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Impact of relaxing asnas and pranayamas on cardiovascular in relation to youths health

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Abstract

Yoga is the best lifestyle ever designed. Based on limited scientific research, yoga (meditation, asanas, and pranayamas including relaxation) therapy is known to improve cardiovascular autonomic functions. To study and compare the effect of 6 days a week for 3 month under our supervision. A total number of 60 subjects aged between 18 – 24 years were selected through center for yoga therapy. They were randomly divided into two groups. Group 1 received pranayam (pranav, savitri, nadi shuddhi and Bhramari) Group 2 received asan (pawanmuktasana, balasan, dharmikasan and shavasan). Pranayam and asan techniques were taught to the respective group and they were familiarized with the techniques and made comfortable to the yoga training. Yoga training protocol for each group.

Keywords: Impact of relaxing asnas and pranayamas on cardiovascular in relation to youths health

Introduction

Yoga practitioners are physically and mentally healthier and have better capacity to cope up the stress than the normal population. Among the eight fold path of astanga yoga, asan (firm and comfortable postures) and pranayam (slow, deep, conscious, rhythmic breathing) are mainly practiced by many people and also it is given as yoga therapy. Stress and autonomic dysfunction associated with cardiovascular morbidity are seen as upward trend in India in recent years. Based on scientific research, yoga (meditation, asanas, and pranayamas including relaxation), therapy is known to improve cardiovascular autonomic functions and reduces stress. Yoga has a role in prevention management and rehabilitation in stress induced lifestyle disorder the hypertension.

Methodology

Methods and Materials

A total number of 60 subjects aged between 18 – 24 years were selected through center for yoga therapy. They were randomly divided into two groups. Group 1 received pranayam (pranav, savitri, nadi shuddhi and Bhramari) Group 2 received asan (pawanmuktasana, balasan, dharmikasan and shavasan). Pranayam and asan techniques were taught to the respective group and they were familiarized with the techniques and made comfortable to the yoga training. Yoga training protocol for each group is given in table 1 and 2. A total of 25 minutes training program was given to each group for 6 days a week for 3 month under our supervision.

Table 1: Pranayam Training Protocol

Name of Pranayams	Repetition	Duration (Min)
Prayer	5	5
Pranav	5	5
Savitri	5	5
Nadi shuddhi	5	5
Bhramari	5	5
Total		25

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Table 2: Asan Training Protocol

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Name of Asanas	Repetition	Duration (Min)
Prayer	5	5
Pawanmuktasana	5	5
Balasan	5	5
Dharmikasan	5	5
Shavasan	5	5
Total		25

The average of 2 trails with 5 min interval were taken for our calculation. PP was determined by $PP = SBP - DBP$, MAP and RPP were determined using respective formulae, $MAP = DBP + (P/3)$, $RRP = (HR \times SBP)/100$. All the above mentioned parameters were recorded before and after 3 months of yoga training program.

Table 3: Effect of 3 months of pranayamas and asanans traing on HR, SBP, DBP, PP, MAP and RPP

Parameters	Pranayam		Asan	
	Pre	Post	Pre	Post
HR (bpm)	38.94	37.06	39.31	39.77
SBP (mmHg)	59.45	56.39	57.67	56.39
DBP (mmHg)	36.29	34.84	36.57	34.75
PP (mmHg)	21.68	20.33	21.12	19.92
MAP (mmHg)	42.99	42.29	43.59	41.35
RRP (units)	45.12	41.81	45.34	41.51

Data are expressed that difference between pranayam and asan by using one way ANOVA, HR: Heart rate, SBP: Systolic blood pressure, DBP: Diastolic blood pressure, PP: Pulse pressure, MAP: Mean arterial pressure, RPP: Rate pressure product.

Result

The results are given in table 3 relaxing pranayam and asan resulted in significant decreases in resting HR and PP, SBP and MAP and DBP and RPP after training. The mean of pre and post training values of two groups were compared by one way ANOVA. There were no significant difference between groups at pre training. Post training comparison showed significant differentn in HR, SBP and MAP, DBP, PP and RPP for the means for both pranayam and asan after training. However, there were no significant differences between pranayama and asan group after yoga training.

Conclusions

This study offers further evidence of the cardiovascular relaxation afforded by yoga. It also has studied the differential effects of ASAN and Pranayam training and found that both have similar beneficial effects as compared to a wait listed. This may be attributed to the enhancement of parasympathetic tone and reduction in sympathetic activity in the autonomic nervous system. Pranayam is relatively easier to perform and hence the findings of this study give us scope for further research in clinical and geriatric population as well as those who are physically challenged.

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