# Brief review on recent technology in particle image velocimetry studies on hemodynamics in carotid artery

*A. Fahmi Huwaidi M. Noor and* **Nasrul Hadi Johari**

Human Engineering Group, Faculty of Mechanical and Automotive Engineering Technology, Universiti Malaysia Pahang, 26600 Pekan, Pahang

## ABSTRACT

Cardiovascular disease is number one causes of morbidity and mor tality in global. In-vitro studies are widely applied in the investigation of blood flow under pathological conditions to diagnose atherosclerosis in carotid arter ies. In this manuscript, a brief review on the latest published articles was con ducted according to Preferred Reporting Items for Systematic Reviews and Me ta-Analyses on the particle image velocimetry (PIV) studies of blood flow in carotid artery geometries. Fourteen (14) recent articles on PIV from 2016 to 2020 in Scopus, PubMed and ScienceDirect databases were included. The data of the published articles were focused on the technical aspects of PIV flow measurement and were organized in two categories i.e. carotid phantom geome tries constructions and the blood mimicking flow circuits. This systematic re view paper summarises the updated methodology in the PIV and identify poten tial areas to elucidate the accuracy and limitations of each method.

## KEYWORDS

PIV; Carotid Artery Phantom; Blood Flow

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