



THE 4TH MULAWARMAN INTERNATIONAL  
CONFERENCE ON TROPICAL PUBLIC HEALTH  
(MICTOPH) 2025



---

## ABSTRACT

**Title of Abstract** : WORK RELATED HYPERTENSION : Mapping Occupational, Environmental, and Psychosocial Risk Factors from Global and Indonesian Studies

**Authors of Abstract** : 1. Susiana Ambarwaty 2. Iwan Muhamad Ramdan 3. Ayu Indira Dwika Lestari

**Affiliation** : Others

**Correspondence E-mail** : sissy49.sa@gmail.com

**Background** : Hypertension is a major global public health problem and a leading contributor to cardiovascular morbidity and mortality. In occupational settings, exposure to multifactorial risks including work organization, environmental hazards, and lifestyle behaviors would makes workers particularly vulnerable to elevated blood pressure.

**Objective** : This study aims to explore current evidence on the determinants of hypertension among workers, focusing on physiological, occupational, environmental, and psychosocial risk factors.

**Research Methods/** IA literature review were obtained using electronic databases (PubMed, Scopus, ScienceDirect, Google Scholar) with inclusion criteria encompassing studies published in the last five years.. Eligible studies assessed risk factors associated with blood pressure among workers.

**Implementation Methods** :

**Results** : Fifteen studies that met inclusion criteria were analyzed. Findings were grouped into four main determinants: demographic/physiological, work characteristics, environmental exposures, and lifestyle as a psychosocial factors. Age and male sex consistently increased hypertension risk. Shift work, night shifts, and long working hours disrupted circadian rhythm and were associated with higher blood pressure. Physical workload contributed to increased cardiovascular strain. Noise exposure and benzene toluene xylene (BTX) chemicals were associated with hypertension through oxidative stress and endothelial dysfunction. Metabolic indicators such as obesity, lipid accumulation product (LAP), and visceral adiposity index (VAI) were strong predictors. Psychosocial stress and burnout also elevated risk, whereas smoking showed inconsistent associations across studies.

**Conclusion/Lesson Learned** : Hypertension in workers is driven by interacting occupational, environmental, physiological, and psychosocial risk factors. Effective control requires targeted workplace interventions addressing exposure control, shift and workload management, psychosocial support, and metabolic health screening. A lack of longitudinal and intervention studies represents a significant research gap.

**Keyword** : hypertension; occupational exposure; shift work; metabolic syndrome; workplace risk factors; noise; BTX