

Practical Activity Report

# **Iron deficiency management in women volleyball players from corporate houses during the season; utilizing hemoglobin estimate measured with a non-invasive device**

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## ABSTRACT

### **【Aim】**

We offered nutritional support to women volleyball players from corporate houses corporate-women volleyball players during the season, with the aim of preventing and correcting any iron deficiency. We utilized the hemoglobin estimate obtained with the use of a non-invasive device, considering the physical demand on the players.

### **【Methods】**

All 15 players of the team participated in the study for three months. We offered both group and individual guidance concerning sport-related anemia and iron deficiency. Also, some players were encouraged to take heme-iron-enriched foods. During the study period, we provided individually designed guidance two to four times, taking into account the estimated hemoglobin level. The results of the observations were used for the post-study individual evaluation too. A survey on the diet and subjective symptoms was also carried out before and after the study.

### **【Results】**

The intakes of protein, iron, vitamin B<sub>6</sub> and folic acid increased significantly after the nutritional support intervention. Also, the estimated hemoglobin level increased significantly after the nutrition support intervention as compared with the pre-study level; in particular, the players who were encouraged to intake heme-iron-enriched foods showed a comparatively higher degree of elevation. The post-study survey revealed that more players had become more aware about iron-deficit-related subjective symptoms and of the importance of iron intake.

### **【Conclusion】**

The nutrition management based on the estimated hemoglobin was effective to enhance the players' consciousness for intaking iron, increase the amount of intake during the season, and improve the subjective symptoms, without blood sampling. However, the dietary environment could vary during games away from the home ground and the iron intake could decrease. Therefore, further nutritional management measures should be implemented, such as meal planning and stockpiling of heme-iron-enriched foods, even for games away from the home ground.

**Keywords:** volleyball, sports anemia, hemoglobin estimate, heme-iron-enriched food