154 - MENSTRUAL DISFUNCTIONS INCIDENT AT SWIMMER ATHLETES OF VI BRASILIAN INTERFEDERATIVE SWIMMING CHAMPIONSHIP JUNIOR I AND II

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INTRODUCTION

Some women who made physical training can present menstrual cycle irregularities. These alterations are named menstrual dysfunctions and can show as oligomenorrhea form (scarce menstruation or none frequent) and amenorrhea (absence around 180 days or more). When doesn't exist alterations at the menstrual function its normal receive the name of eumenorrhea (WILMORE e COSTIL, 2001).

Registers of menstrual dysfunctions at athletes it's not brand new. It has been analyzed at least 30 years past. Although, few time ago it was recognized as a negative influence of the menstrual function alterations (MAUGHAN; BURKE, 2004).

Still not well known the causes and even the consequences, at long term, of menstrual dysfunctions. Believing that high-level training can be one cause of it. However, associated to the training can be added another factors as low corporal fat percentage, hormonal alteration, alimentary inadequate practice, stress and intense training (WILMORE; COSTIL, 2001).

Oligomenorrhea

When it is frequent at the reduced menstrual cycle receive the name of oligomenorrhea. Its been characterized by allow only 3 at 9 cycles per year (GANONG, 1999). As Fleck and Kraemer (2002) these cycles have intervals highers than 36 days. To Girard et al. (2005) are above 45 days.

In despite of not well documented, esteem than the incident oligomenorrhea and amenorrhea at athletes can it be between 5 and 40 % depending of the sport and what level of competition (WILMORE; COSTIL, 2001).

Amenorrhea

The amenorrhea is known by absence of menstrual periods prolonged over than 90 days (GIRAUD et al., 2005). It can be divided between primary and secondary. Primary its when has delay of the first menstrual flux cycle (SANDOVAL, 2002), and, when the menstrual flux doesn't appear after 14 days of age, and it doesn't have the development of secondary sexual characteristic or when miss menstruation after 16 years old independent to have or not the secondary sexual characteristic (BARACAT et al., 2005). When finish the menstrual cycle at women periods forecastly normals (SANDOVAL, 2002) and when have absence of these cycles for equality or exceed three menstrual intervals before or 180 days its considered as amenorrhea secondary (BARACAT et al, 2005).

It was related that incident of secondary amenorrhea at the general feminine population doesn't go through 8,5%. The women involved at intense activity, as swimmers, judo fighters, physiculturists and halterophylists, reach up between 10 and 20% and at ballerinas, gymnastics athletes and long distance runners this occurrence reach up between 40 and 50% (SANDOVAL, 2002). Baker (1981), Loucks and Horsvath (1985) affirm as well that cyclists and swimmers have both this incidence lower. Worldly, doesn't have concrete proofs indicating that one determined ethnic group or region present bigger risk to obtain amenorrhea. Therefore, related environment factors, as nourishment and to behavior can be linked at amenorrhea (BARACAT et al., 2005).

Were found varied theories for amenorrhea cause. Main ones are: low corporal fat percentage, limited diets, hormonal changing, acute and chronic results of physical intense training, excessive spend of energy and psychological stress (SANDOVAL, 2002).

Pre-Menstrual Syndrome

Nunes 2005, affirm of the symptoms are varieds between the cycles seeming to exist one and doesn't exist another and get manifested into 10 days before the menstrual beginning, disappearing after soon the beginning of the flux.

Sandoval (2002), Nunes (2005) and Giraud et al. Relate that the main symptoms are: weakness, anxiety, irritability, depression, increasing of the size and sensibility of the bosom, liquid retention, headache, pelvic pain, facial acne, and others.

General Objective: Verify the incidence of menstrual dysfunctions at swimmers athletes.

Specific Objectives: Analyze the must happening of eumenorrhea, amenorrhea, dismenorréia and oligomenorrhea among athletes; verify the training interference at the appearing of menstrual dysfunctions; verify the average age of the manarche among athletes; identify the main symptoms of pre-menstrual.

Metodology

Population and sampling: Participate of the researching 64 swimmers athletes junior categories I and II, age between 17 and 19, feminine sex, participating of VI Swimming Interfederative Brazilian Championship, at Aquatic Park of UniEVANGÉLICA, city of Anápolis-Goiás, between 8th and 10th of July 2005, representating this following below brazilian states: São Paulo, Rio de Janeiro, Santa Catarina, Minas Gerais, Amazonas, Paraná, Goiás, Rio Grande do Sul, Maranhão, Distrito Federal, Pará, Sergipe, Espírito Santo e Mato Grosso do Sul. The championship had the participation of 120 swimmers athletes of 17 Brasilian States.

Inclusion and Exclusion criterion: were included 64 athletes at the sample accepting the invitation to make part of the researching and they had their coach's authorization. Didn't have any exclusion. Therefore, didn't have the participation of following below brazilian states: Bahia, Mato Grosso and Paraíba.

Instrument: To verify the happening of menstrual dysfunctions, and menstrual phase cycle, those ones who were at competition, manarche age and another information's about menstrual cycle of the athletes it was applied the questionnaire, having open questions and multiple choices to all athletes.

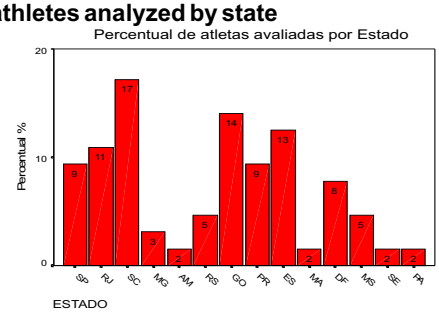
Proceedings: It was realized a meeting of clarify researching, where all the coaches of the delegations participating of the Championship were informed the way to apply the questionnaire, as well date, schedule and local .His applying were at Evangélica Laboratory Avaliation (LAFE) by university students of 8th semester of Physique Education of UniEVANGÉLICA able to do this. The questionnaire was delivered to the athletes who showed at the local during the competition days, 8th, 9th and 10th of July. The athletes answered the questionnaire after receive the information's about the searching and clarified all the doubts related at the questions.

Statistic Analyses: To verify the incident of menstrual dysfunctions, pre-menstrual symptoms, manarche age and the menstrual phase during the competition it was made the frequency analyze, using the software SPSS 10.0.

RESULTS and DISCUSSIONS

At Graphic 1, we can see that Santa Catarina is the state it have must participating athletes at the researching, representating 17% of swimmers. The lowest participating athletes were the states Amazonas, Maranhão, Sergipe and Pará, representing 2% each one. At general had a good representation by the states, specially those ones who have must distinct representative swimmers, meaning, those ones who get the best athletes: São Paulo, Rio de Janeiro, Santa Catarina and Espiríto Santo.

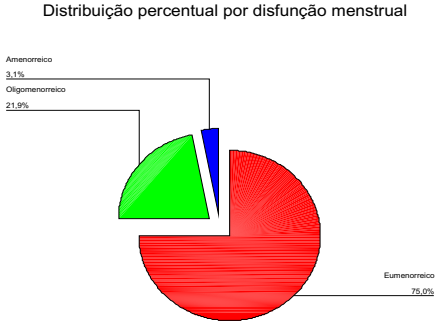
GRAPHIC 1 Percentage of athletes analyzed by state



The Graphic 2, represent the percentage of menstrual dysfunctions. The analyzed sampling, 48 athletes (75%) relate don't have any menstrual irregularities; 14 athletes (21,9%) has oligomenorrhea and only 2 athletes (3,1%) said to have secondary amenorrhea.

The total results of menstrual irregularities (25%) are confirmed by the percentage that Wilmore and Costil (2001) mentioned (5 to 40%). The incident of secondary amenorrhea found it at the athletes (3,1%) its lower than Sandoval (2002) said (10 to 20%), but proven that its lower percentage to ballerinas, gymnastics athletes and long distance runners estimated by him (40 to 50%), what justify that swimmers prevalence of amenorrhea its lower compared to the others modality. This fact is evident to Baker (1981) and Loucks and Horsvath (1985). Wilmore and Costil (2001) relate, as well, to feminine population its general prevalence of amenorrhea is 2 to 3% and of oligomenorrhea is 10 to 12%. The swimmers percentage evaluated shows amenorrhea its been bounded of the author says above about the general feminine population, clarifying that doesn't have interference of swimming specific training related to appear of this dysfunction. The oligomenorrhea percentage it's not in accordance with the general women estimated, although, is bounded to the athletic population (5 to 40%).

GRAPHIC 2 Percentage Distribution of Menstrual Dysfunction

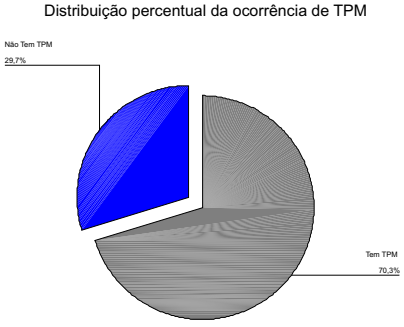


Graphic 3, shows the occurrence of Pre-Menstrual Syndrome (PMS). Were found 45 athletes with PMS, what represent 70;3% of analyzed sampling.

Sandoval (2002) says even less clarify about physical exercises of pre-menstrual syndrome, some women who practice physical exercises regularity have decreasing of symptoms. For Matsudo and Matsudo (2002) this decreasing makes present at physical actives women with menstruation equal or higher to 10 years. Observing the results of analyzed sample, we perceive that Matsudo and Matsudo (2002) affirmations are correct with the actual sampling.

The must related symptoms are: irritability, bosom pain, weakness, pelvic pain, headache, and leg's pain

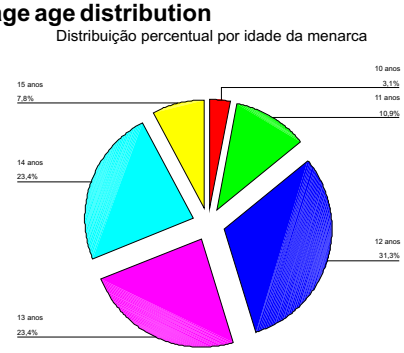
Graphic 3 Pre-Menstrual syndrome percentage distribution



At graphic 4 its distributed the manarche age. The sampling analyzed, 20 athletes (31,3%) said they had the first menstruation at 12 years old, 15 athletes (23,4%) had manarche at 13 years old, the same quantity had manarche at 14 years old; 5 athletes (7,8%) said had the first menstruation at 15 years old, 7 athletes (10,9%) said it was at 11 years old and only 2 athletes (3,1%) had the menstrual flux beginning at 10 years old. Therefore, the manarche average analyzed sampling was 12,76 years old, with a standard deviation (SD) of 1,24% years.

Guyton e Hall (2002) and Malina and Bouchard (2002) affirm that manarche average to none athlete teenagers peaks around 13 years old. Malina and Bouchard (2002) affirm that manarche age at swimmers is similar to none athletes. This datas come to confirm the analyzed sampling results.

Graphic 4 Manarche percentage age distribution



CONCLUSION

Through the analyzed sampling, conclude that the incident of menstrual disturb functions at swimmers athletes is 25% at total. The analyzed sampling, 3,1% had secondary amenorrhea and 21,9% had oligomenorrhea. Must of the swimmers (75%) had regular menstrual cycles.

With that results of theoretical foundation and others studies and al collected datas of this researching, we perceive that oligomenorrhea percentage at swimmers evaluated confer with the found one at the athletic population and the secondary amenorrhea percentage which one confers with found at general feminine population. It's assure that specific swimming training doesn't interfere to come out secondary amenorrhea. Although, considerably interfere to coming out of oligomenorrhea.

The manarche age average it does shows similar to none athletes, informing that one case, it doesn't have interference at the training.

Refering to pre-menstrual symptoms, 70,3% of the athletes has problems. The main symptoms described are: irritability, bosom pain, weakness, pelvic pain, headache and leg's pain.

We suggest new researchings with sense of the profile of observe to of the brazilian swimmers.

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MENSTRUAL DISFUNCTIONS INCIDENT AT SWIMMER ATHLETES OF VI BRASILIAN INTERFEDERATIVE SWIMMING CHAMPIONSHIP JUNIOR I AND II

ABSTRACT

Athletic women can present menstrual cycle irregularities, named menstrual disfunctions, have as form of oligomenorrhea (menstruation scarce or none frequent) and amenorrhea (absence of around 180 days or more). When menstrual function it's normal receive the name of eumenorrhea (WILMORE e COSTIL, 2001). It prevailing these functions among athletes it's not well documented, therefore the Sandoval´s studies (2002), Baker (1981) e Loucks e Horsvath (1985) they affirm among swimmers the amenorrhea incident is less if compared to ballerinas, long distance runners and gymnastic athletes. **Objective:** to verify the happening of menstrual dysfunctions at juniors swimmers athletes of categories I and II. **Methodology:** It was used a sampling of 64 athletes with age between 17 and 19, those ones took part in Swimming Interfederative Brazilian Championship between 8th and 10th of July 2005, at Aquatic Park of UniEVANGÉLICA, city of Anápolis-GO. It was applied a questionnaire to the athletes to evaluate the prevailing of menstrual dysfunctions, as well, sympton and menarche age. **Results:** 75% of sampling are with eumenorrhea, 21,9% with oligomenorrhea and 3,1% with amenorrhea. 70,3% has pre-menstrual symptom. The average of the menarche it was 12,76 years old with DP of 1,24.

Conclusion: the happening of menstrual disturbed at swimmers athletes it was 25% at total. Sampling analyzed, 3,1% had amenorrhea and 21,9% had oligomenorrhea. The percentage of oligomenorréicas swimmers analyzed confered with found at athletic population, showing that have training interference at this dysfunction emergence. The percentage of amenorrhea checked with the one found at general feminine population, proving no interference about training. The average age to menarche presented similar to non-athletes and the main pre-menstrual symptoms described were: irritability, bosom pain, weakness, pelvic pain, headache and legs ache.

Key Words: Swimmers; menstrual dysfunction; menarche.

RESUMÉ

Femmes sportifs peuvent présenter des irrégularités dans le cycle menstrel, appelé les dys fonctionnements menstruels présentés sous la forme d'oligomenorréie (menstruation rares ou infrequentes) et amenorreie (absence de la menstruation par 180 jours ou plus). Quand la fonction menstruel é normal, on appelle eumenorreie (WILMORE e COSTIL, 2001). La prédominance de ces dysfontionnements entre sportifis n'est pás bien documenté, pourtant les études de Sandoval (2002), Baker (1981) e Loucks e Horsvath (1985) afirment que entre les nageurs l'incidence d'amenorreie é plus basse si c'est comparé lês danseuses, dês coureurs de longe distance et des gymnastes. **Objectif:** Vérifier l'incidence des dysfonctionnement menstruels dans nageurs des categoris Junior I et II. **Méthode**: il est utilisé une échantillon de 64 nageurs entre 17 et 19 ans, qui participent du " Champéonat Brésilien Interfederactive de Natation" realisé de 8 à 10 juillet 2005, das "Parque Aquatico da UniEVANGÉLICA", à Anápolis-GO. Il y a en des questionaires pour avalier la predominance des dysfonctionnements menstruels, bien comme, synthomes pré-mentruels et l'âge de ménarche. **Resultat:** 75% de ces nageurs sont eumenorreiques, 21.0% oligomenorreiques e 3,1% amenorreiques. 70,3% présentaitnt synthomes pré-menstruels. l'Âge moyen de la première menstruàlion est eté 12,76 ans avec un DP de ±1,24. **Conclusion:** l'incidence de disturbes menstruels en sportifs nageurs est eté 25% an total. Dans l'échantillon avalié, 3,1% s'encontraient avec amenorreie e 21,9% apportaient oligomenorreie. Le percentile d'oligomenorreie des nageurs avalieés se confíre avec ce quis'est rencontré dans la population sportife, en monhant qu'il y a interference, des repetitions dans le surgiment de cette dysfonctionnemnet. Le percentile d'amenorreie est été le mêmi que ce trouvé dans la population feminine en general, démontrant la non-interference des repetitions. l' Agê moyen de la première menstruation s'est presenti aussi semblables que ce de les non-sportifs, et les principaux synthomes pré-menstruels ont été: irritabilité, mastodinia, astenia, douleur pelvienne, mal à la tête chronique et douleurs dans les jambes.

Mots-clés: nageurs ; dysfonctionnement menstruels ; première menstruàlion

RESUMEN

Las mujeres atletas pueden presentar irregularidades en el ciclo menstrual, denominada disfunción menstrual, presentadas en la forma de oligomenorrea (menstruación escasas o no frecuente) y amenorrea (la ausencia de la menstruación durante 180 días o más). Cuándo la función menstrual es normal se recibe el nombre de eumenorrea (WILMORE; COSTIL, 2001). La prevalencia de esos disfunciones entre atletas no es bien documentada, por lo tanto los estudios de Sandoval (2002), Baker (1981) y Loucks e Horsvath (1985) afirmam que entre los nadadores la incidencia de amenorrea secundaria comparada a las bailarinas, los corredores de distancias y gimnastas largos. **El objetivo**: Verifica la incidencia de disfunciones menstruales en nadadoras de categorías Júnior I y II. **Metodología**: fue utilizado una muestra de 64 atletas con la edad entre 17 y 19 años, los participantes del Campeonato Brasileño Interfederativo de Natación sucedió entre los diás 8 a 10 de julio de 2005, en el Parque Acuático del UniEVANGELICA, en la ciudad de Anápolis-GO. Fue aplicado a los atletas un cuestionario que evalúa al prevalencia de disfunciones menstruales, como también, los síntomas y la edad pré-menstruales del menarquia. **Los resultados**: 75% del muestra hacía con eumenorrea, 21.9% con oligomenorrea y 3.1% con amenorrea. 70.3% de las nadadoras presentaron los síntomas pré-menstruales. En el promedio de la edad del menarquia era de 12.76 años con un desvío patrón (DP) de 1.24. **La conclusión:** Al incidencia de alborotos menstruales en las atletas nadadoras era de 25% en el grueso. De la muestra evaluada, 3.1% se encontró con amenorrea y 21.9% poseía oligomenorrhea. El porcentaje de oligomenorrhea de las nadadoras que ellos evaluaron combina con el porcentaje encontrada en la población atlética, mostrando que hay interferencia de la instrucción en el brotar de ese disfunción. El porcentaje de amenorrea coincidió con el porcentaje encontrada en la población femenina en general, no apareciendo la interferencia de la instrucción. En la edad media del menarquia fue presentado también semejante a de los no-atletas y los principales síntomas pré-menstruales descritos eran: irritabilidad, tensión mamaria, flaqueza, dolor del pélvico, dolor de cabeza y dolores en las piernas.

Palabra-llave: Nadadoras; disfunciones menstruales; menarquia

RESUMO

Mulheres atletas podem apresentar irregularidades no ciclo menstruais denominadas disfunções menstruais, em forma de oligomenorréia (menstruação escassa ou infrequente) e amenorréia (ausência da menstruação por 180 dias ou mais). Quando a função menstrual é normal recebe-se o nome de eumenorréia (WILMORE e COSTIL, 2001). A prevalência dessas disfunções entre atletas não é bem documentada, portanto os estudos de Sandoval (2002), Baker (1981) e Loucks e Horsvath (1985) afirmam que entre as nadadoras a incidência de amenorréia é menor se comparadas a bailarinas, corredoras de longas distâncias e ginastas. **Objetivo:** Verificar a incidência de disfunções menstruais em atletas nadadoras das categorias Junior I e II. **Metodologia:** Foi utilizada uma amostra de 64 atletas com idade entre 17 e 19 anos, participantes do Campeonato Brasileiro Interfederativo de Natação realizado nos dias 8 a 10 de julho de 2005, no Parque Aquático da UniEVANGÉLICA, na cidade de Anápolis-GO. Foi aplicado às atletas um questionário avaliando a prevalência de disfunções menstruais, como também, sintomas pré-menstruais e idade da menarca. **Resultados:** 75% da amostra encontram-se eumenorréicas, 21,9% oligomenorréicas e 3,1% amenorréicas. 70,3% apresentavam sintomas pré-menstruais. A média de idade da menarca foi de 12,76 anos com um DP de 1,24. **Conclusão:** A incidência de distúrbios menstruais nas atletas nadadoras foi de 25% no total. Da amostra avaliada, 3,1% encontravam-se com amenorréia e 21,9% possuíam oligomenorréia. O percentual de oligomenorréia das nadadoras avaliadas conferiu com o encontrado na população atlética, mostrando que há interferência do treinamento no surgimento dessa disfunção. O percentual de amenorréia coincidiu com o encontrado na população feminina em geral, evidenciando a não interferência do treinamento. A média da idade da menarca também se apresentou semelhante a das não-atletas e os principais sintomas pré-menstruais descritos foram: irritabilidade, mastodinia, astenia, dor pélvica, cefaléia e dores nas pernas.

Palavras Chave: nadadoras; disfunções menstruais; menarca.