FACTORS AFFECTING MENSTRUAL CYCLE LENGTH IN WOMEN

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LIFESTYLE FACTORS THAT AFFECT MENSTRUAL CYCLE LENGTH [1-3]

Weight loss

Caloric deficiency and exercise

Cigarette smoking

Alcohol/coffee consumption

Little sleep

Education/work patterns

Stress

Shift work

HEALTH RISKS OF VARIED MENSTRUAL CYCLE LENGTH

- Variations in menstrual cycle length are associated with chronic diseases such as **breast cancer,[4] ovarian cancer,[5] and osteoporosis.[6]**
- Perturbations in menstrual cycle length have been linked with risk of metabolic disorders, such as **adult-onset diabetes, cardiovascular disease,[7] and increased mortality due to coronary heart disease.[8]**
- The presence of long menstrual cycles is a diagnostic criterion for **polycystic ovarian syndrome (PCOS),[9]** a condition that affects **6–12%** of women and an important cause of anovulatory subfertility (lack or absence of ovulation - the release of an egg).[10]

DEFINITIONS

Women with short menstrual cycles
*Less than **26 days** between periods* [17]

Women with long menstrual cycles
*More than **33 days** between periods* [17]

Antimullerian hormone (AMH)
AMH is a hormone produced by cells from the small follicles in a woman's ovaries and is used as a marker of oocyte (egg) quantity.

Antral follicle count (AFC)

- *An antral (resting) follicle is a small, fluid-filled sac that contains an immature egg.*
- *The follicles can be seen, measured and counted on Cycle Days 2, 3, and 5 by using ultrasound.*
- *The number of antral follicles varies from month to month.*
- *An average to high number of antral follicles (eight or more) is needed to be visible on ultrasound to indicate a good number of eggs and higher than average pregnancy rates.*[11]

OVARIAN VARIABLES THAT AFFECT MENSTRUAL CYCLE LENGTH

- **AMH, AFC and ovarian volume** are positively associated with menstrual cycle length in healthy women.[17]
- AMH, AFC and menstrual cycle length are high in young women, and **declines with age.**[12]
- There is a strong correlation between AMH levels and menstrual cycle length, and as such menstrual cycle length as a surrogate marker for AMH and its associated reproductive outcomes is plausible.[13-15]

THE IMPLICATIONS OF SHORT MENSTRUAL CYCLE LENGTHS

- The strong correlation between low AMH and short menstrual cycle length suggests that **women with short menstrual cycles are likely to reach menopause earlier.**[16]
- This likely suggests that women with short cycles who have not yet conceived but are planning to do so should **start trying as soon as possible** to increase their chances of a natural pregnancy. Otherwise, it may be necessary to seek **assisted reproductive technologies** such as in virtro fertilisation of fertility medication.[17]

CONCLUSION

Future studies will still be necessary to confirm the link between ovarian variables, AMH and menstrual cycle length, and may pave the way for therapeutic options to regulate menstrual cycle length and fertility in women.

Understanding the biological functions of AMH and utilizing menstrual cycle length as a simple clinical tool to assess a woman's reproductive potential is likely to impact on how a woman will make important life decisions on her reproductive health, family planning and to seek treatment early if she cannot conceive.[17]

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