

Special Issue on **Polyphenols, Oxidative Stress, and Metabolic Syndrome**

CALL FOR PAPERS

With an increased lifespan of humans due to medical developments, chronic diseases have become a major health threat in today's world. Metabolic syndrome (MetS), referring to a series of metabolic abnormalities, including central obesity, hyperglycemia, dyslipidemia, and hypertension, is a common source for many kinds of chronic diseases like diabetes and cardiovascular diseases.

Phytochemicals are secondary metabolites of plants; they have brought a lot of inspiration to human medicine in the past, including the discovery of important drugs such as aspirin, paclitaxel, and artemisinin. Oxidative stress, which is commonly associated with obesity and MetS, has been proven to contribute to diabetes, atherogenesis, hypertension, and other cardiovascular diseases. Increasing evidence has shown that polyphenols, a group of antioxidative phytochemicals, could protect cells against oxidative damage and, therefore, reduce the risk of associated diseases. Thus, polyphenols might be a promising compound in our fighting against the pandemic of MetS and the health threat from related chronic diseases. However, despite extensive studies, the antioxidative mechanisms of polyphenols, which are far more complex beyond simple scavenging of free radicals, are still to be determined. Additionally, polyphenols also exhibit prooxidative features under certain conditions, which adds complexity to the understanding of the issue. Meanwhile, validated *in vivo* biomarkers of polyphenols, which could be indicators of polyphenol intake, are still lacking, and dose-response of polyphenols in MetS is still not well studied.

This special issue aims to better understand how polyphenols protect against metabolic syndromes and disorders by calling for the most advanced research in the field of polyphenols and MetS. Review articles that describe the current state or recent developments are highly encouraged.

Potential topics include but are not limited to the following:

- ▶ The effect of specific polyphenols on MetS or related diseases
- ▶ The role of antioxidative capacity of polyphenols on the protective effect against MetS or related diseases
- ▶ Mechanisms underlying the antioxidative effects of polyphenols
- ▶ Dose-response effect of polyphenols in MetS and related diseases
- ▶ The absorption, metabolism, bioavailability and antioxidative capacity of polyphenols
- ▶ Toxicological studies of polyphenols, oxidative stress and MetS

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/omcl/pms/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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