The effects of sauna on pain relief and range of motion in rheumatoid arthritis patients
Tabatabae Amir
Nursing department, Azad University of Quchan, Iran

Introduction
Pain and pain relief have always been of great importance to man. The most important symptoms of rheumatoid arthritis is the pain. As the pain in these people is chronic, it causes a lot of limitation, and substitution of nontherapeutic treatments with the fewest adverse effects based on scientific principles to relieve pain and finally enable affiliated people to return to normal life. Sauna bathing may also alleviate pain and improve joint mobility in patients with rheumatic disease. (Hannuksela, 2001). If we know pain relieving properties of heat in joints, we can use thermo therapy as a local or general technique. The purpose of this study was to determine the effects of sauna on pain relief and effects on range of motion (ROM) of joints affected in rheumatoid arthritis (RA) patients.

Methods
45 male (RA) patients referring to medical center of Mashhad were randomly selected. The patients were then randomly assigned to 3 groups, one group served as the control group while the other two groups use one session or two session of sauna weekly for 28 days.

The severity of pain was measured by visual analog scale (V.A.S.) in day 1, 15, and 28 for all groups and day 16 and 29 for the experimental groups. ROM was measured by goniometer in experimental group before and after sauna.

Results
The mean SD age was 52 +/- 8 years. The results showed that using sauna causes a remarkable reduction in pain and increase ROM of joint affected especially in joints of the wrists, knees and ankle. Analysis of variance showed that the pain before research was the same in all groups. The pain in each group a day before and after sauna was significantly different. Although the reduction of pain in the second experimental group during the research was bigger, there was a significant difference in reduction of pain between the first and the last day of using sauna among groups.

Next day just after sauna with use of cool water in experimental groups no increasing of pain mention.

According to the table, different groups median on the first day and the last day of the research are significantly different. (t=7.21, df=44, p<0.05) there is no significant difference in pain reduction in the two experimental groups.

Discussion/Conclusion
The result showed the pain relief in patients who used sauna was greater than those who didn't. Then we may say sauna had positive effects on people. These effects may result from stimulation of sympathetic system and in turn relieve pain as reported by Sorri and stimulate nervous system which causes the comfort and pleasure after sauna. The result of this research about pain relief were similar to Nurmikko and Isomaki. According this result, and repeat of research again with more samples, it seems that, sauna maybe reduce pain of rheumatoid arthritis association of other non invasive treatment.

References

Fig. 1: Comparison of pain before sauna and on the last day in three groups