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PHYSICAL ACTIVITY IN PREGNANT WOMEN AS PREVENTION OF GESTATIONAL HYPERTENSIVE SYNDROME

ATIVIDADE FÍSICA EM GESTANTES COMO PREVENÇÃO DA SÍNDROME HIPERTENSIVA GESTACIONAL

LA ACTIVIDAD FÍSICA EN LAS MUJERES EMBARAZADAS COMO PREVENCIÓN DEL SÍNDROME DE HIPERTENSIÓN GESTACIONAL

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ABSTRACT

Objective: to identify if the practice of physical exercise during pregnancy has a protective effect on the occurrence of gestational hypertensive syndrome. **Method:** an integrative review covering six steps to systematize the research. The data collection was performed in electronic databases: LILACS, CINAHL, Scopus and MEDLINE. There was not given a publication time, because this is a drawing of a specific study. After the application of eligibility criteria, 17 articles replied to the question. **Results:** the positive association between physical activities during pregnancy with the reduction of gestational hypertensive syndrome was observed in 64.7% of the studies, while 29.4% did not observe this effect. **Conclusion:** the benefits of physical activity during pregnancy as a protective factor against the development of gestational hypertensive syndrome were observed in the majority of studies. The search for preventive factors for its occurrence provides subsidies for which the practices carried out in pregnancy resulting in a healthy outcome. **Descriptors:** Hypertension, Pregnancy-Induced; Pre-Eclampsia; Exercise; Pregnancy, High-Risk; Protective Factors; Review.

RESUMO

Objetivo: identificar se a prática de exercícios físicos durante a gestação tem efeito protetor sobre a ocorrência da síndrome hipertensiva gestacional. *Método*: revisão integrativa percorrendo seis etapas para sistematizar a pesquisa. A coleta de dados foi realizada nas bases de dados eletrônicas: Lilacs, Canal, Scopus e Medline. Não foi determinado um tempo de publicação, por se tratar de um desenho de estudo específico. Após a aplicação dos critérios de elegibilidade, 17 artigos responderam à questão norteadora. *Resultados:* A associação positiva entre atividade física na gestação com a redução de síndrome hipertensiva gestacional foi verificada em 64,7% dos estudos, enquanto 29,4% não observaram esse efeito. *Conclusão*: o benefício da atividade física na gestação como fator protetor ao desenvolvimento da síndrome hipertensiva gestacional foi observado na maioria dos estudos. A busca por fatores preventivos à sua ocorrência fornece subsídios para que as práticas realizadas na gestação resultem em um desfecho saudável. *Descritores:* Hipertensão Induzida pela Gravidez; Pré-Eclâmpsia; Exercício; Gravidez de Alto Risco; Fatores de Proteção; Revisão.

RESUMEN

Objetivo: determinar si la práctica de ejercicio físico durante el embarazo tiene un efecto protector sobre la aparición del síndrome de hipertensión gestacional. *Método*: es una revisión integradora que abarca seis pasos para sistematizar la investigación. La recolección de datos se realizó en bases de datos electrónicas: LILACS, CINAHL, Scopus y MEDLINE. No se ha dado una fecha de publicación, porque este es un dibujo de un estudio específico. Después de la aplicación de los criterios de elegibilidad, 17 artículos respondieron a la pregunta. *Resultados*: la asociación positiva entre la actividad física durante el embarazo con la reducción del síndrome de hipertensión gestacional se observó en el 64,7% de los estudios, mientras que un 29,4% no observaron este efecto. *Conclusión*: los beneficios de la actividad física durante el embarazo como un factor protector contra el desarrollo del síndrome de hipertensión gestacional fue observada en la mayoría de los estudios. La búsqueda de los factores preventivos para su ocurrencia proporciona subvenciones para que las prácticas llevadas a cabo en los embarazos resultantes de un resultado saludable. *Descriptores*: Hipertensión Inducida en el Embarazo; Preclamsia; Ejercicio; Embarazo de Alto Riesgo; Factores Protectores; Revisión.

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INTRODUCTION

Pregnancy is a constituent of the life cycle of the female population, characterized by physiological, physical, emotional, social and cultural changes.¹

In spite of presenting itself as a physiological process, pregnancy may evolve in a way which is unfavorable, due to specific characteristics or maternal diseases. This portion of the population is the group called high risk, covering among other occurrences, the development of gestational hypertension, which responds to approximately 30% of deaths due to complications of pregnancy or childbirth.²⁻³

Hypertension is defined as blood pressure equal to or greater than 140/90mmHg, based on an average of at least two measurements, and it can take different forms in the course of pregnancy, characterizing the Gestational Hypertensive Syndrome (HSP) presents itself as a primal cause of maternal mortality by indirect obstetric reasons.^{4, 5}

HSP is classified as a chronic hypertension (observed before pregnancy or up to 20th week pre-eclampsia/eclampsia pregnancy), (presence of hypertension and proteinuria after the 20th week of gestation with disappearance until 12 weeks postpartum/presence of generalized tonicclonic seizures or coma in hypertensive women with any instrument), preeclampsia superimposed on chronic hypertension (onset of pre-eclampsia in women with chronic kidney hypertension disease) gestational hypertension (without proteinuria).4

Some studies have identified that the occurrence of HSP is most common in primiparous and multiparous women with young people in more advanced age, and among the risk factors that may influence their development, stands the educational level to hinder the accession of preventive behaviors and control of health aggravations, and the low income, by interfering with the access to care.^{6,7}

By the way, as protective factor for the development of HSP the practice of regular physical exercises during pregnancy has been gaining space. Some studies are already working on this angle to elucidate the doubt about the real potential of physical activity in the prevention of HSP.

However, despite all the advances in the field of science, the HSP continues causing damage to the maternal and fetal health, thereby an individualized and effective

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assistance to these pregnant women is of extreme relevance to the diagnosis, as well as the treatment, be offered early, ensuring a pregnancy with a favorable outcome for both mother and infant.⁸

Among the several behaviors that influence a pregnancy free of risks, the adherence to prenatal gained prominence by providing physical and mental well-being of the mother, through the sharing of information about the pregnancy and fetal development, as well as habits and behaviors that can assist directly the early recognition of factors that may result in complications in the period, as is the case of the HSP.^{5, 8}

In terms of the prenatal care, the World Health Organization (WHO) published at the end of the year 2016 new recommendations, aiming at the reduction of the risk of stillbirths and complications in pregnancy, increasing the minimum number of visits of four to eight.⁹

Taking into account the role of Nursing in prenatal care, a qualified and effective assistance can reduce the rates of maternal and infant morbidity and mortality, as well as decrease the aggravation during the gestational period, by means of early detection of abnormal signs and symptoms and pass guidelines for prevention of diseases that put this binomial in situations of risk, as is the case of HSP.

The search for the relationship between the practice of physical activity in pregnant women and the prevention of HSP constitutes itself as a socially relevant work, and may provide subsidies for the reorganization of the targeted assistance to this group of women.

OBJECTIVE

• To identify whether the practice of physical exercise during pregnancy has a protective effect on the occurrence of Gestational Hypertensive Syndrome.

METHOD

It is an integrative review of the literature. This method comprises six steps: definition of the question, the establishment of criteria for inclusion and exclusion from the studies, definition of the information to be extracted from the selected studies, evaluation of the studies, and interpretation of results and synthesis of knowledge.¹⁰

The guiding question of this integrative review was: "The practice of physical exercises during pregnancy minimizes the occurrence of HSP?"

Data collection was performed by means of the consultation in four electronic databases: Latin American and Caribbean Literature in Health Sciences (LILACS), Cumulative Index to Nursing and Allied Health Literature (CINAHL), Scopus and MEDLINE, in the period from September 2017.

For the search of publications, we used the (DeCS): in Health Sciences Descriptors "Hypertension Induced by Pregnancy", "Preand "Exercise", with Eclampsia" respective synonyms, and also the Medical Subject Headings (MeSH). The use of Boolean operators "[AND]" and "[OR]", allowed to conduct an advanced search with descriptors at the same time. Thus the search was described as follows in the LILACS database: "pre-eclampsia OR pregnancyinduced hypertension OR gestational hypertension AND exercise OR physical activity", and in the other bases: "Preeclampsia OR Hypertension, Pregnancy-Induced OR Hypertension, Gestational AND exercise or physical activity".

There were included original research articles published in English, Portuguese or Spanish and those were available in full online and free. Publications excluded: repeated, letters, editorials, reviews, summaries of annals, theses, dissertations, and course completion work, letters to the editor, reflective studies, experience reports and review articles.

For the organization, extraction and analysis of data, it was made a tool for the exclusive use of this survey, which sought to fulfillment of the following information: author and year, title, objective, approach to the study, level of evidence, studied subjects and results and conclusions.

It was not listed publication time limited, because this is a drawing of a specific study, thus increasing the scope of studies, as well as the strength of scientific evidence.

The assessment of the levels of evidence followed the classification proposed in seven

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levels: level 1, evidence from systematic review or meta-analysis of all relevant randomized controlled trials or from clinical guidelines based on systematic reviews of randomized controlled trials: level evidence derived from least at one randomized controlled clinical trial well delineated; level 3, evidence obtained from well-designed clinical trials randomization; level 4, evidence from cohort studies and case-control well delineated; level evidence from systematic review of qualitative and descriptive studies; level 6, evidence derived from a single descriptive or qualitative study; level 7, evidence from opinion of authorities and/or report of committees of experts.¹¹

The methodological quality was verified through the instrument of the Critical Appraisal Skills Programme (CASP), being classified according to the score obtained in application of this tool, being: (6 to 10 points) the studies with good methodological quality and reduced bias and B (at least 5 points), studies with methodological quality satisfactory, but with potential for increased bias. 12

The initial survey, carried out by means of the intersection of descriptors in the selected databases, resulted in 420 publications. After the exclusion for duplicity, 374 passed to the next stage of selection. Reading titles excluded 311 studies, leaving 63 to read abstracts. After performing this step, 27 studies were excluded because they did not meet the objective of this review, leaving 36 articles to read in its entirety. After this analysis, 17 articles replied to the guiding question and composed the final corpus of the study (Figure 1).

During the analysis of selection of studies, two independent reviewers read critically the titles, abstracts and articles in their entirety, in case of doubt or disagreement, a third reviewer was asked to give an opinion about the inclusion or not of the study.

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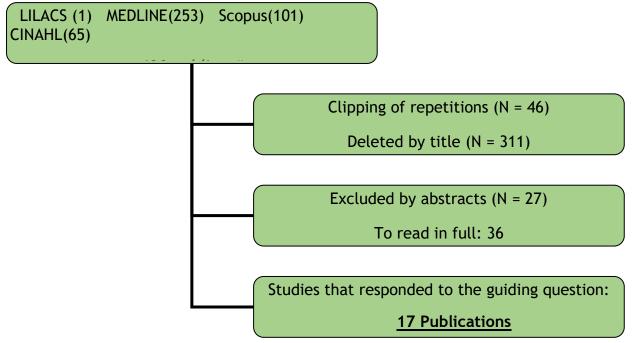


Figure 1. Flowchart of identification, selection and inclusion of studies for the development of research. Chapecó (SC), Brazil, 2017.

RESULTS

Categorization of data, third step proposed by Mendes, Silveira and Galvão (2008), it includes the extraction, organization and summarization of information, in addition to the formation of the database, which is represented in this review, by means of Figures 2 and 3.

In what refers to the year of publication of the studies, 5.8% (1) were published in the year 1989, 64.7% (11) during the years 2000 to 2010, and 29.4% (5) from 2011 until September 2017, when making a search of this review. From the total number of

publications, 23.5% (4) were published in the last five years.

The language of publication was predominantly English.

In accordance with the classification system of evidence, 5.8% (1) presented evidence level 3, 70.5% (12) articles presented evidence level 4, 11.8% (2) level 6 and 11.8% (2) level 2.

In accordance with the methodological quality, all studies (100%) were classified in level A.

Author and Year	Title	Subjects Studied
Marcoux S, Brisson J, Fabia J (1989) ¹³	The effect of leisure time physical activity on the risk of pre-eclampsia and gestational hypertension	172 pregnant women with pre-eclampsia, 254 with gestational diabetes and 505 controls
Sorensen TK, Williams MA, Lee IM, Dashow EE, Thompson ML, Luthy DA (2003) ¹⁴	Recreational Physical Activity During Pregnancy and Risk of Pre- eclampsia	201 pregnant women with preeclampsia and normotensive pregnant women 383
Saftlas AF, Logsden-Sackett N, Wang W, Woolson R, Bracken MB (2004) ¹⁵	Work, Leisure-Time Physical Activity, and Risk of Pre-eclampsia and Gestational Hypertension	44 pregnant women with pre-eclampsia, 172 with gestational hypertension and normotensive 2,422
Rudra CB, Williams MA, Lee IM, Miller RS; Tanya K Sorensen TK (2005) ¹⁶	Perceived exertion during pre- pregnancy physical activity and pre- eclampsia risk	714 recent mothers, and 244 cases of pre-eclampsia and normotensive 470
Magnus P, Trogstad L, Owe KM, Olsen SF, Nystad W (2008) ¹⁷	Recreational Physical Activity and the Risk of Preeclampsia: A Prospective Cohort of Norwegian Women	59.573 pregnant women
Rudra CB, Sorensen TK, Luthy DA, Williams MA (2008) ¹⁸	A Prospective Analysis of Recreational Physical Activity and Preeclampsia Risk	2.241 pregnant women
Yeo S (2009) ¹⁹	Adherence to Walking or Stretching, and Risk of Preeclampsia in Sedentary Pregnant Women	124 sedentary pregnant women
Osterdal ML, Strom M, Klemmensen AK, Knudsen VK, Juhl M, Halldorsson TI, et al (2009) ²⁰	Does leisure time physical activity in early pregnancy protect against pre-eclampsia? Prospective cohort in Danish women	85.139 pregnant women

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Hegaard HK, Ottesen B, Hedegaard M, Petersson K, Henriksen TB, Damm P, et al (2010) ²¹	The association between leisure time physical activity in the year before pregnancy and pre-eclampsia	2.793 women
Falcao S, Bisotto S, Michel C, Lacasse AA, Vaillancourt C; Gutkowska J, et al (2010) ²²	Exercise training can attenuate preeclampsia-like features in an animal model	Transgenic mice
Martin CL, Huber LRB (2010) ²³	Physical Activity and Hypertensive Complications During Pregnancy: Findings from 2004 to 2006 North Carolina Pregnancy Risk Assessment Monitoring System	3.348 pregnant women
Vollebregt KC, Wolf H, Boer K, Van Der Wal MF, Vrijkotte TG, Bonsel GJ (2010) ²⁴	Does physical activity in leisure time early in pregnancy reduce the incidence of preeclampsia or gestational hypertension?	3.679 nulliparous women
Fortner RT, Pekow PS, Whitcomb BW, Sievert LL, Markensn G, Chasan-Taber L (2011) ²⁵	Physical Activity and Hypertensive Disorders of Pregnancy among Hispanic Women	1.043 pregnant women
Chasan-Taber L, Silveira M, Pekow P, Braun B, Manson JE, Solomon CG, et al (2014) ²⁶	Physical activity, sedentary behavior and risk of hypertensive disorders of pregnancy in Hispanic women	1.240 pregnant women
Currie LM, Woolcott CG, Fell DB, Armson BA, Dodds L (2014) ²⁷	The Association Between Physical Activity and Maternal and Neonatal Outcomes: A Prospective Cohort	1.749 pregnant women
Barakat R, Pelaez M, Cordero Y, Perales M, Lopez C, Coteron J, et al (2016) ²⁸	Exercise during pregnancy protects against hypertension and macrosomia: randomized clinical trial	765 pregnant women
Spracklen CN, Ryckman KK, Triche EW, Saftlas AF (2016) ²⁹	Physical Activity During Pregnancy and Subsequent Risk of Preeclampsia and Gestational Hypertension: A Case Control Study	258 pregnant women with pre-eclampsia, 221 with gestational hypertension and normotensive 174

Figure 2. Characteristics of studies selected by integrative review according to the author, year, title, and subject studied. Chapecó (SC), Brazil, 2017.

Among the population studied, 94.2% (16) of the studies were conducted with gestational women and 5.8% (1) in an animal model.

The positive association between physical activities during pregnancy with the reduction of HSP was observed in 64.7% (11) of the studies, while 29.4% (5) did not observe a protective effect of the activity before the development of the same. Three studies still have analyzes from the classification of that activity.

Some studies (8) also observed the effect of physical activity prior to pregnancy, half of

publications (23.5%) concluded that this practice reduces the risk of impairment due to the HSP, and the other half did not verify this association.

One of the studies, in spite of demonstrating that women practitioners of physical activity had a lower incidence of some HSP when compared to the sedentary, presents the proviso that this protection is limited, and only applies to women who were not obese.

The synthesis of the classification of the sample of studies according to the author, year and results is shown in Figure 3.

Author and Year	Results Found
Marcoux S, Brisson J, Fabia J (1989) ¹³	Women who performed regular leisure physical activity during the first half of pregnancy had a reduced risk of preeclampsia and gestational hypertension;
Sorensen TK, Williams MA, Lee IM, Dashow EE, Thompson ML, Luthy DA (2003) ¹⁴	Women who performed any regular physical activity during early pregnancy, showed 35% less risk of preeclampsia compared with inactive women; Women who performed physical activity mild or moderate reduced in 24% the risk of pre-eclampsia compared with inactive women, while the reduction for women who took part in vigorous activity was 54%; The brisk walking when compared with any walk, was associated with a reduction of 30% to 33% in the risk of pre-eclampsia;; Physical activity undertaken during the year before the pregnancy was

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	associated with similar reductions in the risk of pre-eclampsia;
Saftlas AF, Logsden-Sackett N, Wang W, Woolson R, Bracken MB (2004) ¹⁵	Women who performed regular leisure physical activity, regardless of the calorie expenditure, showed reduced risk of preeclampsia;
Rudra CB, Williams MA, Lee IM, Miller RS; Tanya K Sorensen TK (2005) ¹⁶	Significant trend of reducing the risk of preeclampsia with increased effort given off every physical activity; The intensity of physical activity performed during the year before the pregnancy was associated with a lower risk of preeclampsia;
Magnus P, Trogstad L, Owe KM, Olsen SF, Nystad W (2008) ¹⁷	The incidence of preeclampsia among women highly active (3.2%) was lower as compared with sedentary women (4.1%); The preventive effect of physical activity on preeclampsia during pregnancy is limited and can be applied only to non-obese women;
Rudra CB, Sorensen TK, Luthy DA, Williams MA (2008) ¹⁸	The practice of recreational physical activity in the year prior to pregnancy was not significantly associated with reduced risk of preeclampsia; Any recreational activity at the beginning of the pregnancy was strongly associated with reduced risk of preeclampsia;
Yeo S (2009) ¹⁹	For sedentary pregnant women, a stretching exercise may be more effective than hiking in preeclampsia risk mitigation;
Osterdal ML, Strom M, Klemmensen AK, Knudsen VK, Juhl M, Halldorsson TI, et al (2009) ²⁰	It was not observed protective effect of leisure physical activity in preeclampsia; For leisure-time physical activity with more than 270 minutes a week can increase the risk of severe preeclampsia;
Hegaard HK, Ottesen B, Hedegaard M, Petersson K, Henriksen TB, Damm P, et al (2010) ²¹	For leisure-time physical activity in the year preceding the pregnancy does not protect against preeclampsia;
Falcao S, Bisotto S, Michel C, Lacasse AA, Vaillancourt C; Gutkowska J, et al (2010) ²²	The practice of exercises before and during pregnancy can reduce the risk of pre-eclampsia in a rat model;
Martin CL, Huber LRB (2010) ²³	Physical activity during pregnancy was associated with a lower risk of hypertensive complications during pregnancy; When physical activity levels before and during pregnancy were combined, a statistically significant protective effect was observed only for women who indicated that they were physically active in both periods;
Vollebregt KC, Wolf H, Boer K, Van Der Wal MF, Vrijkotte TG, Bonsel GJ (2010) ²⁴	The amount of time or intensity of recreational physical activity was not associated with a difference in the risk of pre-eclampsia or gestational hypertension;
Fortner RT, Pekow PS, Whitcomb BW, Sievert LL, Markensn G, Chasan-Taber L (2011) ²⁵	Activity at the beginning of pregnancy reduces the risk of hypertensive disorders of pregnancy; High levels of routine activity and domestic were associated with a 60% reduction in the risk of hypertensive disorders; High levels of physical activity in early pregnancy have been associated with a 70% reduction in risk of hypertensive disorders; Physical activity prior to pregnancy was not associated with the reduction of hypertensive disorders;
Chasan-Taber L, Silveira M, Pekow P, Braun B, Manson JE, Solomon CG, et al (2014) ²⁶	Previous pregnancy physical activity and at the beginning of the same, not significantly reduces the risk of hypertensive disorders of pregnancy;
Currie LM, Woolcott CG, Fell DB, Armson BA, Dodds L (2014) ²⁷	No significant associations were observed between physical activity, gestational hypertension and preeclampsia;
Barakat R, Pelaez M,Cordero Y, Perales M, Lopez C, Coteron J, et al (2016) ²⁸	Pregnant women who do not have practiced physical activity, were 3 times more likely to develop hypertension; The practice of physical activity can be a preventive tool for hypertensive disorders in pregnancy;

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		Other forms of physical activity, like performance in domestic chores,	
Spracklen	CN,	was not associated with reduced risk of pre-eclampsia;	
Ryckman	KK,	Women whose activity was on average 8.25 h per day were > risk	
Triche EW,	Saftlas	significantly reduced from pre-eclampsia in relation to active < wives 4.2 h	
AF (2016) ²⁹		per day;	
		Increase the level of physical activity during pregnancy can reduce the	
		risk of pre-eclampsia, while the increase in sedentary activity levels can	
		increase the risk of disease;	

Figure 3. Characteristics of studies selected by integrative review according to the author and year and results found. Chapecó (SC), Brazil, 2017.

DISCUSSION

Although most of the results brought by this review indicate the protective effect of physical activity on the reduction of the risk of HSP, it is difficult to say this emphatically. The disagreement between some of the results may have been strongly influenced by the measurement, intensity and periods of unequal exposure to physical activity.

Taking into account that the majority of the studies resulting from our quest point evidence levels considered high, there are strong indications that the results showed significant associations real, not being affected by example, by confounding factors.

The analysis of trials with or without randomization and case-control studies showed protective effect of physical activity on the development of the HSP, while the differences before those results were mentioned by some studies with randomized cohort and cross-sectional delineation. In spite of cohort studies be considered ideal to investigate the incidence and natural history of a disease, this design can result in bias by difficulty in controlling the variation and the exposure factor.³⁰

Our results are not unpublished; another review also presented conflicting results as regards the practice of physical activity in the gestational period in order to reduce the risk of the occurrence of HSP, which demonstrates the ceaseless quest to elucidate such doubt in the scientific community.³¹

With respect to the year of publications, we observed a significant increase in production from the year 2000, possibly leveraged from the creation of the Program of the Prenatal and Birth Humanization (PNHP), which aimed among other things the advancement of quality of prenatal care.³² In addition to reducing the morbidity and mortality from preventable causes during pregnancy, prenatal quest yet, strategies that ensure a favorable outcome with regard to pregnant women affected by HSP, aiming at increasing the discovery of preventive factors, as in this case, the practice of physical activity.

According to the World Health Organization (WHO), physical activity is defined as any bodily movement produced by the skeletal muscles that results in energy expenditure, among them we can mention the practiced during the work, performing household tasks and leisure activities.³³

From the decade of 90's, began to arise the first changes as regards the practice of physical activity in the gestational period; however, only in the year of 2002 it was recognized as a safe practice for both the pregnant woman and the fetus, and indicated to all healthy pregnant women.³⁴

The American College of Obstetricians and Gynecologists recommends that previously active women should be encouraged to keep activities during pregnancy, and the sedentary ones should be encouraged at the beginning of regular physical activity, to be beneficial for maternal health.³⁵ National studies show worrying data in relation to this, as for example the cohort conducted with 118 pregnant women, which showed a reduced level of physical activity throughout the gestational period declining for the sedentary lifestyle from the 32nd week of pregnancy.³⁶

The same committee listed some relative and absolute contraindications for the practice of physical activity in the gestational period, being them, successively: chronic hypertension and pre-eclampsia, including any uncontrolled arterial hypertension.³⁵ Taking into account that such contraindications refer to pathologies already installed, the adherence to physical activities aiming at the prevention of same, should be encouraged, even if it is not yet fully elucidated.

Variability of results was also found as the practice of physical activity prior to pregnancy and its possible protective effect on the development of some HSP. Of the eight studies that have observed this period prior to pregnancy, half of them showed positive effect and the other half did not observe any difference.

One of the studies found that leisure-time physical activity with time greater than 270 minutes per week can increase the risk of severe pre-eclampsia. Women already diagnosed or suspected of HSP, must prevent

the getting of physical activities, by inducing an increase in blood pressure and reduce the uteroplacental flow, which is already a shortfall in reason of the pathology.³⁴

CONCLUSION

The literature showed how beneficial the practice of physical activity during pregnancy is, such as a protective factor for the development of HSP in the majority of studies, and among those who found no such association; there was not observed losses of practice the maternal-fetal health, except for pregnant women who already have the pathology installed.

The theoretical and practical implications of the results of the study indicate that the recommendation of physical activity is not yet practiced by all professionals, demonstrating the need that this guidance will be achieved by means of clinical protocols aiming at the prevention of HSP. Thus, this review provides subsidies for the practice of physical activity in healthy pregnant women is encouraged during the pre-natal care, since the various benefits already evidenced that the practice produces.

The study presents as contribution the advancement of scientific knowledge in the field of obstetrics, providing a reflection on the part of the professionals who provide assistance during pregnancy, as well as the recommendations provided in order to develop a pregnancy which ensures the maternal-fetal well-being.

The search for preventive factors to the occurrence of HSP provides subsidies for which the practices carried out in pregnancy resulting in a healthy outcome.

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