GlobalResearch
Center for Research on Globalization

Effects of Magnesium Deficiency on Women's Health

By Dr. Joseph Mercola
Theme: Science and Medicine
Global Research, December 10, 2024
Mercola 9 December 2024

Magnesium deficiency is linked to increased risk of pelvic inflammatory disease (PID), ***with studies showing women who have lower magnesium intake face significantly higher risks of developing reproductive health issues***

Research demonstrates magnesium supplementation improves quality of life for women with PCOS, helping with physical functioning, emotional well-being and managing common symptoms of the condition

Women with higher magnesium intake had a 32% lower risk of frailty according to the Nurses' Health Study, which followed 81,524 women aged 60+ over three decades

Low magnesium levels accelerate cellular aging and DNA damage, leading to premature tissue and organ aging

You can increase your magnesium levels through dietary sources (like raw milk, broccoli, seaweed), supplements or alternative methods like Epsom salt baths

*

Magnesium plays an important role in maintaining your body's essential functions, particularly in women. Not only is it necessary for bone health, muscle function and regulating blood pressure, but magnesium also has a significant impact on inflammatory conditions like pelvic inflammatory disease (PID).

PID is an infection that affects the female reproductive organs, leading to serious complications like infertility, chronic pelvic pain and ectopic pregnancies if left untreated. Research has shown that magnesium deficiency is increasingly common due to poor dietary habits, such as increased consumption of ultraprocessed foods, with many women not meeting the recommended daily intake.[1]

Further, studies now suggest a direct connection between magnesium levels and the risk of developing conditions like PID. Consuming enough magnesium is key to support your body's ability to fight inflammation and maintain overall reproductive health.

Magnesium Deficiency Linked to Pelvic Inflammatory Disease

A recent study utilizing data from the National Health and Nutrition Examination Survey (NHANES) explored the link between magnesium intake and PID in U.S. women.[2] The study included 3,034 women between the ages of 20 and 59 and examined their dietary

magnesium intake along with the incidence of PID.

Women with lower magnesium intake had a significantly higher risk of developing PID compared to those who met or exceeded the recommended daily magnesium intake. Magnesium's anti-inflammatory properties play a role in this connection. It helps regulate immune function and reduces oxidative stress, both of which help in managing infections and preventing conditions like PID from progressing.

Inflammatory markers, such as C-reactive protein (CRP), are often elevated in women with low magnesium levels, indicating a higher risk of chronic conditions like PID. Magnesium helps to lower these inflammatory markers, reducing the body's overall inflammatory response and protecting against infections that lead to conditions like PID.

The NHANES study also found that higher magnesium intake was associated with a reduction in PID severity. Women who consumed more magnesium had fewer symptoms and lower rates of chronic PID, suggesting that magnesium not only helps prevent the onset of PID but also mitigates its impact once it develops.

Women with lower magnesium levels were also more likely to experience irregular periods, suggesting a link between magnesium and overall hormonal balance. This further highlights the power of magnesium as a simple, natural approach to managing reproductive health.

The Role of Magnesium in PCOS

A study conducted in Isfahan, Iran, explored how magnesium supplementation could help alleviate polycystic ovary syndrome (PCOS).[3] PCOS affects millions of women worldwide, presenting a spectrum of symptoms that significantly impact daily life. Those navigating PCOS might experience irregular menstrual cycles, excessive hair growth, acne and even hair loss as some of the frustrating hurdles.

These symptoms stem from hormonal imbalances and the presence of multiple cysts in the ovaries, making fertility and overall well-being a concern for many. By focusing on abnormal uterine bleeding (AUB), alopecia, quality of life and acne, the researchers aimed to uncover whether increasing magnesium intake could offer tangible benefits for women dealing with PCOS.

From reducing menstrual pain and cramps to supporting protein formation and cell growth, magnesium's benefits are extensive. For those with PCOS, magnesium levels tend to be lower compared to healthy individuals, which might contribute to some of the syndrome's challenging symptoms. The researchers administered 250 milligrams (mg) of magnesium oxide daily to a group of women with PCOS over 10 weeks, comparing their progress to a placebo group.[4]

One of the standout findings of the study was magnesium's significant impact on the quality of life for women with PCOS. Quality of life encompasses various dimensions, including physical health, emotional well-being and social functioning — all areas where PCOS takes a toll. Participants who received magnesium supplements reported improvements in physical functioning, general health and emotional and mental health aspects.[5]

This suggests that magnesium may help mitigate some of the psychological and physical

stresses associated with PCOS. The mechanism behind this improvement could be magnesium's role in neurotransmitter regulation and its ability to alleviate depressive symptoms, which are common in PCOS sufferers.[6]

By enhancing both physical and mental health, magnesium supplementation could provide a much-needed boost to overall well-being, making daily challenges more manageable and improving the ability to enjoy life despite the hurdles of PCOS.

Unveiling the Link Between Magnesium and Frailty in Women

A comprehensive study using data from the Nurses' Health Study (NHS) focused on how magnesium affects the risk of frailty in older women.[7] Frailty, a condition marked by decreased strength and resilience, leads to serious health issues like falls, disabilities and even cognitive decline. This study followed 81,524 women aged 60 and above, tracking their magnesium consumption through diet and supplements over nearly three decades.

By meticulously assessing dietary habits and monitoring the onset of frailty using the FRAIL scale, researchers aimed to determine whether adequate magnesium intake could serve as a protective factor against this debilitating syndrome. The findings are particularly relevant for women looking to maintain their independence and quality of life in their golden years, highlighting the role magnesium plays in sustaining muscle function and overall vitality.

Magnesium isn't just another mineral in your diet — it's a powerhouse that supports hundreds of enzymatic reactions in your body. From muscle contraction and relaxation to energy production and bone health, magnesium is indispensable for maintaining optimal bodily functions. As you age, your body's ability to absorb magnesium decreases, and factors like inadequate dietary intake and certain medications further deplete your magnesium levels.

This deficiency may manifest as muscle cramps, fatigue and weakness, all of which contribute to the onset of frailty. The NHS study emphasized that women who consistently consumed higher levels of magnesium through their diet had a significantly lower risk of becoming frail.

Specifically, women in the highest quintile of dietary magnesium intake had a 32% lower risk of developing frailty compared to those in the lowest quintile. Further those who met the recommended daily allowance (RDA) for magnesium intake via their diet had a 14% lower risk of becoming frail.[8]

This underscores the importance of incorporating magnesium-rich foods, such as leafy greens, into your daily meals. By prioritizing magnesium in your diet, you bolster your muscle strength, enhance energy levels and reduce the likelihood of experiencing the adverse effects associated with frailty.

Low Magnesium Levels Accelerate Cellular Aging

Ensuring you receive sufficient magnesium goes beyond just enhancing your energy levels — it also equips your body with a powerful mechanism to fight chronic inflammation and lower your chances of developing age-related illnesses.

In fact, magnesium levels in your body are closely tied to the integrity of your DNA.

Research published in the European Journal of Nutrition highlights this connection.[9] The study, which focused on healthy middle-aged Australians, revealed that low magnesium levels — especially when paired with high homocysteine — significantly escalate DNA damage.

As the fourth most abundant mineral in your body, magnesium is integral to numerous enzymatic reactions essential for DNA replication and repair. Without adequate magnesium, your body may struggle to maintain the stability and functionality of your genetic material. Ensuring you consume enough magnesium could be pivotal in protecting your DNA and promoting healthy aging.

Researchers examined various biomarkers of DNA damage and found that magnesium deficiency speeds up cellular aging and heighten the risk of chronic degenerative diseases. This goes beyond magnesium's well-known benefits for bone health and nerve function, shedding light on its lesser-recognized role in DNA protection.

When your body lacks sufficient magnesium, the process of DNA replication and repair becomes less efficient. This inefficiency leaves your genetic material more susceptible to damage, leading to increased oxidative stress and a higher probability of DNA strand breaks. Over time, these genetic issues accumulate, resulting in premature aging of your tissues and organs.

By maintaining adequate magnesium levels, you provide your body with a powerful tool to fight off chronic inflammation and reduce the risk of age-related diseases. This not only helps in preserving your genetic integrity but also supports overall cellular health, contributing to a longer, healthier life.

Boosting Your Magnesium Levels for Optimal Health

More than half of Americans aren't meeting their daily magnesium requirements.[10] This shortfall is even more pronounced in specific populations. Health conditions like diabetes and regular alcohol consumption accelerate the loss of magnesium from your body, increasing your risk of deficiency.

Additionally, lifestyle factors such as inadequate sleep and high stress levels deplete your magnesium stores. Even short-term stress significantly lowers your magnesium levels. When considering supplements, magnesium threonate is my preference due to its exceptional ability to penetrate cells, including those in your brain and mitochondria.

If you're new to magnesium supplementation, it's advisable to start with magnesium citrate, however, to determine the right dosage for your body. This approach, known as "bowel tolerance," involves gradually increasing your magnesium intake until you experience mild loose stools, indicating that you've reached your optimal level. This natural feedback mechanism helps prevent magnesium overdose.

Finding the Right Magnesium Supplement and Dosage

Begin with a daily dose of 200 mg of magnesium and slowly increase it until you notice your stools becoming slightly loose. This change signals that you've found your ideal dose. Once comfortable with this dosage, explore other forms of magnesium if desired.

Magnesium threonate can be taken with or without meals, offering flexibility in your supplementation routine. If you're also supplementing with calcium, it's beneficial to take them together. For those who engage in regular fitness activities, incorporating calcium and magnesium in a 1:2 ratio before workouts might be advantageous.

While a 1:1 ratio is commonly recommended, most diets already provide ample calcium. Therefore, you may need two to three times more magnesium than calcium in your supplements to achieve a balanced intake.

Prioritizing Dietary Sources of Magnesium

It's important to note that blood tests aren't always the most accurate indicators of your magnesium levels, especially within muscles and bones. Instead, tracking your dietary intake is a more practical approach to ensure you're getting enough magnesium. Incorporate magnesium-rich foods into your meals, such as:

- Raw milk and homemade yogurt
- White rice
- Potato
- Dried seaweed or agar

Focusing on these nutrient-dense foods not only boosts your magnesium intake but also provides other essential vitamins and minerals that support overall health.

Alternative Methods to Increase Magnesium Levels

In addition to dietary sources and oral supplements, there are other effective ways to enhance your magnesium levels:

- **Epsom salt baths —** Soaking in water infused with magnesium sulfate allows your skin to absorb magnesium directly, bypassing your digestive system. This method is especially beneficial for those who experience digestive issues with oral supplements.
- **Topical applications —** Create a concentrated Epsom salt solution by following these steps:
    - Heat 6 ounces of water and dissolve 7 tablespoons of Epsom salt.
    - Allow the mixture to cool, then transfer it to a dropper bottle.
    - Apply the solution directly to your skin.
    - For enhanced absorption, follow up with fresh aloe vera gel.

These alternative methods provide additional avenues to ensure your body receives adequate magnesium, supporting your overall health and well-being. Maintaining adequate magnesium levels is essential for protecting against inflammatory conditions like PID, managing PCOS and warding off frailty as you age. By focusing on magnesium-rich foods and considering supplements when necessary, you're taking proactive steps to enhance your health naturally.

*

Click the share button below to email/forward this article to your friends and colleagues.

Follow us on Instagram and Twitter and subscribe to our Telegram Channel. Feel free to repost and share widely Global Research articles.

Global Research's Holiday Fundraiser

Notes

[1, 2] Frontiers in Nutrition August 6, 2024, Volume 11

[3, 4, 5, 6] Reprod Biol Endocrinol. 2022 Aug 2;20:110. doi: 10.1186/s12958-022-00982-7

[7, 8] J Cachexia Sarcopenia Muscle. 2024 Jun 6;15(4):1275–1282. doi: 10.1002/jcsm.13450

[9] European Journal of Nutrition June 12, 2024

[10] Oregon State University, "Micronutrient Inadequacies in the US Population: An Overview" Micronutrient Deficiencies and Inadequacies

---

Comment on Global Research Articles on our Facebook page

Become a Member of Global Research

Articles by: **Dr. Joseph Mercola**