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Index of Nutritional Status and Lifestyle Assessment (INS): the first validate composite index relating lifestyle to chronic diseases risk.

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Introduction

Chronic diseases' impact on mortality and morbidity is growing worldwide. They are mainly due to cardiovascular diseases (CD) and cancer for the progressive reduction of problems related to predictable risks (particularly infective diseases). The epidemiological transition – the change of diseases' impact on health – has brought a considerable change in the international health context. To evaluate the potential impact of correct lifestyle on chronic diseases burden and progression an observational study was realized on a sample of athletes through the submission of a questionnaire in order to analyze the anthropometric data, diet, alcoholic and smoking habits and physical activity (PA). The athletes sample was chosen to observe a group of people surely committed to a correct lifestyle. The study was realized in order to extract a combined index (BMI plus diet plus PA) to be checked afterwards on patients with chronic diseases.

Objectives

In order to assess the impact of lifestyle on Non Communicable Diseases burden a pilot study was conducted on an athletes sample during the Strafadoi races in Lazio region.
The same questionnaire (CRF) was administered to a total of 157 athletes during 3 races in 2014.

Methods

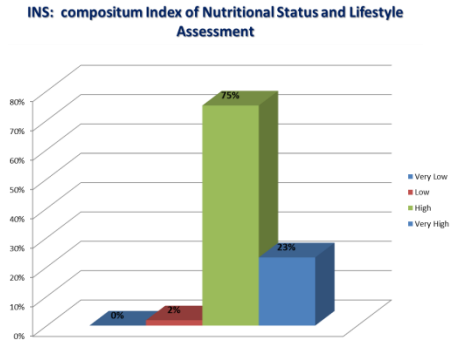
CRF was realized to identify, through a composite index, modifiable risk factors that cause NCD, and taking into account: weight, diet and physical activity. Weight was measured using Body Mass Index (BMI) according to the World Health Organization (WHO) stratification, physical activity as weekly frequency and average activity duration. Foods were evaluated qualitatively enhancing their effect on metabolism and food combination.

CRF items related to INS index

Do you practice sport regularly?		
Yes	113	84%
No	5	4%
Unknown	17	13%
How many times do you practice sport per week?		
Almost every day (6/7 days)	33	24%
Some days (3/4/5 days)	83	61%
Few days/Week end (1/2 days)	2	1%
Unknown	17	13%
Body Mass Index		
Normal range	100	74%
Overweight	22	16%
Underweight	5	4%
Unknown	8	6%

Results

INS was calculated by multiplying: nutrition index, BMI index and physical activity index. Maximum INS value is 0.92 stratified in 4 ranges between 0.01 and 0.92 (very low-low-high-very high). The athlete sample, selecting individuals with normal BMI, doing regularly exercise and following balanced diet, shows high INS value:0.47-0.69 (75% of the sample) and very high value: 0.69-0.92 (23%). INS seems to be direct correlate with physical activity index (moderate direct correlation: 0.756) and less linked to nutritional index (0.408) and to BMI Index (0.472).



Conclusions

The study performed on an athletes sample showed the benefits of PA on health. The majority of the sample showed a normal BMI, correct dietary habits and no need of pharmacological treatment. Exercise is one of the mainstay clinical interventions for the prevention and treatment of cardiovascular diseases. Not only, exercise reduce cardiovascular risk factors, such as diabetes mellitus and hypertension, thereby helping to prevent heart disease, it also appears to improve the functional status and outcomes in patients with existing heart disease. The INS is the first composite index that combines nutritional status with other factors such as BMI and diet. The validation shows how it can be able to relate adequately to fundamental health determinants and can be a useful tool in evaluation of CD risk factors.

References

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