DIASTOLIC HYPERTENSION AND DECLARATIVE KNOWLEDGE PERFORMANCE. IS THERE A RELATION IN YOUNG PEOPLE?

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The aim of the study is to verify if diastolic blood pressure level influences the declarative knowledge performance in young people, during motor skill learning. Indeed, many studies highlighted how diastolic blood pressure level have been inversely related to cognitive performance level (declarative knowledge test), with advancing age, for disturbances in cerebral perfusion and pathophysiologic changes in brain structure. Learning and memory could be analysed at different level of biology organization (Elias et al., 2004). Learning, in motor domain, can be considered a modification of internal representational framework. Memory could be a synonymous of knowledge or a retention of internal representation. Internal representation are fundamental functions of the nervous system able to determine behavioural outputs to sensory inputs (Amadio et al., 2004). Memory was distinguished on the nature of information as declarative and procedural (Anderson, 1982). In this experiment it has been only studied the declarative knowledge. The declarative knowledge test consisted of task chosen to describe how participants reminded about the footsteps sequences practiced (McPherson & Thomas, 1989). Diastolic blood pressure was measured at baseline twice in the setting position after five minutes rest with mercurial sphygmomanometer (Pickering et al., 2005). In keeping with the research in this field, the following categories were created for diastolic blood pressure as normal (<80 mmHg) and high (>80 mmHg). A total of 84 participants (mean age=21±1.4) were categorized into two groups: group 1 (n=42) normal dbp; group 2 (n=42) high dbp.

Results of One Way ANOVA (F(1,84)=10,771, p=.002) indicated that participants with higher levels of baseline diastolic blood pressure had a worse performance in declarative knowledge test. Moreover who had normal diastolic blood pressure performed better than who had higher blood pressure. These finding suggest that cognitive testing in younger age groups may provide important insight into the association between hypertension and impaired memory function. That is, diastolic hypertension is associated with poor cognition both in young and in old people (Singh-Manoux & Marmot, 2005).

References


Keywords: Blood Pressure, Memory, Motor Learning

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