



Academic Sports Scholars

EFFECT OF REGULAR PRACTICE OF YOGASANAS AND PRANAYAMA ON THE UPPER RESPIRATORY TRACT INFECTION STATUS POST THEIR FIRST 10 KM RUN AMONG RECREATIONAL YOUNG MEN RUNNERS

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ABSTRACT

Background: Regular physical activity improves the general immunity and also certain specific types of immunities, however, severe and high intensity exercises like long distance running especially by beginners might induce certain inflammatory conditions leading to immunosuppression temporarily causing Upper Respiratory Infections (URTIs) to the runners. There may be possible resources like probiotic diets, regular training, yoga etc to counter the negative effects of high intensity sustained aerobic running. Methodology: Sixty men recreational runners in the age 25 to 30 were included for the study. Thirty were regular Yogasana and pranayama practioners and the other thirty did not practice any yoga before they participated in their first 10 k run of their life. The Upper Respiratory Tract Infection symptoms were measured through the WURSS-44 and the scores were analysed applying the Covariance technique. Results: ANCOVA indicated that the groups differ significantly ($p= 0.006$ and

obtained $F = 8.03$) with homogeneity of slopes showing no significant levels. Conclusion: Yoga practiced group of men runners better protected against the URTI symptoms post their first 10 k run activity when compared to the non yoga men group of the study.

KEYWORDS :Physical activity, Immunity, recreational, URTIs, aerobic running.



INTRODUCTION :

Back ground for the study: Exercise in general is recognised as healthful and would also enhance the immune status of individuals who regularly participate in physical activity programs (Walsh NP, Gleeson M, Shephard RJ, Gleeson M, et.al. 2011). Several studies recognised the importance of physical

activity intervention for the prevention of several non communicable diseases (Matthews CE, Ockene IS, Freedson PS, et.al. 2002). As the immunity enhances, individuals tend to gain more preventive

minimum is zero (for no symptom of the URTI) and maximum is 224 (complete symptoms of URTI in every factor analysed). Higher score indicates higher infection rate and vice versa. The pre run and post run scores of both the groups (Yoga group and non yoga group) were analysed with the help of Analysis of Covariance (ANCOVA) with proper test of homogeneity of slopes. Descriptive mean analysis was also done to explain the final results of the study.

Results of the study: Table I indicates that the post run means for both yoga group (37.16) and non Yoga groups (41.75) increased, signifying the effect of the 10 k run on the URTI status of the men runners of both groups. Analysis of Covariance as depicted in table II indicates that both groups significantly differ in their post run URTI score when compared to their respective pre run URTI scores (at P = 0.009 and F = 7.16). Test for

Table I
Pre-run, Post-run and Adjusted Post-run means for URTI symptom score

Table II
Analysis of Co-Variance for URTI symptom score

Groups/Mean	Pre-run	Post-run	Adjusted Post-run
Yoga group	28.46	37.6	37.16
Non Yoga group	27.47	41.3	41.75

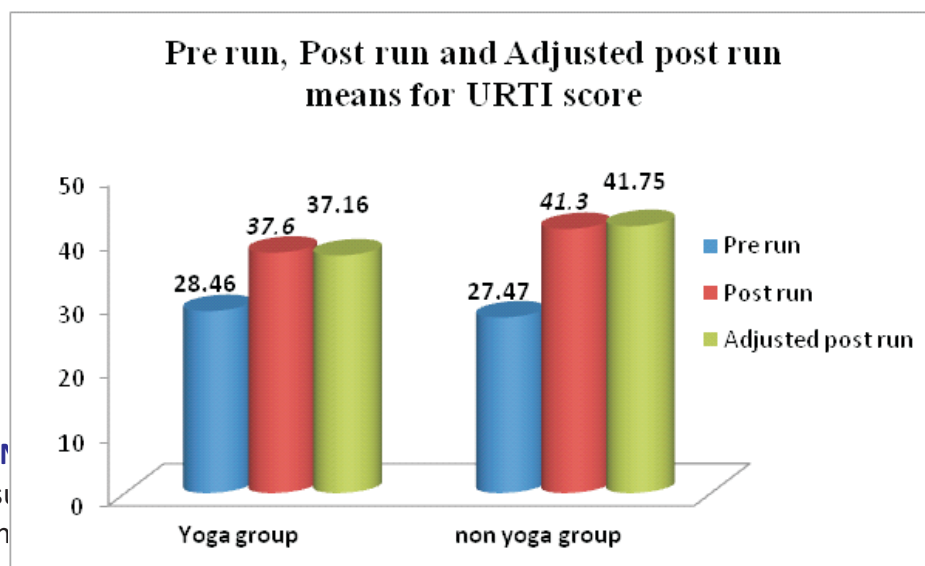
Table III
Test for Homogeneity of regression

Source	SS	df	MS	F	P
Adjusted means	315.19	1	315.19	7.16	0.009715
Adjusted error	2509.86	57	44.03		
Adjusted total	2825.05	58			

Source	SS	df	MS	F	P
Between regressions	34.81	1	34.81	0.97902	
Remainder	2474.99	56	44.2		
Adjusted error	2509.86	57			

homogeneity of regression (table III) indicates that there was no significant difference (P = 0.37 and F = 0.79) among the groups and they were found as non heterogeneous and the statistics was proper, hence the results of the study is significant. The results of the study are also depicted in Graph I for easier interpretation of the results.

Graph I



DISCUSSION ON

The results of the study were compared to the control group in terms of mucosal immunity especially in terms of providing resistance to the upper respiratory tract infections of the runners post their high intensity sustained aerobic long distance activities like 10 k run. Yoga seems an effective tool in terms of providing anti-inflammatory capacity especially with respect to bronchial mucosal inflammations. Other issues like the efficacy of yoga as anti-oxidative needs to be studied further.

CONCLUSION FROM THE STUDY:

Men who have been practicing Yogasanas and pranayama regularly experienced better protection from Upper Respiratory Tract Infection symptoms when compared to men recreational runners who had not practiced yogasanas and pranayama regularly, post their first 10k running activity.

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