The effect of incentive spirometry on lung ventilation in patients undergoing hemodialysis

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abstract

**title:** The effect of incentive spirometry on lung ventilation in patients undergoing hemodialysis.

**Background:** One of the most important problems in hemodialysis patients are respiratory complications and reduced lung capacity. Spirometry is a non-invasive method to improve ventilation in patients who have had a positive effect on lung function in some diseases. Given that few studies conducted on respiratory complications in hemodialysis patients, Research Investigated a study entitled the effect of incentive spirometry on lung ventilation in patients undergoing hemodialysis.

**Method:** This research is based on randomized clinical trial method and conducted on hemodialysis patients and with intervention (26) and comparison (26) group. Sampling done in random and blocking method. During of study for each sample was 2 month. Comparison group received routine hospital program and intervention group in addition to routine hospital program performed incentive Spirometry for two months. Data collected with demographic questionnaire and spirometer. Pulmonary parameters evaluated both groups in first, one month and two months after the intervention by spirometer. Data analyzed by Spss V.16 by T test, X2 and repeated measurement test.

**Results:** the results indicated that there is no significant difference in FEV1/FVC , FVC ,FEV1 in two group after 1 month. There is statistically significant difference in FEV1 and FVC in the two months after the intervention in two group (p> 0.04). there is significant difference in the rate of FEV1, FVC and FEV1/ FVC before, one and two months after the intervention, in the experimental group (p> 0.01). Also there is no significant difference in the distance walked during the 6-minute walk before and two months after the intervention in the experimental group and the control group (p> 0.2).

**Conclusion:** According to research, findings confirm the positive impact of incentive spirometer in respiratory parameters with follow-up period. In relation to the distance during the 6-minute walk patients did not achieve statistically significant results and further study is needed.

**Keywords:** incentive spirometry, pulmonary ventilation, dialysis