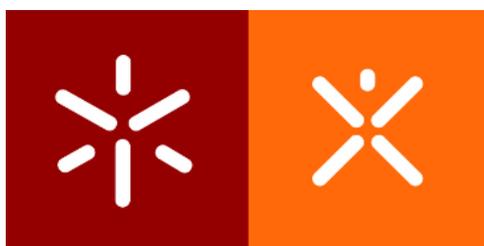


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Sporty Belly – Intervention program with pregnant women

Abstract

For a healthy pregnancy, it is recommended to create healthy lifestyles. Daily physical activity and a proper and balanced diet are considered essential for the well-being of both pregnant and baby. In this sense, appears the project " Sporty Belly ", which consists in development a program of support and encouragement for pregnant women from Guimarães, through exercise classes and moments of sharing information about most appropriate living habits in this phase.

In this paper we aim to present the exercise program that is being carried out and characterize the initial profile of the participants involved in this project , namely the level of physical activity when started the program , BMI before pregnancy and smoking habits.

The exercise program is held three times a week, one of which on the aquatic environment and can be attended at any gestational age provided there are no medical or obstetrical contraindications to physical exercise. The classes consist of performing aerobic exercise, strength, balance and stretching.

Participated in this intervention program 102 pregnant women aged between 24 and 42 years old, with a mean (standard deviation) 31.91 (3.65).). Gestational age at beginning of the program is 17.22 (5.45) weeks. Before pregnancy n (%) 19 (19.4) were overweight and obese, 71 (69.6) practiced regular exercise before pregnancy and only 6 (5.9) have smoking habits. As regards the level of physical activity, the mean (SD) of the weekly energy expenditure was 159.76 Met- h.wk⁻¹ (89.27), and most is spent in sedentary activities or light intensity (71, 9%).

Keywords: Pregnancy, Physical Activity, BMI

Introduction and objectives

Pregnancy is a biological phenomenon characterized by severe changes in internal structures, self perceptions and relationships with others. Despite the opinion of experts not always been favorable towards the achievement of exercise during pregnancy, currently there are studies that contradict this idea [1,2,3].

For a healthy pregnancy, ACOG [4] recognizes the benefits of physical activity and recommends that all pregnant women are encouraged to be active at least 30 minutes on most of the days, if there are no medical or obstetrical contraindications. They must keep up the physical activities performed prior to conception, and sedentary women should start with moderate intensity exercise, a minimum of 15 minutes 3 to 4 times a week, then increasing to 30 minutes 5 times a week [5].

It is known that a physical activity program should be thought according to specific characteristics of the population, guided by a multidisciplinary team of health professionals, in line with international guidelines [6]: 2 to 3 times a week (150 min / week), of moderate and diverse intensity.

According to the guidelines of the ACOG [4], it is recommended the practice of aerobic exercise and/or endurance. Strength exercises, coordination and flexibility should be included in the plan, favoring the possibility of water activities, knowing that the aquatic environment is motivating, reduces the impact of movements, relieves weight and is relaxing [7].

Should be avoided the following situations [4,6]: exercise training in hot and humid places, use the Valsalva maneuver, activities with high risk of falling or abdominal trauma, activities that require movement jumping or quick changes of direction, exercise in the supine position, resistance training with lifting very heavy weights and repetitive intense isometric exercises.

It is recommended a physical activity of moderate intensity, until reaching 70% of maximum heart rate. Since it can be difficult to monitor the heart rate of all pregnant women, to assess the intensity of exercise is suggested to use the "talk test," which assumes that for moderate levels of physical activity, pregnant women are able to have a normal conversation while exercising.

Also according to these recommendations, pregnant women should be encouraged to start physical activity in the 1st trimester. The longer practice exercise, the greater are benefits on maternal and neonatal outcomes. However, the participant

should immediately stop the exercise in the following situations: vaginal bleeding, prior dyspnea on exertion, dizziness, headache, chest pain, muscle weakness, pain in the calf or edema, preterm labor threat, decreased fetal movement or loss of amniotic fluid.

Knowing the benefits of physical exercise in the health of both pregnant and newborn, we need to find the best program to promote physical activity in pregnancy and the postpartum period, as well as evaluate the effectiveness of programs structured in order to implement policies and actions that offer this population a better quality of life.

In this sense, appears the program called "Sporty Belly", a partnership between the University of Minho (Braga, Portugal), Center Hospital and health centres of Guimarães and Guimarães and Vizela City Hall.

This paper, set in a doctoral program funded by "FCT – Science and technology foundation" and supported by "CIEC – research center in child studies", aims to present the exercise program "Sporty Belly" that is being developed and characterize the initial profile of the participants of this project, in particular as regards the level of physical activity, BMI and smoking habits.

Methodology

Participants

This program is being carried out with pregnant of Guimarães municipality, which are informed and invited to participate in the programa by the center hospital or health centres. Can realize the classes all pregnant women who do not have any medical or obstetrical contraindications to practice exercise.

Instruments

For the initial characterization of participants, was collected informations about socio-demographic profile, anthropometric data and level of physical activity.

The socio-demographic profile was assessed through a questionnaire constructed for this purpose and the weight prior to pregnancy was reported by participants. To check the data of physical activity, participants answered the questionnaire "Pregnancy Physical Activity Questionnaire" (PPAQ) validated in Portugal [8].The PPAQ has 32 questions, grouped into different types of activity, including household/caregiving, occupational, sports/exercise, transportation, inactivity. Through this questionnaire we can also assess the exercise intensity: sedentary activity, light-intensity, moderate-intensity, vigorous-intensity. The participants for each activity are invited to select the category

that most closely approximates the amount of time spent on this activity per day or per week [9].

Intervention Program

The participants perform a physical activity program supervised by physical education teachers, who had previously received specific training for this task.

The program can be done from 12 weeks until the end of pregnancy, 3 times a week, one of which developed in the aquatic environment.

Classes last for 45/50 minutes, divided as follows: general warming (7/8 minutes), a fundamental part (30 minutes) and return to calm (10 minutes). The exercises performed are of moderate / vigorous intensity, and includes aerobic work, strength, coordination and flexibility.

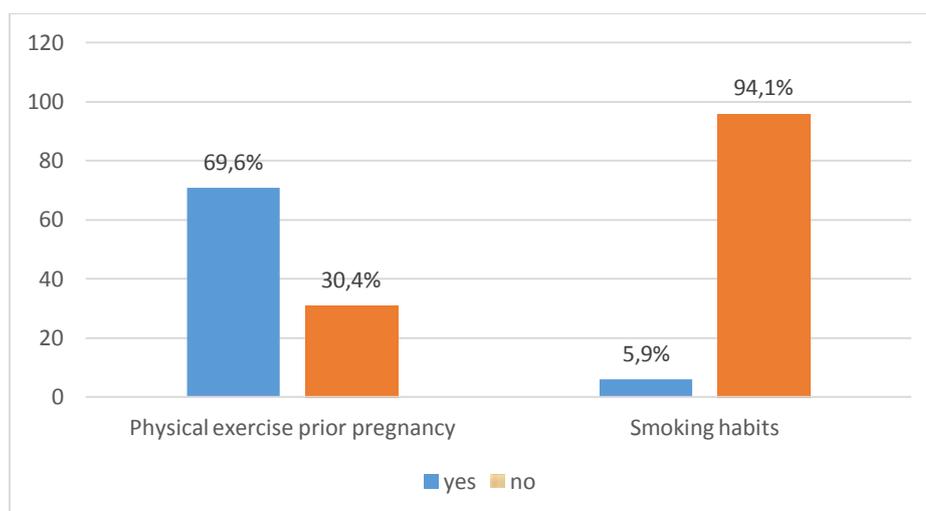
Simultaneously, are performed information sessions, 1 or 2 times a month, which has different themes: nutrition in pregnancy, massage for baby, safety with the baby in the first 24h, breastfeeding, cryopreservation, baby development in the first year and more that have interest for pregnant.

Results

At the end of April 2016, participated in the intervention program, 102 pregnant women aged between 24 and 42 years, with a mean (standard deviation) of 31.91 (3.65). Gestational age in the beginning of the program was 17.22 (5.45) weeks. Before pregnancy n (%) 19 (19.4) were overweight and obese, 71 (69.6) practiced physical exercise before pregnancy and only 6 (5.9) have smoking habits.

Table 1 – BMI prior pregnancy

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Underweight	5	4,9	5,1	5,1
normal	74	72,5	75,5	80,6
Overweight	15	14,7	15,3	95,9
obese	4	3,9	4,1	100,0
Total	98	96,1	100,0	
Missing System	4	3,9		
Total	102	100,0		



Graphic 1 – Physical exercise prior pregnancy and smoking habits

As regards the level of physical activity, the mean (SD) of the weekly energy expenditure is 159.76 Met- h.wk⁻¹ (89.27), and most is spent in sedentary or light-intensity activities (71, 9%).

Table 2 – weekly energy expenditure

Intensity:	%	Type	%
Sedentary	32,6	Household/caregiving	34,7
Light	39,3	Occupational	44,7
Moderate	27,4	Sports/exercise	3,6
Vigorous	0,7	Transportation	7,3
		Inactivity	9,7

As shown in Table 2, the biggest weekly energy expenditure is at light-intensity activities (39.3 %) and only 28% is spent in moderate and vigorous activities. As for the type of activity, 44.7 % of energy expenditure is in occupational/caregiving. The activity where there is less spending is the sports/exercise, with 3.6% of the total.

Conclusions

Identify ways to keep physical activity during pregnancy continues being a challenge. As seen in this paper, before the pregnancy, 19.4% of participants were overweight and obesity and 69.6 % practiced regular exercise. The biggest weekly energy expenditure is spent in sedentary or light-intensity activities. So, it is necessary

to find the best program to promote physical activity in pregnancy and post - partum period, as well as assess the impact in the health of both pregnant and newborn. The implementation of intervention programs and their evaluation can contribute to implement policies and actions that provide to this population a better quality of life.

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