

Discussion The findings of the present study indicated the positive effect of the nursing care program supplemented with iron intake on blood parameters and fatigue of the patients undergoing chemotherapy. Accordingly, the studies reviewed above indicated that anemia reduces the prognosis of cancer patients (29), influences the effectiveness of cancer treatments, and increases the likelihood of tumor cell resistance to treatment, which ultimately reduces the survival of the patient (30). It was also shown that the patients' hemoglobin level increased by one gram during the intervention, indicating that perhaps one of the factors that can affect the patients' fatigue is the hemoglobin level since the patients reported lower levels of fatigue after the increase in hemoglobin and iron intake in the form of the nursing care program that focused on doing exercise and daily activities, as was confirmed in other studies (36, 37). It was also shown that the hemoglobin of the patients in the intervention group increased after the nursing care program and the severity of their anemia decreased, confirming the effect of training strategies to increase iron absorption and intake. Probably the discrepancies observed in the frequencies reported in various studies are due to the type of study, the studied population, and the definition of anemia. For instance, Ghaffari et al. measured the relationship between the severity of fatigue and anemia and reported a moderate level of anemia-induced fatigue (24). Despite the effectiveness of exercise in controlling fatigue, studies have shown that the most frequently used strategies by patients were lying down (80.7%) and worshipping (77.9%) and the least frequently used strategies were exercise (5%) and stretching movements (21.4%). Similarly, Rezaee Seraji et al. showed that the hemoglobin concentration of people who did aerobic exercise increased compared to patients who did not perform the aerobic exercise (27). The present study suggested that a significant reduction in the fatigue scores of the patients in the intervention group indicated the effectiveness of the nursing care program. Another study by Abdollahi and Shujaedin suggested that the training protocol improved all aspects of the quality of life and increased physical performance in the intervention group compared to the control group (46), as was evident in the present study. As shown, the nursing care program with an emphasis on iron intake can significantly affect anemia-induced fatigue. The present study also suggested that the severity of fatigue was lower in the patients in the control group, but it was not significantly different from the fatigue level reported by the participants in the intervention group. However, the authors emphasized aerobic exercise, and the changes in hemoglobin ratio were not very noticeable. One of the essential issues in treating patients with cancer is maintaining blood parameters to be within the normal range or close to it. When the patient refers to chemotherapy, nurses decide to perform or not to perform chemotherapy after reviewing the results of blood cell counts. Studies have shown that a decrease in the level of erythrocytes and anemia is one of the most common and persistent problems in cancer patients (31), and its severity depends on the extent of the disease and the severity of treatment. The prevalence of anemia was 50% in solid cancers, as reported in Groopman's study and 35% in Se-shardi's study (34, 35). The research sample in the present study included the patients with mild anemia or no symptoms of anemia, and thus the sample was different from those examined in previous studies.