

MONITORING THE INTERVENTION TO PROMOTE A HEALTHY LIFESTYLE IN ADULTS. QUANTITATIVE EVALUATION

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Abstract: Within the National Programme of Health Assessment, Health Promotion and Health Education (NP V), Subprogramme 1 - Promoting a Healthy Lifestyle, at the Regional Public Health Centre of Sibiu, a programme that promotes a healthy lifestyle in adults with continuous monitoring is being run. Patients are evaluated quarterly by measuring the following parameters: blood pressure, height, weight and BMI (body mass index), which allow us to analyze the dynamics of patient outcomes, in terms of lifestyle and their effects on health.

Cuvinte cheie: promovarea sănătății, stil de viață, adulți, evaluare cantitativă

Rezumat: În cadrul Programului Național de Evaluare și Promovare a Sănătății și Educație pentru Sănătate (PN V), Subprogramul 1 – Promovarea unui stil de viață sănătos, la Centrul Regional de Sănătate Publică Sibiu se desfășoară un program de promovare a unui stil de viață sănătos la adulți cu monitorizare continuă. Pacienții sunt evaluați trimestrial, prin măsurarea următorilor parametri: tensiune arterială, înălțime, greutate și calculul IMC (indicele de masă corporală), care permit analiza în dinamică a evoluției pacienților, din perspectiva stilului de viață adoptat și efectele acestuia asupra stării de sănătate.

INTRODUCTION

According to literature, lifestyle is one of the key determinants of health, with a significant influence on this one, in a percentage of 40%.

Much of cardio-vascular morbidity, nutritional diseases and some forms of neoplastic diseases can be prevented by adopting a healthy lifestyle on long term. Primary prevention is one that can intervene on the risk factors within the life of individuals, thus preventing the emergence of a large number of chronic diseases and ultimately, avoidable premature deaths.

PURPOSE

The purpose of this paper is to highlight the importance of the programme to promote a healthy lifestyle in adults, which has as main objective the health improvement of the patients participating in the programme, through specific health education measures.

METHODS

This study concerns the quantitative analysis of the data obtained from the quarterly monitoring of patients in 2013. The following parameters were assessed: blood pressure, height, weight and calculated BMI (body mass index).

Data were collected and statistically processed in Excel, followed by their synthesis, analysis and interpretation. The total number of patients enrolled in the programme was 192 until December 31, 2013.

They have been divided into two groups, namely: a group of older patients enrolled until November 2012 and a group of patients who have been enrolled in the programme from January 1, 2013.

RESULTS AND DISCUSSIONS

1. Results for the Ist trimester evaluation.

In the first quarter of 2013, the total number of patients enrolled in the programme was 148. Of these, 119 persons were assessed and 29 were missing. The study group was subdivided into two groups as follows:

Batch 1 (patients included in the programme up to 2012): 138 (present: 109, missing: 29).

Batch 2 (entered the programme in the first quarter of the year 2013): (present: 10, missing: 0).

Most of the patients enrolled in the programme belonged to the batch I. In the first quarter of 2013, 10 patients entered the programme. Most were retired, belonging to the age group of 60-69 years old in both batches. The share of persons aged 50-59 years old was of 23% in batch I, and those of 40 years old and below were accounted for only 6%. This can be explained by the fact that active people do not have enough free time during weekdays to practice extra-activities, this is easier for pensioners. In batch 2, 10 people, eight pensioners aged 60 years and two young people between 20-29 years were enrolled between January to March 2013:

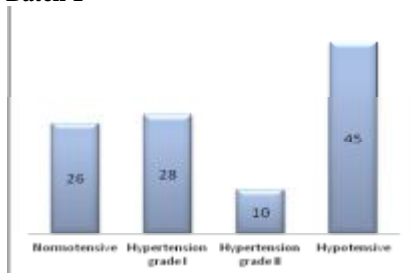
In terms of educational level, batch 1 was mostly made up of persons with higher education, and in batch 2, there were equally subjects with post-secondary and secondary education and two people with higher education, out of the 10 subjects enrolled in from January to March 2013.

Pressure values analyzed were very good, most patients in the study groups being hypotensive or normotensive. A minority of patients had hypertension I grade and only 10 patients of the total of 119 were hypertensive II grade (figure no. 1a, b).

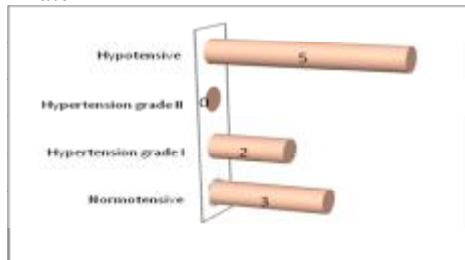
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Figure no. 1. Blood pressure values in the assessed patients

a. Batch 1



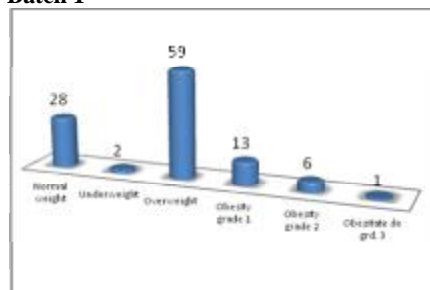
b. Batch 2



Of the 40 patients with hypertension, 35 were under medical treatment recommended by the family doctor or by the specialist physician (figure no. 5 a, b). These patients were under closer observation of the physical therapist so that effort be dosed. Patients are advised to practice the physicals exercises according to their own pace in order not to feel tired and to discontinue exercises partially or completely if they feel so. Throughout the entire period of the development of the programme, there has been no case of worsening health.

Figure no. 2. Weight in relation to BMI values

a. Batch 1



b. Batch 2



All persons included in the programme reported an improvement of their general condition, both physical and mental. Many patients keep their blood pressure values through diet and physical activity, despite their age, as many of them are over 60 years old. In terms of weight, most are overweight subjects (59 patients – out of the total of 119, in batch I and 4

patients - from a total of 10 in batch II). On the second place, there are people of normal weight. Less than a quarter of the patients are obese: obesity grade I: 13 patients (batch I) and one patient (batch II), obesity grade II: 6 patients (batch I), and 2 patients (batch II); morbid obesity 1 patient (batch I) and one patient (batch II) (figures no. 2a, b).

2. Results for the IInd trimester assessment

In the second trimester of the year 2013, the total number of persons enrolled in the programme was 180, as against 148, in the first trimester. The difference is given by new patients entered the programme in the second trimester. Of the 180 subjects, 56 were present at the assessment and 124 were absent. The main reason for not being present at the assessment was the fact that it was summertime and most subjects were away from the town. The study group was subdivided as follows:

Batch 1 (patients entered the programme until 2012): 140 (present: 54, missing: 86).

Batch 2 (patients entered the programme in the first and second trimester of 2013): 40, (present: 2, missing: 38).

In the first quarter, we recorded 138 old patients in the programme and in the second quarter, 140. The difference is given by the two patients enrolled in the programme, five years ago, which interrupted their attendance on medical grounds, but returned in the second quarter of 2013. I did not consider them new patients because they had a number of five years of continuous participation in the programme.

Batch II was very poorly represented in the assessment for two reasons: firstly, most subjects were in the anamnesis and risk observational sheets filling up stage and other were missing due to other reasons, such as not being in town.

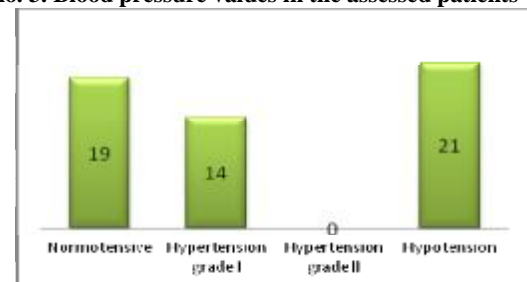
The two patients evaluated are retired, female, aged 60-65 years old, having higher, respectively post secondary education. Both subjects had normal weight and blood pressure in the first case indicates normal BP and hypotension in the other case.

Batch I consisted of 54 assessed patients, represented mainly by older people, belonging to the age group of 60-69 years old (59%) and 20% of the age group of 50-59.

From the point of view of educational level, most patients in the study group have completed a post-secondary school, mainly the Sanitary College. A relatively large number of patients have higher education and high school and three people have only middle school education.

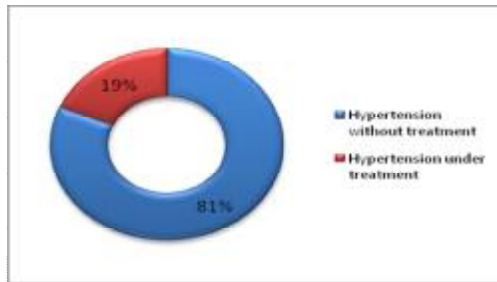
Since the study batch is, in a percentage of 60%, made up of people aged 60-69 years old, most of the subjects are retired, but the group also includes a small number of intellectuals and workers.

Figure no. 3. Blood pressure values in the assessed patients



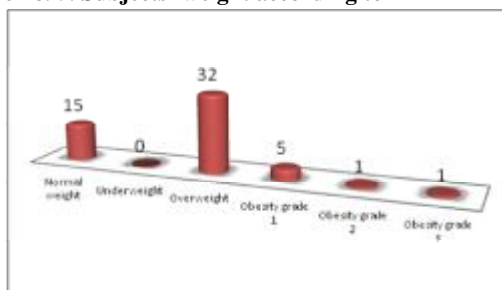
After measuring blood pressure, I found that blood pressure values of the patients older than 3 years in the programme were very good: most are hypotensive and normotensive (40 persons) and only the remaining 14 patients had hypertension I grade. No patient had higher pressure values as to classify him as hypertensive II grade (figure no. 3). It is worth noting that 81% of the studied patients do not have blood pressure under treatment (figure no. 4). This is kept in the normal range or it is even lower, by means of a proper diet and constant physical activity.

Figure no. 4 Hypertensive patients under drug treatment or not



The patients studied are usually overweight (32 out of a total of 54 evaluated patients), but weight is also related to the age factor, the elderly having a much slower metabolism and hormonal problems ranging from thyroid disorders, to specific postmenopausal events. However, the normal weight female patients according to the values of BMI are ranked 2 and obese people are in a very low percentage: five patients with obesity of I grade and one person with obesity of II grade, respectively morbid obesity (figure no. 5).

Figure no. 5. Subjects' weight according to BMI



3. Results for the IIIrd trimester assessment

In the third quarter of 2013, the total number of patients enrolled in the programme was 183, with three patients in addition to the previous quarter. Of these, 43 were present at the assessment and 140 were absent, more than in the second quarter. The main reason for not being present at the assessment was that the patients were out of town, as well as the beginning of the school year, many of them being in charge of their preschool and school aged grandchildren. Thus, the evaluation programme coincided in most cases with their personal time table.

Study batch was subdivided in:

Batch 1 (patients entered the programme until 2013): 140 (present: 35, missing: 105)

Batch 2 (patients enrolled in the programme in the trimesters I+II+III, 2013): 43 (present: 8, missing: 35)

People under the study were mostly retirees, belonging to the age group of 60-69 years old in both batches. In batch I, which is better represented numerically, there were 17% people aged over 70 years old, with a seniority in the programme for over 1 year. Batch II was well represented by

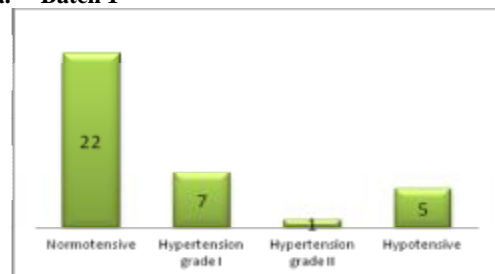
people belonging to the age group of 50-59 years old, followed by the next decade of 40-49 years old. In batch II, there were subjects under the age of 40 years.

Regarding the educational level, people of batch I, older in the programme have mainly post-secondary education (42.85%), and higher education (28.57%). The third place is occupied by subjects with secondary education. Batch II is better represented by people with higher education than those with secondary education, but it should be noted that the subjects of the second group are less numerous.

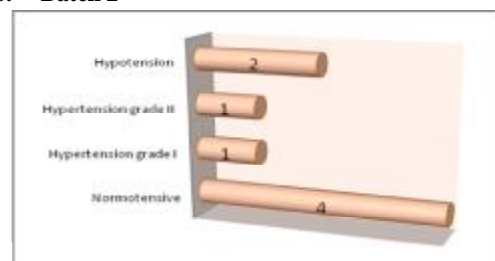
Blood pressure in the examined patients was good in general. 62.85% of the subjects in batch I and 50% in batch II were normotensive. Of those with hypertension, the majority had hypertension grade I in batch I and in equal weight of 12.5%, HTA grade I and grade II in batch II. 77% of hypertensive patients in group I and 100% in group II were under medication. In the studied groups, there were about a quarter of hypotensive patients (figures no. 6 a, b).

Figure no. 6. HTA values in the assessed patients

a. Batch 1



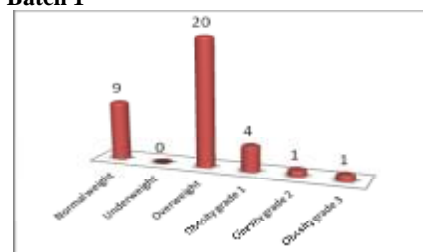
b. Batch 2



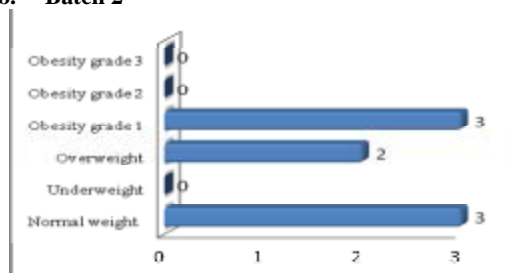
It is worth noting that although the people included in the programme are older and overweight, their blood pressure values are good to very good for this age. This is an additional motivation for the patients to continue practicing regular exercise and to keep a balanced diet. Regarding the weight of the people studied, the situation varies between the two groups: in the first group, we meet more overweight patients (57.14%) and only 5.71% are obese, in batch II, there are mainly people of normal weight and with obesity of grade I in equal proportion of 37, 5%, and only a quarter are overweight. No person in the two groups is not underweight (figure no. 7 a, b).

Figure no. 7 Weight in relation to BMI values

a. Batch 1



b. Batch 2

4. Results for the IVth trimester evaluation

The total number of patients in the fourth quarter of 2013 was 192, more as in the previous quarter as a result of newcomers during October-December 2013, respectively 9 people. From these, at measurements, there were present only 34 patients, while the remaining 158 were missing. Although we early announced the evaluation period, with a flexible schedule for a proper addressing, the patients did not show up at the quarterly assessment in a satisfactory manner. One of the reasons may be the regularly scheduled visit to the family doctor, where blood pressure is measured upon request and weight control can be performed alone at home.

The study batch was divided as follows:

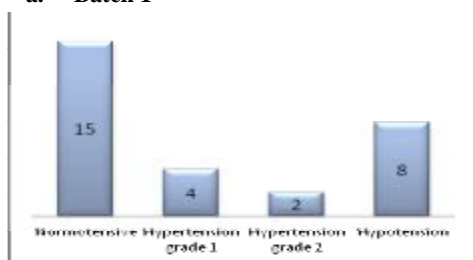
Batch 1 (patients entered the programme until 2013) = 140 (present: 29, missing: 111)

Batch 2 (patients entered the programme in the trimesters: I+II+III+IV, 2013) = 52 (present: 5, missing: 47)

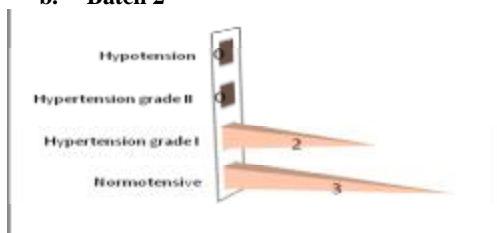
Most participants in the programme were retired, aged 60-69 years old in both groups. In the first batch, which is much numerous, there were people over 70 years old and very few young people. This is the major drawback of our programme. The so large addressability for the elderly is given by the time factor and gratuity. However, it also should be taken into account that at this age, the social factor is very important for all seniors. In terms of educational level, most subjects have completed post-secondary school, but many of them had higher education. The third place is occupied by high school graduates. BP values were generally very good in the study group: most patients were normotensive in both groups, some of them were even hypotensive and only 4 patients in total were evaluated as being hypertensive of grade I and II (figure no. 8).

Figure no. 8. HTA values in the assessed patients

a. Batch 1



b. Batch 2



62% of patients in batch I and 80% of the patients in group II were not under medical treatment of high blood pressure. Tracking dynamic pressure values during the four quarters of 2013 indicates that healthy diet and physical activity are the best remedy for the persons in the programme. Considering the majority age groups of 60-69 years old and over 70 years old, there are very few subjects undergoing medical treatment in general, especially for hypertension.

In terms of weight and BMI values, we found that people with weight problems are more frequently present at measurements, most of them being overweight and after them, the people of normal weight. The lowest proportion is represented by the obese subjects. Of these, only one case is considered morbid obesity, the rest showing obesity of grade I or II in both batches.

CONCLUSIONS

1. Attendance at quarterly assessments is unsatisfactory in both batches. The causes range from the lack of time, being out of town, the regular visits to the family doctor, where patients can benefit from such measurements: blood pressure, weight. It should be noted that one of the reasons is the lack of partial interest in this segment of the programme.
2. The predominant age group is of 60-69 years old, followed by the age group of 50-59 years old.
3. Most patients are pensioners, of which most of them have graduated from high school or post-secondary school, a smaller proportion having higher education.
4. The patients studied had good pressure values, most of them being normotensive or hypotensive, an insignificant share of subjects having hypertension of I and II grade.
5. The large share of subjects does not follow any drug treatment for blood pressure.
6. From the point of view of weight, overweight subjects prevail in both groups. The second place is occupied by normal weight followed by obese people of I and II grade. We encountered one case of grade 3 obesity.
7. Dynamic analysis of BMI values indicates constant values from one quarter to another. Some of the patients were able to pass from the stage of obesity of I grade to overweight.

REFERENCES

1. Gram AS, Bonnelycke J, Rosenkilde M, Reichkender M, Auerbach P, Sjodin A, Ploug T, Jespersen A, Stallknecht B. Compliance with physical exercise. Using a multidisciplinary approach within a dose-dependent exercise study of moderately overweight men. *Scandinavian Journal of Public Health*, 2013; DOI: 10.1177/1403494813504505.
2. Littlewood R. Globalization, culture, body image and eating disorders. *Cult Med Psychiatry* 2004;28:597-602.
3. Popkin BM. Using research on the obesity pandemic as a guide to a unified vision of nutrition. *Public Health Nutr* 2005;8:724-29.
4. Popkin BM, Nielsen SJ. The sweetening of the world's diet. *Obes Res* 2003;11:1325-32.
5. WHO - Action Plan for implementation of the European Strategy for the Prevention and Control of Noncommunicable Diseases 2012-2016.
6. <http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle>.
7. <http://www.aarp.org/health/conditions-treatments/info-07-2013/high-blood-pressure-the-silent-killer.html>.