

PERBEDAAN KADAR *MALONDIALDEHYDE* ANTARA PASIEN USIA LANJUT DENGAN DAN TANPA DEPRESI

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ABSTRAK

Pendahuluan. Indonesia dalam 30 tahun terakhir mengalami peningkatan usia harapan hidup (UHH) yang signifikan, dimana Biro Pusat Statistik (BPS) tahun 2013, pada tahun 2020 diperkirakan jumlah penduduk usia lanjut (usila) 28,8 juta jiwa atau 11,3% dari total penduduk Indonesia. Salah satu masalah yang paling sering terjadi pada usila adalah depresi. Berdasarkan *World Health Organization* (WHO), prevalensi depresi pada usila di dunia sekitar 10-20%, dimana 350 juta orang di seluruh dunia menderita depresi, dengan hampir 1 juta kematian tiap tahunnya karena bunuh diri akibat depresi. Penderita depresi usila dapat menurunkan fungsi eksekutif, kemampuan visuospasial, daya ingat, fungsi kognitif, dan kemampuan fungsional, serta meningkatkan risiko disabilitas dan mortalitas. Pasien depresi rentan terhadap perilaku-perilaku yang dapat meningkatkan radikal bebas seperti merokok, konsumsi alkohol berlebihan, nutrisi yang buruk, serta gaya hidup *sedentary*. Radikal bebas memiliki waktu paruh yang sangat pendek sehingga sulit diukur dalam laboratorium. Kerusakan jaringan lipid akibat radikal bebas dapat diperiksa dengan mengukur senyawa *Malondialdehyde* (MDA) yang merupakan produk peroksidasi lipid. Tingginya prevalensi depresi pada usila serta penelitian yang mengevaluasi hubungan depresi dengan radikal bebas terutama pada usila masih terbatas dan belum ditemukan data penelitian tentang kadar MDA pada usia lanjut di Indonesia sehingga mendorong peneliti melaksanakan penelitian yang mengevaluasi hubungan depresi dengan kadar MDA pada usila.

Metode. Penelitian ini merupakan *cross-sectional*. Penelitian dilaksanakan Agustus – Desember 2019 pada pasien usila yang berobat jalan di RSUP.H.Adam Malik Medan dengan persetujuan Komisi Etik Penelitian Bidang Kesehatan FK USU/ RSUP H. Adam Malik Medan dan sesuai kriteria inklusi dan eksklusi. Data dianalisis dengan menggunakan program SPSS.

Hasil: Dari hasil penelitian didapatkan perbedaan bermakna kadar MDA pada pasien depresi dibandingkan pasien yang tidak depresi ($p < 0,001$). Di mana median kadar MDA pada pasien depresi adalah $1,66 \mu\text{mol/L}$ ($1,13-2,97 \mu\text{mol/L}$) dan pasien yang tidak depresi adalah $1,17 \mu\text{mol/L}$ ($0,78-1,70 \mu\text{mol/L}$).

Kesimpulan. Berdasarkan hasil penelitian ini disimpulkan bahwa Kadar MDA serum pada pasien usia lanjut dengan depresi lebih tinggi dibandingkan tanpa depresi.

Kata kunci: Usila, Depresi, *Malondialdehyde*

THE DIFFERENCES IN MALONDIALDEHYDE LEVELS OF ELDERLY PATIENTS WITH AND WITHOUT DEPRESSION

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Introduction. Indonesia in the last 30 years has experienced a significant increase in life expectancy, in which the Biro Pusat Statistik (BPS) in 2013, predicted in 2020 was estimated the number of elderly people (USILA) 28.8 million people or 11.3% of the total population Indonesian. One of the most common problems with elderly is depression. Based on the World Health Organization (WHO), the prevalence of depression in the world is about 10-20%, of which 350 million people around the world suffer from depression, with nearly 1 million deaths annually due to suicide due to depression. Elderly depressants can reduce executive function, visualizing ability, recall, cognitive function, and functional ability, as well as increase the risk of disability and mortality. Depressed patients are prone to behaviors that can increase free radicals such as smoking, excessive alcohol consumption, poor nutrition, as well as sedentary lifestyles. Free radicals have a very short half-life that is difficult to measure in a laboratory. Lipid tissue damage from free radicals can be examined by measuring Malondialdehyde (MDA) compounds which are lipid peroxidation products. The high prevalence of depression in the elderly as well as research that evaluates depressive relationships with free radicals especially on elderly is still limited and has not yet found research data on MDA levels in the elderly in Indonesia thereby encouraging researchers conducting research that evaluates depressive relationships with MDA levels on elderly patients.

Methods. This research is a cross-sectional study. The study was conducted in August – December 2019 in elderly patients who were in Outpatient of RSUP. H. Adam Malik Medan with the approval of the Health Sector Research Ethics Commission FK USU/RSUP H. Adam Malik Medan and according to the criteria of inclusion and exclusion. The data is analyzed by using the SPSS program where $p < 0.05$ is considered significant.

Results. The results of the study obtained a meaningful difference in the levels of MDA in depressed patients versus patients who were not depressed ($p < 0.001$). Where the median MDA levels in depressed patients was 1.66 $\mu\text{mol/L}$ (1.13-2.97 $\mu\text{mol/L}$) and not depressed patients was 1.17 $\mu\text{mol/L}$ (0.78-1.70 $\mu\text{mol/L}$).

Conclusion. Based on the results of the study concluded that serum MDA levels in elderly patients with depression were higher than without depression.

Keywords. Elderly, Depression, Malondialdehyde