



The Effect Of Thyme And Turmeric Extracts On Soldier's Immune System



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Abstract

This paper is conducted to investigate the effects of thyme and turmeric extract on strengthening the immunity of the Army's soldiers of the Islamic Republic of Iran.

Thyme and turmeric have long been used as useful herbs in traditional medicine and in therapeutic applications. One of the important effects of these two herbs is the immune-stimulating effects reported in the studies.

Soldiers are exposed to physical and psychological damage because of severe environmental and work-related conditions, and their immune system is always invaded by internal and external factors, therefore, amplifying the immune system of this group of people is of great importance.

32 soldiers divided to 4 groups (tumeric, thyme, Combind extract and control group). They received extract of this plants for 2 month. Blood sample was taken in days 0, 30 and 60. Data were analyzed with T-Test in SPSS Version 22.

Total WBC, neutrophils and basophils significantly increased in turmeric group. increase in Lymphosites, WBC and IgM was registered and finally in combined group, significant increase in amount of neutrophils, lymphosites, WBC and IgM was seen.

This study showed that combined group can be more effective than two other groups. So, usage of combined group (tumeric and thyme) can improves the level of immunity in soldiers.

Introduction

Use of medicinal plants to treat and cope with viral infections, Fungi, bacterial and even preventing the prevalence of protozoa parasites is another new approach to the use of these compounds in pharmacology

Thyme and turmeric have long been used as useful herbs in traditional medicine and in therapeutic applications. One of the important effects of these two herbs is the immune-stimulating effects reported in the studies.

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Methods and Materials

soldiers from the armed forces in the General Staff of the Islamic Republic of Iran were participated. In this study, 32 soldiers were selected, whose current status were healthy. The age of the soldiers varied from 19 to 30 years. People with a history of allergy were excluded from the study.

Subjects were randomly assigned to one of the extracts for 2 months based on the group they were exposed to. Each person consumed 200 mg equal to a teaspoonful of thyme or turmeric extracts a day, and the combined group of turmeric extract and thyme consumed about half of each extract per day.

On 0, 30 and 60 days 2 ml of blood samples were taken from each person.

After obtaining the results, one way ANOVA and T test were used to explain the differences between the test and control groups.

Results

Neutrophil counts have been associated with a significant upward trend. The highest amount of neutrophils was seen at the end of the second month in the combined group of extracts. The lowest neutrophils on day 0 were found in the turmeric extract group . In the control group, the slope of the upward trend was lower than that of the other groups, and the group of combined extracts had the highest rate of improvement in neutrophil increase.

the highest amount of lymphocytes was observed in the thyme extract group in day 60. In other treatment groups, an increase in lymphocyte count was observed in the day 30 and 60 of sampling.

amount of eosinophils was encountered in an incremental manner, so that the highest and the lowest amount at the end of the test was observed in the turmeric extract group and the control group, respectively.

The highest amount of IgA antibody in day 0 was related to turmeric extract group and the lowest in day 0 was related to thyme extract group. the highest and lowest IgG antibodies at the end of the test were observed in the control group and turmeric extract, respectively.

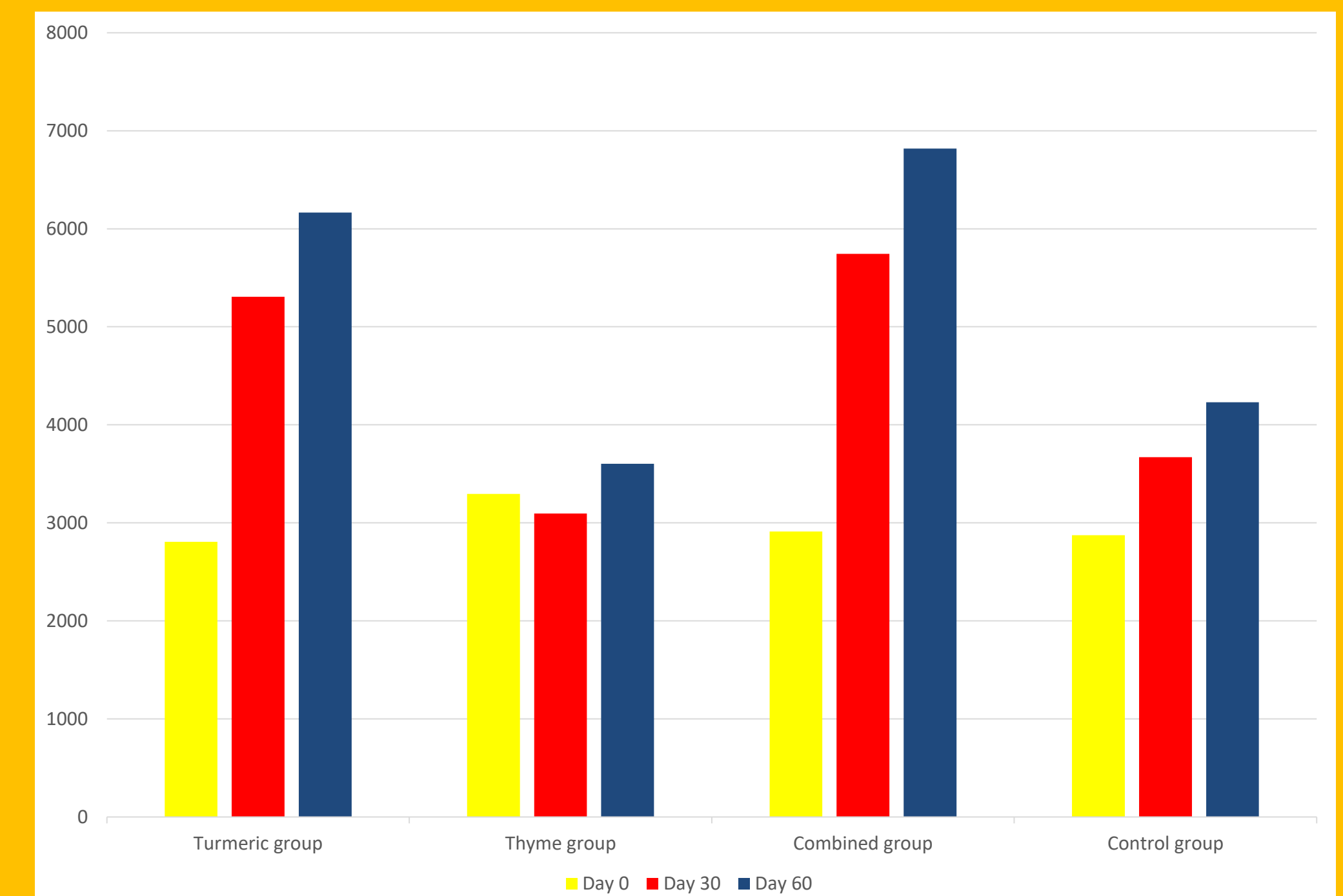


Chart 1. The values obtained from the neutrophil amount in different stages of the test

Discussion

Several studies showed that some phytochemicals could be recognized as an immunostimulant. Herbal medicines, spices, and extracts of various herbs have been considered as complementary growth promoters antibiotics.

The increase the in number of neutrophils following the use of herbal EOs is depended on beta-glucans that can detect specific receptors on white blood cells. When glucans occupy these receptors, the activity of white blood cells increases in the surroundings, killing and digestion of pathogenic bacteria, which all of these will improve the host defense system.

The results of this study showed that the thyme and turmeric EO increased some of the variables related to the immune system of soldiers, and the combined EO of these two plants also improves some inherent and humoral immune variables.

Conclusions

thyme and turmeric extracts increased some of the variables related to the immune system of soldiers, and the combined extract of these two plants also improves some inherent and humoral immune variables. Neutrophils and lymphocytes were found to be significantly increased in the combined group of extracts and turmeric. Total white blood cells increased in all three treatment groups after two months of the test. The results also showed that IgM levels in thyme and combined extracts increased, and no increase or decrease in other measured variables was observed. Based on this paper, it can be seen that turmeric, due to its beneficial effects in modulating the immune response, reduces inflammation and regulates the immune system against internal and external factors. This regulation of the immune system can mean reducing and increasing the number of defensive cells in the body (increasing or decreasing the level of immunity).

Table 1 The values obtained from the WBCs in different stages of the test

WBC	Day 0	Day 30	Day 60
Turmeric extract group	5825±1540	7694±838	10864±586
Thyme extract group	6409±1509	9264±980	11332±488
A combination of extracts	5622±1642	8701±1313	11240±460
control group	5953±1400	7012±1230	7208±1138



Figure 1. Herbs and material used in the experiment

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