: Distribution of overweight women by profession.

The observation of the table leads us to make a bitter observation in terms of overweight at student rates among the liberal professions (71.01%), housewives (10.14%) and among students (7.25%).

Occupation	Number	Percentage
Pupils	2	6.67%
Students	2	6.67%
Civil Servants	23	76.66%
LO	3	10%
Total	30	100.00%

Grade I obesity.
Table 24: Distribution of obese women according to grades.

The data from this table allow us to deduce the following: after the liberal functions, the percentage is high among housewives and low among students.

Occupation	Number	Percentage
Pupils	0	0.00%
Students	0	0.00%
Civil Servants	1	10%
LO	8	80%
Housewives	1	10%
Total	10	100.00%

Grade II Obesity
Table 25: Distribution of obese women according to grades.

Out of 100% of obese women of this grade, 80% come from the liberal professions and the rest is divided between civil servants and housewives equally.

Occupation	Number	Percentage
Pupils	0	0.00%
Students	0	0.00%
Civil Servants	0	0.00%
LO	2	50%
Housewives	2	50%
Total	4	100.00%

Grade III obesity
Table 26: Distribution of obese women according to grades.

The results of this table show that 2 out of 4 people with grade III obesity are self-employed and 2/4 are housewives.

We notice from this table that few people regularly consume fruits and vegetables per day, however, 13.04% of men and 13.52% of women consume only once a day and only few people consume three (3) times a day (i.e. 0.54% of men and 4.34% of women). In terms of consumption per week, we see that many people consume fruits and vegetables only once.

It is concluded that the objective of consumption of these foods is difficult to achieve, because we see high rates of consumption of these foods on an occasional basis.

According to the results of the survey, men practice physical activities better than women. Among the 207 women, no woman

Genders	Distribution	People consuming fruits and vegetables per day			People consuming fruits and vegetables per week			
		Once	Twice	3 times	Once	Twice	3 times	Occasionally
Men	Number	48	97	2	55	35	22	108
	Rate (%)	13.04	26.35	0.54	14.94	9.51	5.97	29.34
Women	Number	28	55	09	31	14	18	52
	Rate (%)	13.52	26.56	4.34	14.97	6.76	8.69	25.11

Table 27: Distribution according to fruit and vegetable consumption.

Sex	Total	NAP	Total per NAP	Percentage per NAP
Women	207	Sportive	00	0.00
		Active	171	82.61
		Sedentary	36	17.39
Men	368	Sportive	44	11.96
		Active	307	83.42
		Sedentary	17	4.62

Table 28: Distribution of people surveyed according to level of physical activity.

NAP: Physical Activity Level.

practices sport. They are either sedentary or active. Which is on one hand the basis of their obese state.

Gender	BMI	
Men	Deficit	16.9
	normal	21.8
	Overweight	26.8
	Obesity	32.2
Women	Deficit	16.4
	normal	22.2
	Overweight	27
	Obesity	34.5

Table 29: Mean BMI values by weight status and gender.

Given these averages, the nutritional status of adults (women and men) can be described as overweight, but with a weight deficit that differs on both sides of the two sexes.

Generally speaking, we see that excess weight is starting to become a significant public health problem. By observing the average BMI according to the different classes of this index for men and for women described above, the population studied can be qualified as malnourished, especially by being overweight (32.53%).

Compared to the Belgian data, these averages which mark the excess weight on both sides of the two sexes of this population are higher than those of the Belgians which are 25.8 in men and 24.8 in women (Reference).

Excess weight including overweight (25 ≥ BMI < 30) and obesity (BMI ≥ 30), the data collected show that, among people aged 19 to 59; the prevalence of obesity is 9, 91%. While in Tunisia, the same problems are observed, but with a prevalence of pre-obesity of 25.7% and 14.1% of that of obesity (reference).

Compared to WHO data from 1995, the prevalence of obesity observed in the women studied (20.77%) is slightly lower than that of Tunisian women (22.7%) and lower than that of American women (24 7%), but higher than those of Canadian women (15%), women from industrialized societies (15%) and women from the Middle East (15%).

In Guinea, according to this study, 32.52% of the adult population is overweight, with 54.58% among women and 20.1% among men. Compared to data produced by other studies in different countries, we obtain the following

- In Belgium, the data presents a certain difference, that is to say that our data is weak in general and shows a different picture, here men are the most affected, whereas in our case women are the most affected by being overweight. In this country, 47% of the adult population is overweight, including 54% among men and 40% among women.

- In France, according to a study led by INSERM and the national health insurance fund for workers and employees (Cnamts Reference), which focused on the case of 29,000 French people, aged 30 to 69, 56, 8% of men and 40.9% of women would have a BMI > 25. By differentiation, these data present the same picture as those of the Belgians. Consequently, although they show a different picture, we observe that the prevalence of 56.8% in men and 40.9% in women of the French population are higher than those of men (20.1%) and women (54.58%) of the Guinean population studied.

- If obesity is taken into account, in Belgium the prevalence is 14% among women and 13% among men, while in Guinea the prevalence is 20.77% among women and decreases to 3.53% in adult men.

- In France (Reference 2016), 16% of the population, i.e. 15.8% of men and 15.6% of women, are considered obese due to their BMI greater than 30 (BMI>30). While in Guinea, 9.91% of the population is considered obese, with a higher prevalence in women at 20.77% and lower in men at 3.53%.

- According to Eurosat, the Statistical Agency of the European Union (year), 15.9% of Europeans over the age of 18 were in a situation of obesity in Europe. 51.6% of the European population is also considered to be overweight, while the Guinean population studied has a prevalence of 9.91% obesity, which is slightly lower than that of Europe (15.9%). As for overweight, it is 22.21%, therefore low compared to that of the European population (51.6%).

As for the prevalence of thinness, which is the consequence of a chronic energy deficit, it is relatively frequent (8.35% for both sexes together), but especially male (11.41%), which is slightly higher than that of Tunisian women (9.1%).

According to the FAO, the prevalence of thinness in the adult population was 4% in 1990. Compared to our data, a significant increase is therefore observed in this time interval if we focus on this data, because the prevalence of our study population (8.35%) doubles this value (4%).

Given the trends in the distribution of BMI in the population, an intervention program is desirable not only to fight against excess weight but also against the deficit, because we like to say it often: "prevention is better than cure" [1-18].

Conclusion

At the end of our analyzes on a few people surveyed at the level of the three (3) districts of the municipality of Matoto, it emerges from the main results obtained, the conclusions which follow give rise to recommendations within the framework of the development of aptitudes and skills allowing soon to familiarize ourselves with the inhabitants and authorities of a given community, with less effort.

Definitely, we know that sedentary lifestyle and diet are the main determinants of obesity. In addition, we were able to learn the techniques necessary to approach anyone in a survey situation as in any other activity directed towards the community; as well as the constraints and problems related to the realization of any activity in the communities.

Similarly, the results of this survey allowed us to conclude that women are much overweight than men. For this, the practice of physical activities is necessary to remedy this state because we recognize physiologically that women have a greater proportion of fat compared to men.

It is still important to emphasize that a person who is underweight is easier to recover than an obese one, which could be due to the increase in the number of cells to be nourished in the obese.

Finally, a nutritional study or survey based on biological assays is necessary to target this same age group, despite the fact that these are generally impossible to carry out in field situations to better clarify and confirm the results of this survey that was based on anthropometry, all culminating in improving the overall well-being of the adult population

Recommendations

In view of the above, we suggest the following

To the health authorities of the country and the capital Conakry

- To pay more attention to the assessment of nutritional status by making clear cut recommendations on the detection and prevention of malnutrition in adults, the assessment of their nutritional status in a formal way.

- Take the time to explain to anyone in this age group what is meant by a "balanced diet" while placing particular emphasis on the consumption of fruits and vegetables.

To NGOs and international institutions for humanitarian purposes

- Organize or encourage awareness campaigns on adult nutrition education, eating habits, consumption of street food, the consequences of consuming certain toxic substances (alcohol, smoking, etc.)

- Strengthen training on malnutrition screening materials.

To future researchers

- To determine the prevalence of obesity among women in the commune of MATOTO with a larger sample using other evaluation methods, such as the method on food surveys, biological assays to confirm our results. The same for the prevalence of underweight among men in the said commune.

To other sectors (agriculture, livestock, trade, etc.)

- Know that nutrition is a multisectoral area. Several studies suggest that a purely nutritional approach is not enough to fight against malnutrition, we need an integrated approach (international nutrition course).

- In this case, we particularly recommend to:

- Farmers to develop agriculture by promoting the production of food from which the population (adults) will draw its food, because for us, the food of a population depends mainly on what it produces

- Traders, to ensure an equitable distribution of food produced in the four corners of the country. Make them accessible to the population by lowering their prices

- Breeders, to develop breeding. The definition of a balanced diet according to UNICEF indicates that we must bring 15% of protein to the body daily. And on this notion of protein, we nutrition professionals recognize those of animal origin as proteins of high biological value compared to those of vegetable origin.

Adults and other age groups

- Have a healthy lifestyle (healthy, varied and balanced diet as well as the practice of physical activity).

- Give importance to the food we produce, as our dear president "Pr Alpha CONDE" said during the FEG 2018: "Let us produce what we consume and consume what we produce".

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