

Original Article

Menstrual cycle disorders in rhythmic gymnastics athletes

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Abstract:
The purpose of this research is to compare the menstrual cycles of athletes of rhythmic gymnastics by making a study, through Borg's Scale, of the perception of the effort that these athletes have.
The study group is composed of 20 gymnasts aged between 13 and 16 years.
The research tools include a questionnaire, a diary of premenstrual symptoms in training and during competitions and a daily diary of menstrual symptoms during training and competitions.
The study showed that physical activity during menstruation brings a number of problems when gymnasts have to perform body difficulties, but some gymnasts notice benefits from the psychophysical point of view when they perform the stretching session.
Key words: rhythmic gymnastics, disorder, menstrual cycle, sport, athletes.

Introduction

The impact of physical activity on female physiology underlines that a significant percentage of women who practice a sport, in this case rhythmic gymnastics, suffer from numerous disorders of the menstrual cycle (Sentore et al, 2019). Important factors in their pathogenesis are young gynaecological age, emotional or mental stress, a rapid increase in training load, low body weight (Valentini et al, 2018). Long-term training periods and competitions compromise ovarian activity, and this can manifest itself as defects in the luteal phase, irregular menstruation or amenorrhoea. The analysis is based on the strategic stress associated with sports and may show various mental, physical and emotional symptoms during this period, including premenstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD). Women of childbearing age in most of their menstrual cycles present at least some of the 150 symptoms of premenstrual syndrome. The severity of the symptoms, particularly mental tension and lack of self-esteem can cause work incapacity and problems in conjunction with other daily routine activities. Intensive work to achieve excellent flexibility, endurance, balance, motor coordination, rhythm and dance skills can lead to high stress (Raiola et al, 2015). Rhythmic gymnastics is one of these sports; therefore the identification of menstrual disorders among athletes who practice rhythmic gymnastics seems essential to develop early intervention and prevention schemes.

Materials and methods

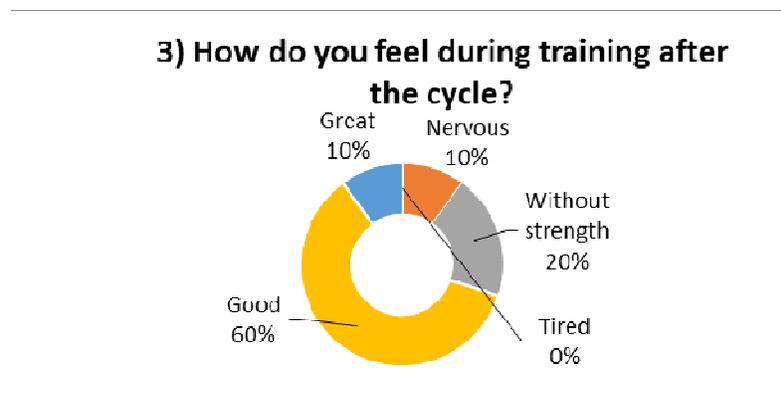
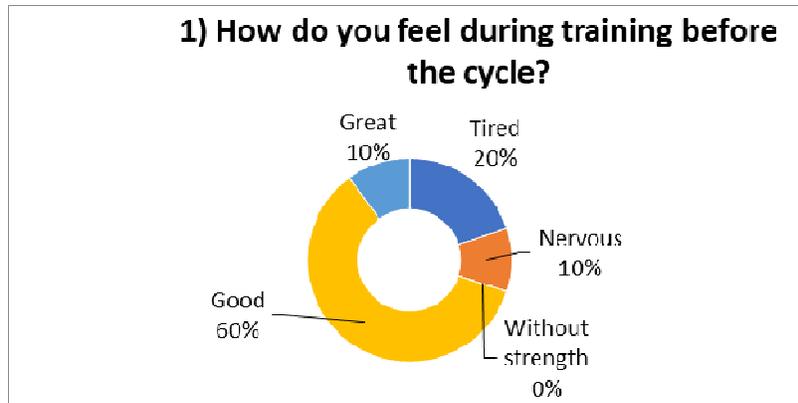
The research tool used for this study includes a research questionnaire based on both the physical and the emotional and personal side (D'Isanto et al, 2018). The research questionnaire, administered to a group of 20 competitive athletes, is as follows:

- 1) How do you feel during training before the cycle?
a. Tired b. Nervous c. Without strength d. Good e. Great
- 2) How do you feel during training during the cycle?
a. Tired b. Nervous c. Without strength d. Good e. Great
- 3) How do you feel during training after the cycle?
a. Tired b. Nervous c. Without strength d. Good e. Great
- 4) How much does the menstrual cycle affect your performance?
a. very little b. little c. enough d. greatly e. not at all
- 5) Do you have any benefits during the cycle on some types of exercises, if so which ones?
a. yes, in this type of exercise, indicate which
b. no, not at all.
- 6) How much does it physically affect having the cycle during a competition?
a. very little b. little c. enough d. greatly e. not at all
- 7) How much does it affect the psychological level to have the cycle during a competition?
a. very little b. little c. enough d. greatly e. not at all
- 8) Did you happen to have a delayed cycle during a period of competitive stress?

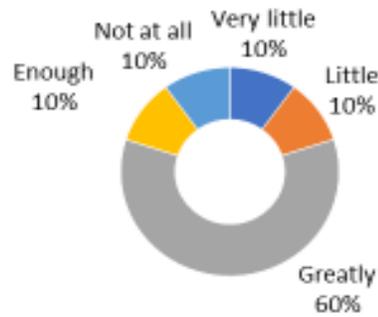
- a. yes, often b. sometimes c. rarely d. no
- 9) What quality is lacking during the menstrual cycle?**
 a. strength b. power c. elasticity d. coordination e. speed
- 10) What quality is improved during the menstrual cycle?**
 a. strength b. power c. elasticity d. coordination e. speed
- 11) How long can you stay focused and pay attention?**
 a. very little b. little c. enough d. a lot e. not at all
- 12) Are there any exercises that will benefit you during your menstrual cycle?**
 a. nobody b. someone c. few d. all e. are rare

Results

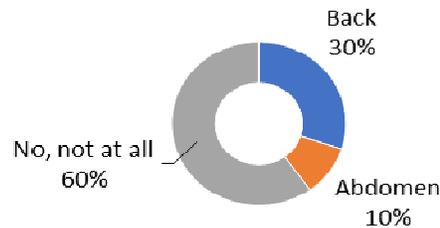
After submitting the young athletes to the above questionnaire, the following results emerged:



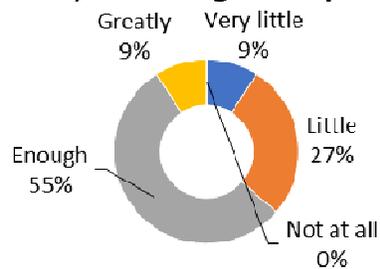
4) How much does the menstrual cycle affect your performance?



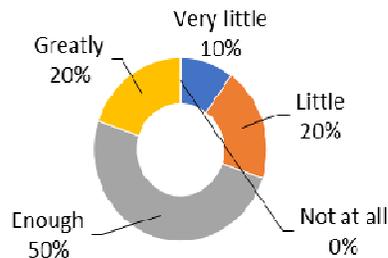
5) Do you have any benefits during the cycle on some types of exercises, if so which ones?



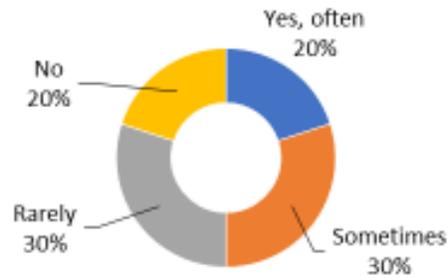
6) How much does it physically affect having the cycle during a competition?



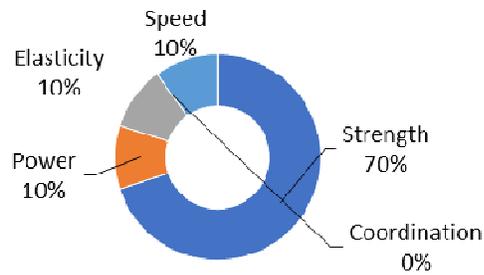
7) How much does it affect the psychological level to have the cycle during a competition?



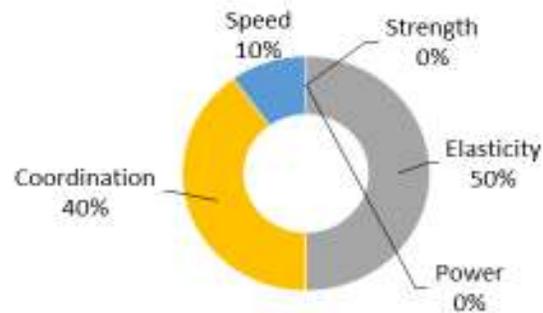
8) Did you happen to have a delayed cycle during a period of competitive stress?



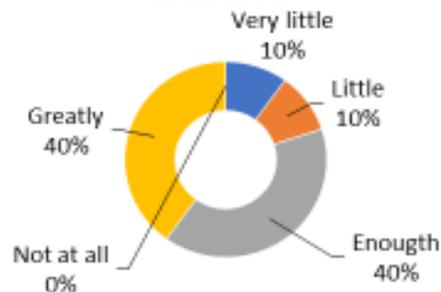
9) What quality is lacking during the menstrual cycle?



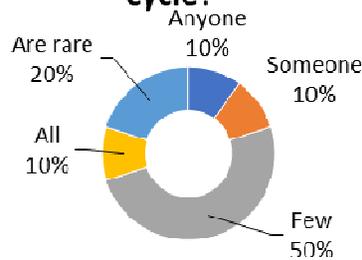
10) What quality is improved during the menstrual cycle?



11) How long can you stay focused and pay attention?



12) Are there any exercises that will benefit you during your menstrual cycle?



Discussion

From the data previously reported, it emerges that the menstrual cycle has a significant influence on the activity that each athlete performs, not only from a physical point of view but also from a mental one.

It turns out, in fact, that the majority of this sample of athletes (60%) tests benefits both before and after the cycle during the training session, but during the phase of the menstrual cycle is without forces and also enters a state of nervousness (Altavilla et al, 2016).

It also emerges that it has a great impact on performance both physically and psychologically during competitions, in addition to the fact that most athletes do not experience any benefits during their menstrual cycle, only 30% note that the elasticity of the back improves and 10% do not have cramps in the abdomen during physical activity.

Most athletes testify that under stress the menstrual cycle is very often delayed or postponed and all this is due to strong emotional tension in addition to the amount of work more acute than the periods of exclusive physical preparation.

It is also known that elasticity and coordination improve in that week and stretching exercises lead to little benefit: in that period gymnasts prefer to do more technical and tooling work than stretching and free body work.

Conclusions

Any sport that requires a high level of performance exposes young athletes to severe physical, mental and emotional stress, which can cause a number of disorders.

Young athletes are more exposed to a constellation of menstrual disorders such as hypermenorrhoea, longer breaks between menstrual bleeding, and delays.

Competitive sport promotes premenstrual syndrome and premenstrual dysphoric disorder, and regular training by girls before their first menstruation is a factor in menarche delay.

All this psycho-physical stress often leads to a reduction in sports performance caused by physical fatigue and especially heaviness in the lower limbs, a feeling that gymnasts describe as "without strength".

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