Alpha1 MZ Foundation - Information & Research

News and Research Update

First of all, we hope that you enjoyed the holiday period with friends and family, and we wish you all good and healthy 2026.
You may remember that we promised to provide you with more information about nutrition & foods this year. Here is the first item of 2026, which discusses polyphenols in food that provide anti-inflammatory support. And we explain why they are important, and compare some food sources.

Subject: Olive oil vs dark chocolate and well-being in Alpha-1 MZ

Why polyphenols are important to the Alpha-1 MZ population
Polyphenols are natural bioactive compounds found in plant-based foods that help reduce low-grade inflammation, limit oxidative stress, and support cellular and mitochondrial function (the mitochondria being the cell's 'energy factories'). This support helps cells produce energy more efficiently and tolerate ongoing stress.

Human studies also suggest that polyphenol-rich foods may modestly improve lipid handling, including small increases in HDL cholesterol and reduced susceptibility of LDL to oxidative damage.

For people with Alpha-1 Antitrypsin MZ, this is particularly relevant, as many experience chronic liver stress and systemic inflammation even when standard liver tests appear normal. Polyphenols are not medication, but at food-level doses, they can gently support the body's ability to cope with daily metabolic and inflammatory load.

An essential nuance for MZ patients is that **more is not better**. Concentrated supplements and extracts can easily overload the liver and worsen liver stress.

Fruit and vegetables remain the foundation.
The most reliable and safest source of polyphenols is fruit and vegetables. A varied, plant-rich diet provides a broad range of polyphenols at low, physiologic doses, without creating sudden metabolic or liver stress. For the Alpha-1 MZ population, this forms the nutritional foundation.

Although the Mediterranean diet is often portrayed as healthy primarily because of its use of olive oil, its traditional benefits stem from the frequent intake of vegetables, fruit, legumes, and herbs.

In people with Alpha-1 MZ, olive oil is not ideal: higher fat intake requires more bile, and because bile flow is often limited, this can place extra strain on the liver and interfere with our healthy gut bacteria that depend on bile for proper balance.

Olive oil versus dark chocolate: a realistic, real-world comparison
Olive oil and dark chocolate are often mentioned as healthy sources of polyphenols. In theory, this is true, but in everyday Western food practice, the difference is substantial.

Supermarket olive oil (typical Western use)
Most olive oil sold in supermarkets is refined or blended and often contains low polyphenol levels.
Typical polyphenol content: ~50–100 mg per kg of oil
Typical daily use: ~10 g per day
Resulting polyphenol intake: ~1 mg per day

At these realistic intake levels, supermarket olive oil contributes very little anti-inflammatory polyphenol signaling, while still requiring bile flow for fat digestion.
Even the "Virgin" olive oils out of the supermarket score not much higher.

85-90% dark chocolate (high-cocoa)
High-cocoa dark chocolate (85–90%) is widely available, consistent in composition, and easy to portion.
Typical polyphenol content: ~2,000 mg per 100 g of chocolate
Typical daily amount: 10 g (2 small squares)
Resulting polyphenol intake: ~200 mg per day

This means that even a small daily portion of 90% dark chocolate delivers 200 times more polyphenols than typical supermarket olive oil, while remaining a whole-food source rather than a supplement.

What this means in practice for Alpha-1 MZ
In a real-world Western diet:
• Supermarket olive oil mainly provides fat with minimal polyphenol contribution.
• Small amounts of 90% dark chocolate provide meaningful polyphenols with modest liver workload.

For many Alpha-1 MZ patients seeking anti-inflammatory support without increasing liver stress, a small daily amount (10 g) of high-cocoa dark chocolate can be a more reliable supplementary polyphenol source than average supermarket olive oil.

Dark chocolate (90%) and the brain
Cocoa flavanols are associated with improved cerebral blood flow, reduced neuroinflammation, and support of cognitive performance. Dark chocolate also contains theobromine and magnesium, which may support alertness and mood. These effects are seen with high-cocoa dark chocolate, not sugar-rich milk chocolate.

Quality of life matters
Many Alpha-1 MZ patients follow strict diets, limiting sugar and fat.
While often necessary, this can be mentally demanding. A small piece of dark chocolate can add enjoyment, support mood, and provide meaningful polyphenols without significant metabolic or liver stress. And we all know that sustainability and well-being are essential factors for long-term health.

Clinician Footnote
Whole-food polyphenols are absorbed more slowly and delivered in a food matrix, resulting in lower peak hepatic exposure than concentrated extracts. Many polyphenols require phase II conjugation

and bile-dependent elimination. High-dose extracts (for example, green tea extract rich in EGCG) can overwhelm these pathways and have been associated with drug-induced liver injury. In contrast, normal food-level exposures are generally well tolerated.

Selected References

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