

# Effects of Omega-3 Fatty Acids on Depression and Quality of Life in Maintenance Hemodialysis Patients

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Depression and health-related quality of life (HRQoL) are closely interrelated among hemodialysis (HD) patients and associated with negative impacts on patients' clinical outcomes. Considering previous reports on clinical benefits of omega-3 fatty acids in major depression and HRQoL in other patient populations, this study examined effects of omega-3 fatty acids on depression and HRQoL in chronic HD patients. In this randomized placebo-controlled trial, 40 adult patients with a Beck Depression Inventory (BDI) score of  $\geq 16$  and HD vintage of at least 3 months were randomized to ingest 6 soft-gel capsules of either omega-3 fatty acids (180 mg eicosapentaenoic acid and 120 mg docosahexaenoic acid in each capsule) or corresponding placebo, daily for 4 months. At baseline and after 4 months, 2 questionnaires of BDI and the Medical Outcome Study 36-Item Short-Form Health Survey were completed by each patient. Although baseline BDI score was comparable between the 2 groups, it was significantly lower in the omega-3 group compared with the placebo group at the end of the study ( $P = 0.008$ ). Except for mental health, social functioning, and general health, other domains of HRQoL showed significant improvement in the omega-3 group compared with the placebo group at month 4 of the study ( $P < 0.05$  for all). Regression analysis revealed that ameliorated BDI score by omega-3 treatment had considerable role in the improvement of overall HRQoL score, physical and mental component dimensions, and score of physical functioning, role-physical, and bodily pain. Supplemental use of omega-3 fatty acids in HD patients with depressive symptoms seems to be efficacious in improving depressive symptoms and HRQoL.

*Keywords:* depression, hemodialysis, omega-3 fatty acids, health-related quality of life

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## INTRODUCTION

Comorbid depression causes substantial impacts on morbidity, mortality, self-care behavior, and health-related costs in patients who suffer from chronic diseases.<sup>1</sup> The lifetime prevalence of depression in the general population is estimated to be about 16%.<sup>2</sup> However, depression occurs as the most common psychopathology in chronic hemodialysis (HD) patients with a reported prevalence rate of 30%–60%.<sup>3</sup> Several risk factors that have been reported to predispose end-stage renal disease (ESRD) patients to develop major depression include loss of principal role in the workplace or family, diminished cognitive skills, decreased