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## The promise of zebrafish as a model of metabolic syndrome

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## Abstract

Metabolic syndrome is a cluster including hyperglycaemia, obesity, hypertension, and hypertriglyceridaemia as a result of biochemical and physiological alterations and can increase the risk of cardiovascular disease and diabetes. Fundamental research on this disease requires validated animal models. One potential animal model that is rapidly gaining in popularity is zebrafish (*Danio rerio*). The use of zebrafish as an animal model conveys several advantages, including high human genetic homology, transparent embryos and larvae that allow easier visualization. This review discusses how zebrafish models contribute to the development of metabolic syndrome studies. Different diseases in the cluster of metabolic syndrome, such as hyperglycaemia, obesity, diabetes, and hypertriglyceridaemia, have been successfully studied using zebrafish; and the model is promising for hypertension and cardiovascular metabolic-related diseases due to its genetic similarity to mammals. Genetic mutation, chemical induction, and dietary alteration are among the tools used to improve zebrafish models. This field is expanding, and thus, more effective and efficient techniques are currently developed to fulfil the increasing demand for thorough investigations.

## Keywords

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