EAT MEDITERRANEAN PROGRAM:
THE MEDITERRANEAN DIET QUALITY INDEX (KIDMED) IN CHILDREN AND ADOLESCENTS

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BACKGROUND AND AIM

Eat Mediterranean is a community based intervention Public Health Program which aims to reduce nutritional inequalities in school students through **Mediterranean Diet**. The Mediterranean diet is considered one of the healthiest dietary models which promotes consumption of foods with high nutrient density such as fruit and vegetables, bread and cereals (primarily whole-grain), pulses and nuts. Sedentary lifestyles, less time for food preparation and consumption of pre-cooked food are common in the modern society. Considering the Mediterranean Diet benefits, this diet should be embraced in order to counter the modern lifestyle and eating habits. Children and adolescents are a priority target for action since they are more open to changes and are capable of influence the older ones[1,2,3].

The aim of this study is to evaluate dietary habits in the children and adolescents who participated on the Eat Mediterranean program based on Mediterranean Diet Quality Index tool (KIDMED).

METHODS

The Eat Mediterranean program targeted 3 public Schools Groupings in Santarém and Alpiarça Municipalities. It was divided in two stages: the first one on scholar year 2015/2016 and the second one on scholar year 2016/2017. The KIDMED questionnaire was applied to 3434 and 3604 children and adolescents aged 2–21 years who participated on the 1st and 2nd stage, respectively, of the program.

KIDMED index ranged from 0 to 12, and was based on a 16-question test. The sums of the values from the administered test were classified into three levels: >8 - optimal Mediterranean diet; 4 to 7 - improvement needed to adjust intake to Mediterranean patterns; ≤ 3 - very low diet quality.

+1	Takes a fruit or fruit juice every day
+1	Has a second fruit every day
+1	Has fresh or cooked vegetables regularly once a day
+1	Has fresh or cooked vegetables more than once a day
+1	Consumes fish regularly (at least 2 – 3 times per week)
-1	Goes more than once a week to a fast-food (hamburger) Restaurant
+1	Likes pulses and eats them more than once a week
+1	Consumes pasta or rice almost every day (5 or more times per week)
+1	Has cereals or grains (bread, etc.) for breakfast
+1	Consumes nuts regularly (at least 2 – 3 times per week)
+1	Uses olive oil at home
-1	Skips breakfast
+1	Has a dairy product for breakfast (yoghurt, milk, etc.)
-1	Has commercially baked goods or pastries for breakfast
+1	Takes two yoghurts and/or some cheese (40 g) daily
-1	Takes sweets and candy several times every day

Fig. 1: KIDMED test - scores

RESULTS

	Kidmed index 1st Stage		Kidmed index 2nd Stage	
Very low diet quality	n	%	n	%
	380	11,1	127	3,5
Improvement needed to adjust intake to Mediterranean patterns	n	%	n	%
	1799	52,4	1252	34,7
Optimal Mediterranean diet	n	%	n	%
	1255	36,5	2225	61,7
Total	N	%	N	%
	3434	100,0	**3604**	100,0

Table 1: Participants in the 1st and 2nd stage of "Eat Mediterranean" project

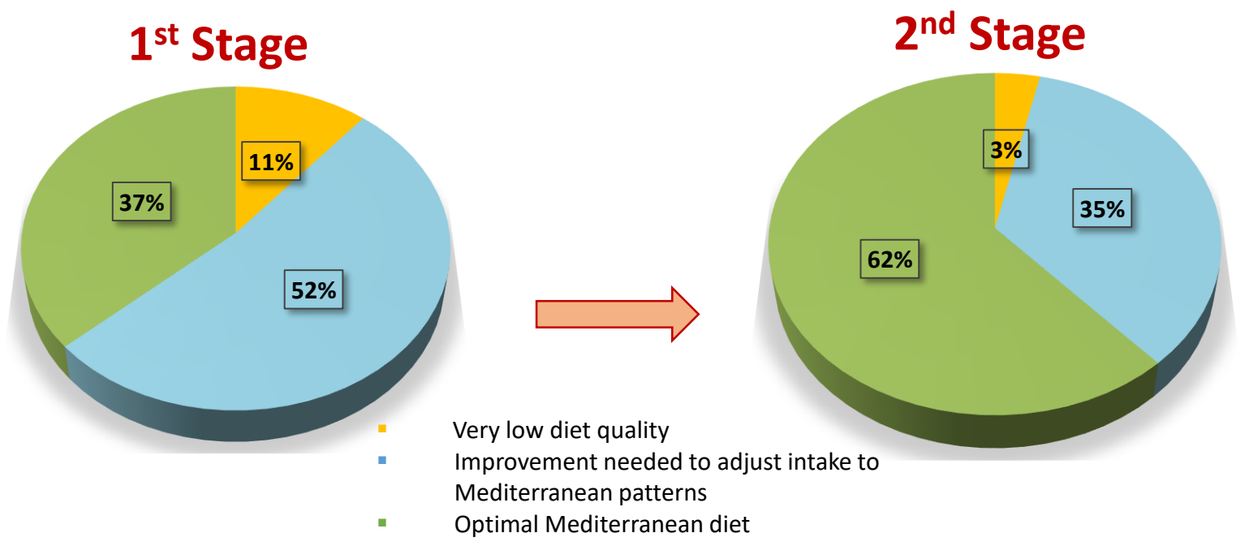

Fig. 2: Comparison between the KIDMED index in the 1st and 2nd stage

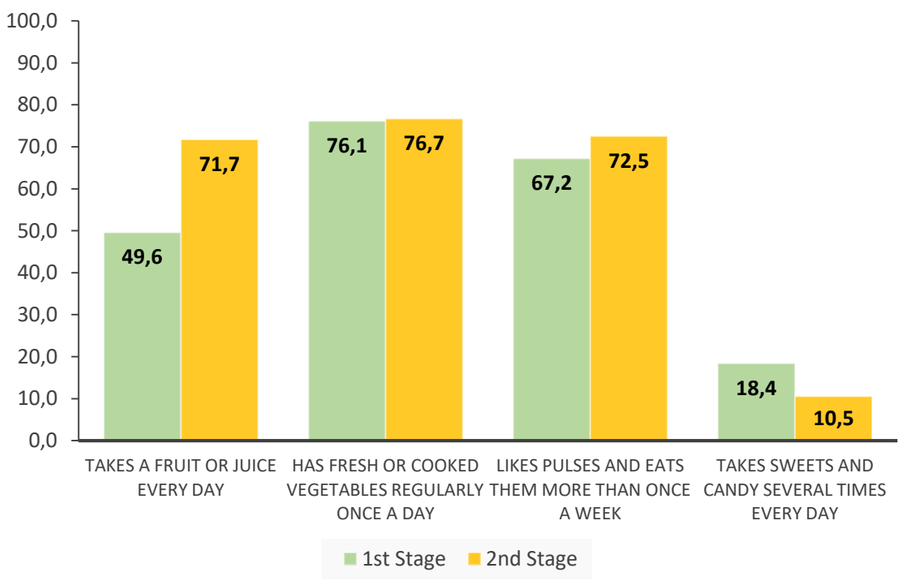

Fig. 3: Percentage of answers obtained to some questions in both stages

From the 1st stage to the 2nd, there were some changes in the KIDMED index. There was a decrease on the classification "Very low diet quality" from 11% in the 1st stage to 3% in the 2nd stage. Participants needing improvement to adjust intake to Mediterranean patterns showed a decrease from one stage to the other. On the other hand, there was an increase in the number of participants with optimal Mediterranean diet in about 25%.

Consumption of fruit, fresh or cooked vegetables, pulses and sweets were the food items with higher changes between the two stages. These results are illustrated in **fig. 3**. There was a significant increase (about 22%) in the consumption of fruit from stage 1 to stage 2. There was also an increase in the consumption of vegetables and pulses, however less substantial. When analysing the consumption of sweets and candy, it shows a decrease from one stage to the other of about 7,9%.

DISCUSSION AND CONCLUSION

Looking at the results of this study, it is possible to conclude that there were improvements in the diet quality since there was an overall increase of the KIDMED index from the first stage to the last one of the Eat Mediterranean program. There is a large percentage of children and adolescents (about 62%) who have more recently an optimal Mediterranean diet. Considering the questions analysed, it is possible to realize that there was a significant improvement in the consumption of fruit daily, which usually is difficult to accomplish. The consumption of pulses is also higher in the 2nd stage which can possibly be related to the work and programmes that these days exist in Portugal aiming the awareness and education about this group of food. Since one of the main aims of the Mediterranean Diet is to decrease the consumption of sugary products, our results are according to what is intended.

Usually children and adolescents are a critical group to promote and achieve a better Mediterranean diet profile, however our study can be a positive encouragement to future education programmes to establish healthy eating habits since in a short amount of time (one year) it was possible to see significant improvements towards a better diet quality.

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