Hormone Smart Health Promotion

A Psychological Perspective of Young and Adult Female Athletes’ Menstrual Status and Well-being

Frida Strömgren 2014
Hormone Smart Health Promotion

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Cooperation of:

- Department of Psychology, Uppsala University
- Department of Health Sciences, Luleå University of Technology
- Department of Performance and Training, The Swedish School of Sport and Health Science (GIH)
Subjects

- **National team;**
  - Swedish Orienteering National Team
  - Swedish Ski-Orienteering National Team
  - Swedish Biathlon National Team (skiing & shooting)
  - Swedish Long distance running National Team
  - Swedish Mountain bike National Team

- **Sport Teams at Universities**
  - Dala Sports Academy in Falun/Borlänge,
  - University of Linköping
  - University of Örebro
  - Sport Campus Sweden (Karolinska Institutet/The Swedish School of Sport and Health Science/Royal Institute of Technology)

- **Sport focused Senior Highschool**
  - Mora Skiing highschool
  - Uppsala athletics- & orienteering highschool,
  - Farsta orienteering highschool
  - Haninge orienteering highschool
Introduction #1

- Traditional predominance of males in sport
- Training-models are made for men (and applied for women)
- Endurance athletes are often focusing at quantity
- Menstrual cycle disturbance
- Health problem
Prevalence of subtle menstrual disturbances among sedentary and exercising subjects.


A
Ovulatory 95.0%
19 of 20 women
Luteal Phase Defect 5.0%
1 of 20 women

B
Anovulatory 25.0%
12 of 48 women
Ovulatory 47.9%
23 of 48 women
Luteal Phase Defect 27.1%
13 of 48 women
The female athlete triad

- Rigorous training + Restricted eating + amenorré (menstrual cycle disturbance >90 days)
- Can lead to Osteoporosis and Stress fractures
- Health problems
- Cardiovascular risk
- Stress and estrogen
- Well-being?
The Aim

- ...of this pilot study was to examine whether female endurance athletes at the elite level are experiencing changes in well-being, vitality, mental and physical status of the covariance with the menstrual cycle.
- Does these changes suggest a more “hormone smart” periodization of training load to promote health and sustainable female athlete?
Method

- **Design:** An exploratory prospective correlational study

- **Subjects:** 27 female (age 17-39) elite athletes in endurance sports within or just outside the national team

- **Material:**
  - Training diary (Duration/Intensity/Frequency)
  - Borg’s scale (Mental and Physical experienced tiredness before and after training)
  - Billings Ovulation method (to track menstrual status)
  - Sleeping diary
  - Emotional Recovery Questioner (EmReQ)
Billings Ovulation Method
- cervix secret
Procedure

- Registration every day in 10 weeks
- Reminder text-message every day
- Questions was answered within 24 hours
- Final questions
  - Hormonal Contraceptives
  - Weight and Length
  - Psychological Questions about Recovery
- Individual feedback
Result #1

Well Being and Vitality during Menstrual Cycle

- Well-being
- Vitality

Menstrual Cycle Phases:
- Follicular Ph.
- Ovulation Ph.
- Luteal Ph.
- Menstruation Ph.
Result #1

Well Being and Vitality during Menstrual Cycle

- Follicular Ph.
- Ovulation Ph.
- Luteal Ph.
- Menstruation Ph.

Well-being
Vitality
Result #1

Well Being and Vitality during Menstrual Cycle

Follicular Ph. | Ovulation Ph. | Luteal Ph. | Menstruation Ph.

- Well-being
- Vitality

* Statistical significance

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Result #2

Well Being with and without Hormonal Contraceptives

Menstrual Cycle Phase

- Follicular Ph.
- Ovulation Ph.
- Luteal Ph.
- Menstruation Ph.

Non-Hormonal Contraceptives
Hormonal Contraceptives
Result #2

Well Being with and without Hormonal Contraceptives

- Non-Hormonal Contraceptives
- Hormonal Contraceptives

Follicular Ph.  Ovulation Ph.  Luteal Ph.  Menstruation Ph.

Menstrual Cycle Phase

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Result #3

Physical tiredness with and without Hormonal Contraceptives

- Follicular Ph. - Ovulation Ph. - Luteal Ph. - Menstruation Ph.

- Non-Hormonal Contraceptives
- Hormonal Contraceptives

Menctrual Cycle Phase
Result #3

Physical tiredness with and without Hormonal Contraceptives

Menstrual Cycle Phase

- Non-Hormonal Contraceptives
- Hormonal Contraceptives
Discussion

- Menstrual cycle is a health indicator

- Young female athletes (and sometimes their coaches) need to be educated about:
  - Body composition and hormone rhythm
  - Importance of a healthy reproductive system
  - How to look at and handle menstrual disturbance
Discussion

- We suggest a “hormone smart” periodization of training load
  - Promote health and sustainable female athlete
  - Based on mental and physical status
  - Based on biological balance and rhythm of the individual female athlete

- Long-Term Athlete Development (LTAD)
  - Sustainable female performance
  - Reproductive health
  - Lifelong Athleticism
Future research

- Contribute to women fulfilling their full potential
- Give the voice to the endurance female athlete
- Sexual-, and reproductive health for women
- Intervention-study with Cognitive Behavioral Therapy (CBT) to prevent menstrual disturbance
Research Team

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Thank you for the attention

- I’m happy to answering questions,
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