

RESUMO - HEALTH SCIENCES

AUTONOMIC MODULATION BUT NOT SLEEP QUALITY OR BODY COMPOSITION IS CRUCIAL FOR HIGH BLOOD PRESSURE IN ADOLESCENTS

Antonio Carlos Silva-Filho (antoniocarlos.j77@gmail.com)

Carlos Filho (carlosaadias11@gmail.com)

Nivaldo Soares Jr (nivaldosoaresjr@gmail.com)

Sara Raquel Dutra Macêdo (sarah.rdmacedo@hotmail.com)

Carlos Dias (carlosdias.ef@gmail.com)

Andressa Coelho Ferreira (andressa.cfer21@gmail.com)

Janaína De Oliveira Brito (brito.jno@gmail.com)

Cristiano Teixeira Mostarda (cristiano.mostarda@gmail.com)

Introduction: In the most recent report in the global cause of deaths, the cardiovascular diseases again leads the all-cause mortality for non-communicable diseases, with hypertension being one of the leading causes among this category.

However, adolescents are also affected by other cardiovascular risk factors like obesity and, poor sleep quality due to school routine. So, it's important to determine the real contribution of the autonomic imbalance for the development of high levels of blood pressure. Seen this, we aimed to evaluate the autonomic modulation of adolescents with different levels of blood pressure, excluding

possible confusing co-factors like sleep quality or body composition. Methods: 206 (74 males and 132 females) adolescents between 11-18 years of age from a public school in São Luis, Brazil joined the study. Blood pressure, body composition, sleep quality, sexual maturation and heart rate variability were assessed after informed consent being given. Groups were split according to their levels of blood pressure. Results: The high blood pressure group demonstrated higher blood pressure, higher sympathetic and lower parasympathetic modulation when compared to the borderline and normotensive groups. No difference was found between body composition, sleep quality, and sexual maturation between groups. Discussion: Our data witness that the autonomic balance has a major role in the development of elevated levels of blood pressure. This finding has a relevant clinical importance for the understanding of the physiopathology of hypertension, seen that co-factors such as poor sleep quality and obesity have been widely investigated for their roles in the development of pre hypertension in adolescents. Conclusion: The autonomic imbalance plays a key role in the development of high levels of blood pressure in adolescents even in subjects without obesity and sleep disturbances.