ATTITUDE TOWARDS PHYSICAL ACTIVITIES IN A GROUP OF PREGNANT WOMEN

https://doi.org/10.5817/CZ.MUNI.P210-9631-2020-38

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ABSTRACT

Moderate and systematic physical activity during pregnancy is not only safe, but it also brings numerous health benefits, such as metabolic acceleration, lower risk of hypertension in pregnancy, prevention of swelling due to water retention within the body, reduction of premature birth, it also shortens and facilitates the childbirth and lower the risk of postpartum complications improves well-being and accelerates return to original physical condition after the child is born. Rather than regular exercises, however, it is a physical inactivity that brings risks. Some women are aware of this and they keep various physical activities during the pregnancy, on the other hand there exists a group of pregnant women who are afraid of doing exercises at all. This study attempts to define what are suitable activities during pregnancy, and find the reasons for pregnant women to perform and also not to perform physical activities. Survey was carried out in a group of pregnant women, the information concerning their attitude towards physical activities have been obtained by a questionnaire method. Questionnaires were anonymous and were submitted by 107 pregnant women. Results revealed that 63.6% of women spent their leisure time during pregnancy in an active way. Most of them reported that they are sufficiently informed; they mainly used the Internet to seek information. Pregnant women typically perform their pastime physical activity at home, alone (usually with DVD) or outdoor – walking alone or with a dog, which is even more beneficial, since the dog gives a brisk pace of the walk. Concerning the frequency of physical activity, most women stated the frequency of 2 – 3 times a week. Women, who do not perform any physical activity at all, usually refer to lack of time and energy, frequent nausea, back aches and other health problems. Some women feel like doing an activity, but to perform it, they would need a stimulus and/or more information on suitable activities for pregnant women. Some women also pointed to lack of information concerning proper physical activities during pregnancy, hence they are afraid that choosing the wrong type or intensity of exercise they might injure either themselves or their unborn child.

Keywords: pregnancy; information; physical activity; leisure time; healthy lifestyle

Introduction

Previous studies revealed that numerous pregnant women are afraid to perform physical exercises due to possible damages to their unborn child or even the risk of miscarriage. Contrary, it has been proved that physical inactivity is much riskier than regular exercises (Berk, 2010). These studies showed that systematic and moderate physical activity during pregnancy is not only safe, but it also brings numerous health benefits, such as metabolic acceleration, lower strain to cardiovascular system and risk of hypertension (Muktabhant et al., 2015; Magro-Malosso et al, 2017a), prevention of swelling due to water retention within the body, lower risk of varicose veins

and deep vein thrombosis (Davies et al., 2003), it also reduces the risk of premature birth (Muktabhant et al., 2015; Magro-Malosso et al., 2017b; Vamos et al., 2015; Di Mascio et al., 2016), shortens and facilitates the childbirth, reduces pain perception (Haakstad et Bø, 2011; Vallim et al., 2011; Montoya Arizabaleta et al., 2010) and lowers the risk of postpartum complications (Vallim et al., 2011; Montoya Arizabaleta et al., 2010). It further improves well-being and self-esteem of a pregnant woman, lowers her tiredness, stress, anxiety and depression (Pivarnik et al., 2006) and accelerates her return to original physical condition after the child is born (Berk, 2010; Mazel et Murkoff, 2010).

Physical activity and its intensity prior to pregnancy plays a crucial role later when the woman gets pregnant. Any sport activity is of a significant influence to upcoming pregnancy. Women, who are used to perform a physical activity, are prone to remain active when they get pregnant. However, pregnant women who did not do any sport at all and were physically inactive so far, should start exercise only after consultation with a physician, the exercise should be of a very low intensity and ideally under the supervision of a professional trainer experienced in pregnant women training.

Methods

In 2014–2017 Masaryk University carried out a survey concerning eating habits and attitude to physical activities in a group of pregnant women who came to a medical examination within a project "TĚHOTENSKÁ OBUV" (Footwear for mothers-to-be). Information were obtained by the authors' questionnaire created by Kinesiology Department of the Faculty of Sport Studies, Masaryk University. The questionnaire was not standardized. The questionnaire contained 23 closed questions, some of them with the optional space for respondent's own answer. Questions were divided into 4 sections, focusing on general information (age, education, place of living, etc.), eating habits during pregnancy, physical activities during pregnancy and informational sources concerning nutrition and physical activities for pregnant women. The sections were chosen because of those sections reflected lifestyle in pregnancy well. In this paper will be elaborated just some answers to questions on physical activity during the pregnancy. The nutritional habits will be issued in another independent paper.

The respondents' group consists 107 women who filled in The Questionnaire of Nutrition and Physical Activities (38 in a paper form and 69 via e-mail), aged 22–44, average age was 31.0 (± 4.2) years. First, women gave general information of personal character: age, number of pregnancy, trimester, education, and whether they live in a town or village. Based on how the question in the questionnaires were answered was found which women practices physical activity during the gravidity and which women do not. According to this finding were all respondents split into two groups to make the comparison of their answers. The group of women who replied they practice free time physical activity during the gravidity was titled as „physically active". The second group of women who responded they do not practice free time physical activity within pregnancy (for health or other reasons) was titled as „physically inactive". In the paper below it will be mentioned as „active" and „inactive" only.

The computer programs used for evaluation of the questionnaires were Microsoft Excel for creation of the databases and StatK25 (Buňka et al., 2005) for statistical evaluation itself. The chí-quadrate test was chosen for statistical calculations and Kruskall-Wallis test for file level comparison.

Results And Discussion

Table 1 gives general parameters concerning age, education, place of respondents' living, the trimester of their ongoing pregnancy and the number of their pregnancies.

Table 1 *General parameters of the respondents' group*

Parameter	Pregnant women		Total
	active	non-active	
Number of respondents	68 (63.6%)	39 (36.4%)	107
Age			
< 30	20	18	38
30–39	46	19	65
40+	2	2	4
Average age	31,424 (± 3,968)	30,282 (± 4,362)	31,009 (± 4,152)
Education			
Apprenticed	3	2	5
Secondary school	7	9	16
Higher professional education	1	0	1
University	57	28	85
Place of living			
Town	55	27	82
Village	13	12	25
Pregnancy			
1st trimester	9	6	15
2nd trimester	33	15	48
3rd trimester	26	18	54
Number of children			
0 (1st pregnancy)	41	23	64
1 (2nd pregnancy)	24	12	36
2 (3rd pregnancy)	3	3	6
3 (4th pregnancy)	0	0	0
4 (5th pregnancy)	0	1	1

Source: Study of author

As obvious from the table, most women from both groups are between 30 and 39 years old, average age of the whole group is 31.009 (± 4.152). Youngest respondents were two 22-years old women, and two oldest respondents were of age 44. Concerning the education, university educated women are the majority, and most women live in a town. These factors probably pre-determine the group; women with a university degree are more willing to participate in a scientific research and also this kind of project is easily available for those living in a town.

The research was attended by pregnant women only; mostly it was their first pregnancy (64 women). Fewer women were pregnant for the second (36 women) or the third time (6 women). None pregnancy was the fourth, but one woman was pregnant for the fifth time.

Two groups of women divided on the base of physical leisure activities did not prove statistically significant differences at 5% probability level in any parameters given in the table above.

As mentioned before, women were divided into two groups – active and non-active, according to their answer whether they perform any physical activity during pregnancy. Most respondents (68 out of 107, which is 63.6%) perform a physical activity. This is rather positive finding in comparison with an American study which authors found merely 23% of physically active pregnant women (Evenson et Wen, 2010).

Women who stated that they do not perform any exercise were asked to provide the reason in following answer. The most frequent answers were as follows: lack of time and energy, sickness, back ache, medical reasons - not recommended by the doctor, tiredness and pain, swollen legs, too much work with the older child. Every woman found and stated a reason why not to perform a sport activity. Contrary, the study by Wojtyła with colleagues (2012) revealed that 11% of pregnant women reject their physical activities without any medical reason.

Indicator: the age of respondents

Fe = 2,0295

$F_{0,95}$ (1;105) = 3,9316

Q = 2,3335

$\chi^2_{0,95}$ (1) = 3,8415

Indicator: number of children (how-manyeth pregnancy)

Fe = 0,8429

$F_{0,95}$ (1;105) = 3,9316

Q = 0,1006

$\chi^2_{0,95}$ (1) = 3,8415

Indicator: the location of residence

Fe = 2,0259

$F_{0,95}$ (1;105) = 3,9316

Q = 1,0001

$\chi^2_{0,95}$ (1) = 3,8415

Indicator: gestures (trimester of gravidity)

Fe = 0,1831

$F_{0,95}$ (1;105) = 3,9316

Q = 0,2263

$\chi^2_{0,95}$ (1) = 3,8415

Indicator: reached education level

Fe = 0,0806

$F_{0,95}$ (1;105) = 3,9316

Q = 0,2263

$\chi^2_{0,95}$ (1) = 3,8415

Further questions were addressed only to women who gave positive answer, i.e. those who perform a physical activity during pregnancy. This group consists of 68 respondents.Following question aimed to the place where women perform their activity. Respondents could choose from given options or they could write their own answer. Answers are processed in graph 1.

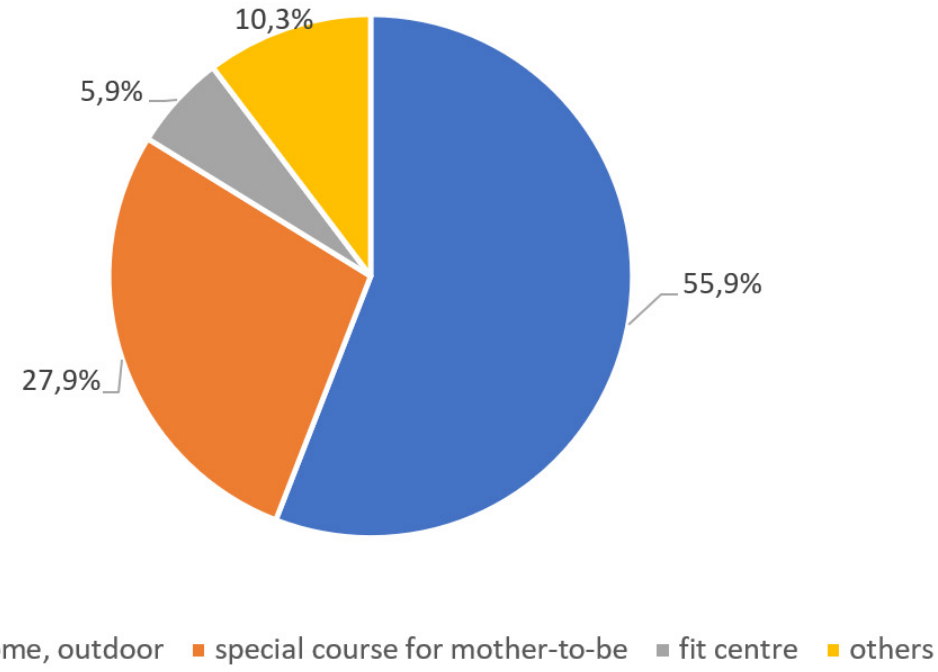

Figure 1 *Place where active pregnant women perform their physical activity*

Source: Study of author

We can see that most respondents (55.9%) perform their activity alone; they either stated that they do exercise at home (typically with DVD), or they go outdoor for walks, very often with dogs. In option Others, they provided answers as follows: 5km walk – daily, swimming in a pool, long walks, yoga, SM system (stabilization and mobilisation of the spine), exercises in a group but not specifically for pregnant. All of those physical activities might be recommended to pregnant women. There was no respondent who would state she practices in the time of pregnancy inappropriate physical activity (such as skiing, horse driving, racket sports, skating) or even restricted physical activity (such as diving, water skiing, parachute descent, ball games, exercising with tools, power sports, squash, canoeing, fight sports, climbing).

Next, respondents were asked about the frequency of exercises in physically active pregnant women – answers are shown in graph 2.

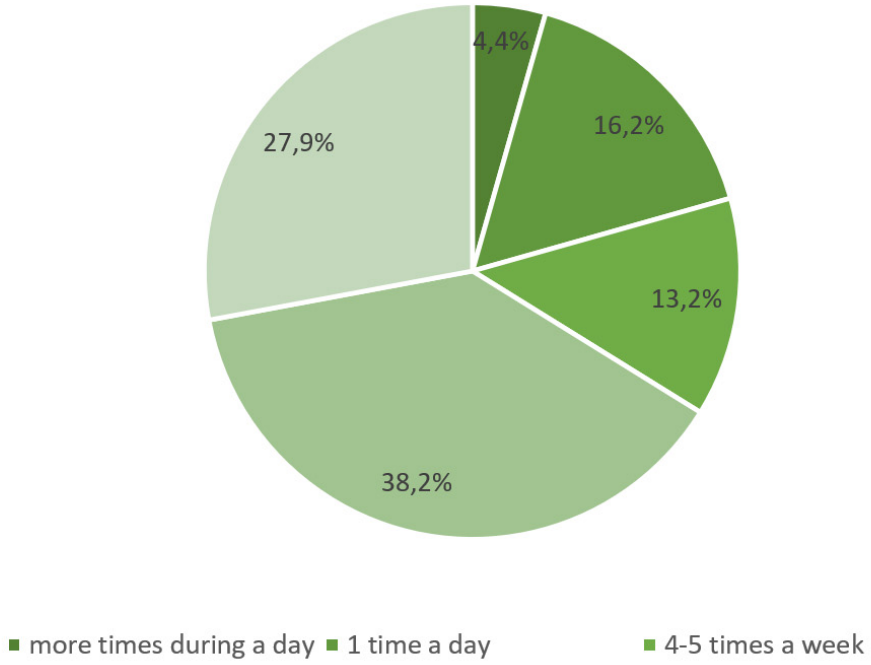

Figure 2 *Frequency of exercises in physically active pregnant women*

Source: Study of author

The majority of respondents (38.2%) stated, that they do some physical activity 2–3 times per a week – that is not enough. The best choice is to do some physical activity on daily base as responded 16.2% respondents. Some instructions for pregnant women recommend minimally 30 mins of a physical activity daily, with gradually increasing intensity from medium to higher, unless a doctor said otherwise (ACOG, 2002). Medium intensity is understood as a brisk walk. Results given in the graph show that most respondents (38.2%) perform their physical activity 2–3 times per week. Merely 16.2% of respondents perform the activity on a daily basis. Accordingly, foreign studies revealed great differences between recommendations and real performances (Evenson et al., 2002; Petersen et al., 2005). Pregnant women often have less physical activity than recommended (Haakstad et al., 2007) and in the course of pregnancy they tend to decrease it even more (Rousham et al., 2006; Weir et al., 2010). Other literary sources recommend at least 150 mins of medium intensity weekly, or to keep the activity which had been performed before pregnancy and slowly adjust its intensity as recommended (PAGAC, 2008; Wolfe et Davies, 2003; Sanda et al., 2017).

Next question aimed at the fact, whether pregnant women consider their physical activity beneficial for the pregnancy. Answers are given in graph 3.

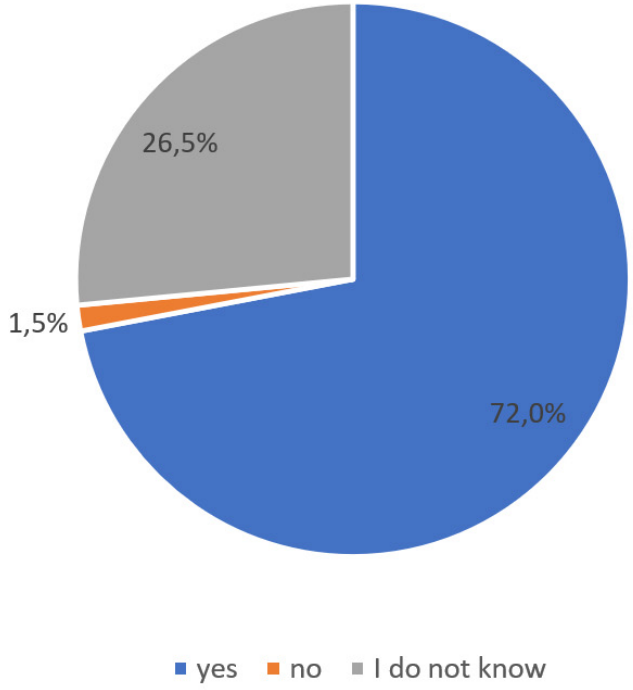

Figure 3 *Answer to the question whether pregnant women consider their physical activity beneficial for the pregnancy*

Source: Study of author

Graph shows that most pregnant women (72.0%) believe that their physical activity helps them to get over pregnancy much better. Merely 1 woman (1.5% of respondents) does not share this point of view. Numerous studies from abroad confirm that physical activity is of a significant influence to relevant growth of body weight, physical condition and facing the labour pain (Ferrari et al., 2013; Merkx et al., 2017). Evenson and Bradley (2010) found out that confidence in benefits of physical activity during pregnancy differs according to race, ethnicity, education and also the fact whether the pregnant woman performs the regular activity or not.

Conclusion

The present survey revealed that majority of pregnant women performs a physical leisure activity (answer given by 63.6% or respondents). They mostly choose exercising at home (usually with DVD) or walking, which is in accordance with recommendations. Most women (38.2%) do the activity 2–3 times per week, merely 16.2% of respondents are physically active every day. Finding that almost all women (with 1 exception) believe in benefits of physical activity for pregnancy, is very encouraging one.

References

ACOG. (2002). American College of Obstetricians and Gynecologists. Exercise during pregnancy and the postpartum period. Committee opinion No. 267. *Int J Gynecol Obstet*, 77, 79–81.

Berk, B. (2010). *Aktywna mama*. Warszawa: Wydawnictwo Buk Rower.

Buňka, F., Kříž, O., & Hrabě, J. (2005). *Základní manuál ke statistickému softwaru STATVYD verze 2.0 beta*. Zlín: Univerzita Tomáše Bati ve Zlíně.

Davies, G., Wolfe, L., Mottola, M., & MacKinnon, C. (2003). Join SOGC/CSEP clinical practice guideline: exercise in pregnancy and the postpartum period. *Can J Appl Physiol*, 28, 330–341.

Di Mascio, D., Magro-Malosso, E. R., Saccone, G., Marhefka, G. D., & Berghella, V. (2016). Exercise during pregnancy in normal-weight women and risk of preterm birth: a systematic review and meta-analysis of randomized controlled trials. *Am J Obstet Gynecol*, 215, 5, 561–571.

Evenson, K. R., & Bradley, C. B. (2010). Beliefs about exercise and physical activity among pregnant women. *Patient Educ Couns*, 79, 124–129.

Evenson, K. R., & Wen, f. (2010). National trends in self-reported physical activity and sedentary behaviors among pregnant women: NHANES 1999-2006. *Prev Med*, 50, 3, 123–128.

Evenson, K. R., Siega-Riz, A. M., Savitz, D. A., Leiferman, J. A., & Thorp, J. M. jr. (2002). Vigorous leisure activity and pregnancy outcome. *Epidemiology,* 13, 6, 653–659.

Ferrari, R. M., Siega-Riz, a. M., Evenson, K. R., Moos, M. K., & Carrier, K. S. (2013). A qualitative study of women´s perceptions of provider advice about diet and physical activity during pregnancy. *Patient Educ Couns*, 91, 3, 372–377.

Haakstad, L. A., & Bø, K. (2011). Effect of regular exercise on prevention of excessive weight gain in pregnancy: a randomized controlled trial*. Eur J Contracept Reprod Healthcare*, 16, 116–125.

Haakstad, L. A., Voldner, N., Henriksen, T., & Bo, K. (2007). Physical activity level and weight gain in a cohort of pregnant Norwegian women. *Acta Obstet Gynecol Scand*, 86, 559–564.

Magro-Malosso, E. R., Saccone, G., Ci Mascio, D., Di Tommaso, M., & Berghella, V. (2017b). Exercise during pregnancy and risk of preterm birth in overweight and obese women: a systematic review and meta-analysis of randomized controlled trials. *Acta Obstet Gynecol Scand*, 96, 3, 263–273.

Magro-Malosso, E. R., Saccone, G., Di Tommaso, M., Roman, A., & Berghella, V. (2017a). Exercise during pregnancy and risk of gestational hypertensive disorders: a systematic review and meta-analysis. *Acta Obstet Gynecol Scand*, 96, 921–931.

Mazel, S., & Murkoff, H. (2010). *W oczekiwaniu na dziecko*. Poznań: REBIS.

Merkx, A., Ausems, M., Budé, L., de Vries, R., & Nieuwenhuijze, M. J. (2017). Factors affecting perceived change in physical activity in pregnancy

Montoya Arizabaleta, A. V., Orozco Buitrago L., Aguilar de Plata, A. C., Mosquera Escudero, M., & Ramirez-Velez, R. (2010). Aerobic exercise during pregnancy improves health-related quality of life: a randomized trial. *J Physiother*, 56, 4, 253–258.

Muktabhant, B., Lawrie, T. A., Lumbiganon, P., & Laopaiboon, M. (2015). Diet or exercise, or both, for preventing excessive weight gain in pregnancy. *Cochrane Database Syst Rev*, 15, CD007145.

PAGAC. (2008). U. S. Department of Health and Human Services, P. A. G. A. C., *Physical Activity Guidelines Advisory Committee Report*.

Petersen, A. M., Leet, T. L., & Brownson, R. C. (2005). Correlates of physical activity among pregnant women in the United States. *Med Sci Sports Exerc*, 37, 10, 748–753.

Pivarnik, J. M., Chambliss, H. O., Clapp, J. F., Dugan, S. A., Hatch, M. C., Lovelady, C. A., …, & Williams, M. A. (2006). Impact of physical activity during pregnancy and postpartum on chronic disease risk. *Med Sci Sports Exerc*, 38, 989–1006.

Rousham, E. K., Clarke, P. E., & Gross, H. (2006). Significant changes in physical activity among pregnant women in the UK as assessed by accelerometry and self-reported activity. *Eur J Clin Nutr*, 60, 3, 393–400.

Sanda, B, Vistad, I., Haakstad, L. A. H., Berntsen, S., Sagedal, L. R., Lohne-Seiler, H., & Torstveit, M. K. (2017). Reliability and concurrent validity of the international physical activity questionnaire short form among pregnant women. *BMC Sports Sci Med Rehabil*, 9. Retrieved from https://bmc-sportsscimedrehabil.biomedcentral.com/articles/10.1186/s13102-017-0070-4-2018/04/14.

Vallim, A. L., Osis, M. J., Cecatti, J. G., Baciuk, É. P., Silverira, C., & Cavalcante, S. R. (2011). Water exercises and quality of life during pregnancy. *Reprod Health*, 8, 14.

Vamos, C. A., Flory, S., Sun, H., DeBate, R., Bleck, J., Thompson, E., & Merell, L. (2015). Do physical activity patterns across the lifecourse impact birth outcomes? *Matern Child Health J*, 19, 8, 1775–1782.

Weir, Z, Bush, J., Robson, S. C., McParlin, C., Rankin, J., …& Bell, R. (2010). Physical activity in pregnancy: A qualitative study of the beliefs of overweight and obese pregnant women. *BMC Pregnancy and Childbirth*, 10, 18. Retrieved from https://www.researchgate.net/publication/43350893_Physical_activity_in_pregnancy_A_qualitative_study_of_the_beliefs_of_overweight_and_obese_pregnant_women- 2018/04/13.

Wojtyła, A., Kapka-Skryzpczak, L., Paprzycki, P., Skrzypczak, M., & Biliński, P. (2012). Epidemiological studies in Poland on the effect of physical activity of pregnant women on the health of offspring and future generations – adaptation of the hypothesis development origin of health and diseases. *Ann Agric Environ Med*, 19, 315–326.

Wolfe, L. A., & Davies, G. A. (2003). Canadian guidelines for exercise in pregnancy. *Clin Obstet Gynecol*, 46, 2, 488–495.