

Stress oxidant level and memory deficit in over 70 years old population

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ABSTRACT

Introduction: Increase in life expectancy in communities tends to increase in number of elderly people and increase in prevalence of memory deficit. This study is aimed to investigate the relationship between memory deficit and some related factors such as stress oxidants.

Methods: In a cross-sectional study, 220 people were studied. After physical examination and blood sampling, they were interviewed by a psychiatrist based on diagnostic and statistical manual of mental disease (DSM IV) for ruling out mental disorders. Standard questionnaire of memory deficit were filled out. Based on this questionnaire population was classified into two groups: with memory deficit and without memory deficit. Data was analysed based on t-test and by SPSS software. $P < 0.05$ was considered as a significant level.

Results: In our sample, mean age was 72.7 ± 2.8 . Mean level of malondialdehyde ($\mu\text{mol/l}$) was 2.7 ± 0.36 and 1.5 ± 0.48 , respectively in the presence and absence of memory deficit ($P < 0.001$). Mean antioxidant capacity was $74.5\% \pm 1.6$ and $77.6\% \pm 1.36$, respectively in persons with memory deficit and those without it ($P < 0.0001$). Glutation peroxidize (IU/g Hb) level was 35.1 ± 1.8 and 37.21 ± 1.6 , respectively in the presence and absence of memory deficit ($P < 0.0001$).

Conclusion: Findings of this study suggest the theory of relation between high stress oxidant and low antioxidant capacity with memory deficit. It seems that treatment removing free radicals and stress oxidants can control the trend of memory deficit.

Key words: Memory – Memory Disorders – Oxidants – Aged

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