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## The levels of serum vitamin D and ferritin in Korean women with obesity and severe obesity

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### Abstract

#### Introduction

In Korean women, the prevalence rate of severe obesity (BMI  $\geq 30.0$  kg/m<sup>2</sup>) increased from 2.8% in 2005 to 4.7% in 2015. It is reported that clinically severe obesity has more serious health problems than moderate obesity and creates additional challenges. Vitamin D was suggested a beneficial effect on inflammatory response, but serum ferritin was has been known as a biomarker of inflammation. The objective of this study is to compare the levels of vitamin D and ferritin in Korean women with moderate and severe obesity.

#### Materials and Methods

44 Korean women with obese and severely obese were recruited. The participants were classified as obese (BMI 25.0–29.9 kg/m<sup>2</sup>, n = 23) and severely obese (BMI  $\geq 30.0$  kg/m<sup>2</sup>, n = 21) group. The informed clinical data, including general information, anthropometric data, body composition, and blood analysis results, were obtained from the participants. Serum vitamin D [25(OH)D<sub>3</sub>] and ferritin were measured. Statistical analyses were performed using the SPSS Statistics for Windows version 24.0.

#### Results

There was a difference in eating habits, severely obese group ate more irregularly and consumed more snacks than obese group. The levels of alanine aminotransferase, aspartate aminotransferase, hemoglobin Alc, total cholesterol, and triglyceride were not significantly different in obese and severely obese group. And, the levels of serum 25(OH)D<sub>3</sub> and ferritin were almost normal and there was no significant difference between the two groups.

#### Conclusion

This study showed that there is a difference in eating habits between obese group and severely obese group. The level of serum 25(OH)D<sub>3</sub> was not declined while the level of serum ferritin was not elevated in Korean obese and severely obese women. This study has been performed with the limitation that the number of samples was not enough.

#### Conflict of Interest

There is no conflict of interest.