

Paper Category:	Frailty
Sex hormone binding globulin and free testosterone levels with frail and physical activity in elderly men: a cross-sectional study	
<p><i>Background:</i> Frailty syndrome is one of the problem in geriatric population. The pathogenesis of frailty syndrome is thought to be played by hormonal factors. Previous studies have shown a relationship between sex-human binding globulin (SHBG) and frailty but not free testosterone levels.</p> <p><i>Objectives:</i> This study aimed to compare SHBG and free testosterone levels with the incidence of frailty and physical activity in elderly men.</p> <p><i>Method:</i> This analytical cross-sectional study was conducted in the elderly functional group in South Minahasa. Frailty syndrome was assessed using the Frailty Index Questionnaire 40 (FI-40), which is divided into three groups (frail, pre-frail, and normal). Activity level was assessed based on whether or not the patients had physical activity for more than three days per week. Individual serum SHBG and free testosterone levels were obtained through laboratory examination. The data were analyzed at a significance level of $p < 0.05$.</p> <p><i>Result:</i> A total of 30 male elderly patients aged 60-78 years were included in this study. Out of the 30 respondents, frailty syndrome was identified in 9 respondents, among whom 8 had low levels of physical activity. The Kruskal-Wallis test revealed a significant difference in SHBG levels among the frailty groups [91.6 (70.30-142.50) vs. 63.35 (42.60-91.00) vs. 51.20 (49.80-61.00); $p < 0.0001$]. In the Independent T-test, it was found that there were significant differences in SHBG and free testosterone levels among the activity groups [(62.28 \pm 13.96 vs. 92.95 \pm 30.88; $p = 0.001$) & (9.31 \pm 3.49 vs. 5.86 \pm 3.72; $p = 0.026$)].</p> <p><i>Discussion and Conclusions:</i> In the frail elderly male group and low physical activity, there were higher SHBG levels and lower free testosterone levels.</p> <p>Keywords : Sex Hormone-Binding Globulin (SHBG), free testosterone, frailty index, physical activity</p>	

