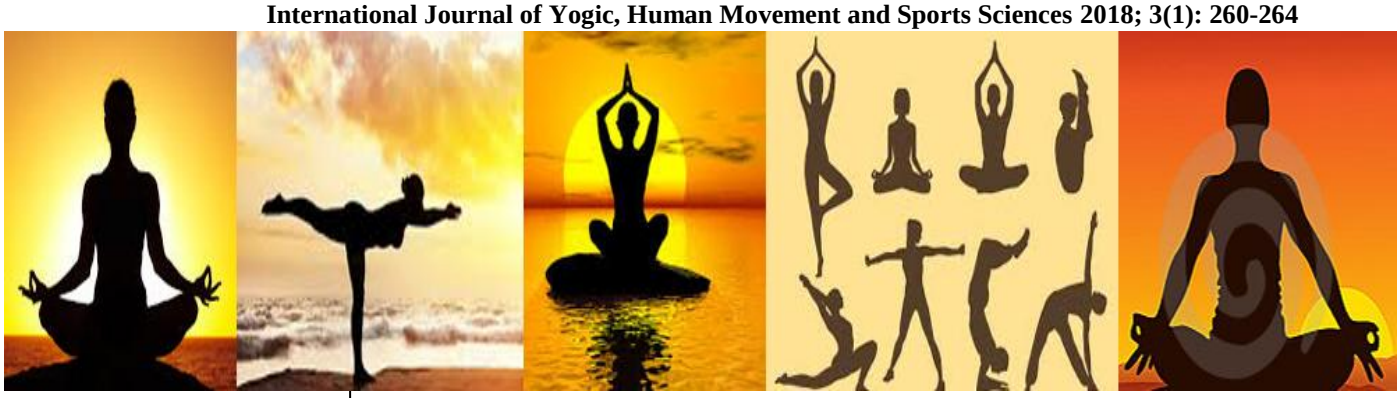
International Journal of Yogic, Human Movement and Sports Sciences 2018; 3(1): 260-264



ISSN: 2456-4419
Impact Factor: (RJIF): 5.18
Yoga 2018; 3(1): 260-264

www.theyogicjournal.com
Received: 18-11-2017
Accepted: 19-12-2017

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Analysis of selected cohort age non sportsmen in relation to their body composition and health related factors

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Abstract
Aim and Objective: The purpose of the study was to investigate the selected non sportsmen of 31-40 years age group, belonging to different occupational backgrounds for analyzing their physical, physiological and health related adaptations to age.
Method: The study was conducted on 150 subjects from northern plain region of India and was based on purposive sampling technique. Body composition, Physiological and health related data were collected by sophisticated body composition analyzer machine and by specially designed questionnaires, previously pretested and validated.
Results: For Fat percentage there is a significant difference between professionals and elementary group (MD =2.31), and service & sales and elementary group (MD=2.29); whereas no significant difference was computed between professionals and elementary group (MD = 0.02). For RMR: there is a significant difference between professionals and elementary group (MD = 80.20), and service & sales and elementary group (MD=140.02); whereas no significant difference was computed between professionals and elementary group (MD = 59.82).
For Medical Health: There is a significant difference between professionals and elementary group (MD = 0.90); whereas no significant difference was computed between professionals and service & sales group (MD = 0.36), and service & sales and elementary group (MD=0.54).
Conclusion: Fat Percentage: Elementary occupational have shown better fat percentage however professional and service & sales group have shown average 3.9 percentage more accumulated fat from the standard health recommendations.
RMR: Professionals and service & sales occupational have reported with higher side of fat accumulation i.e. approx. 3.9 percent. So it reveals that there is an imbalance of intake of diet with respect to existing RMR or total work done (total energy expenditure) which needs to be adjusted for good and healthy physique.
Medical Health: Professionals have been inflicted with lowest number of diseases and elementary occupations had inflicted with significantly highest number of diseases which gives an alarming state of their educative background, socio economic status and prevailing health service.

Keywords: Fat percentage, muscle percentage, RMR, medical health

1. Introduction
The healthful living is one fast emerging practices, trends and approaches to promote health among the people of the nation and the world wide, along with a vast scope of research investigations to nurture the blessing of healthful living. The healthful living is simply affected by the choice of our selection for our lives, which as a result manifested in our lifestyle and it's adjustments for one's health, healing, and happiness process. This process of being in health become more susceptible to the aging process when it is accompanied with non active form of life and one's misery for his health and food habits. In the purview of the healthy living the study was planned as "Analysis of selected cohort age non sportsmen in relation to their body composition and health related factors". The study aimed on depicting the real and clear picture whether sports or physical activity participation of the past, does have any significant effect in ageing? It also mainly focuses on the level of contribution by past selected sports or physical activity involvement in non sportsmen after 31-40 years age group in terms of body composition, resting metabolic rate and medical health. The purpose of the study was to analyse the body composition, resting metabolic rate and medical health of non sportsmen of Northern plain regions of India.

The study analogies on different parameters of body composition (such as fat percentage and muscle percentage), resting metabolic rate and medical heath. The medical health status parameter comprises of selected commonly prevalent diseases in the society.

2. Methods and material

2.1 Study Area and Sampling Design

The study projects on northern plain regions of India. Three states named Delhi, Haryana and Punjab were selected for the purpose of study. The study was conducted on 150 subjects and was based on purposive sampling technique. For the purpose of study, the non sportsmen group was divided into three different occupational categories viz. Professionals (teaching professionals and business & administration professionals), Service & Sales Workers (sales workers, personal care workers and shopkeepers), and Elementary Occupations (cleaners, helpers and street & related sales and service workers).

2.2 Tools Used

For collection of the required data, different tools and techniques were used. All required tools were available in the Department of Physical Education, LPU, India.

The body composition (fat and muscle percentage) and metabolic rate of the subjects was taken with the help of body composition analyzer machine.

The health related factors were assessed through RMR and self made medical health status Performa. The medical health status of subjects was compiled through self made report filled by the subjects on the basis of commonly spread diseases in society, which was designed specifically to measure the spread of such diseases on medical health ground.

2.3 Administration of data collection

Before the test administration, necessary preparations were made. The investigator strictly followed the specification as mentioned in the test. Subjects were given a chance to practice so as to become familiar with the tests and device and to know exactly what was expected to be done. The test was administered on subjects after giving demo on body composition analyzer machine and by providing clear and complete instructions for filling the questionnaire. The subjects on non sportsmen were selected from Delh (North, south, east, west and central Delhi), Haryana (Ambala, Faridabad and Gurgaon) and Punjab (Amritsar, Jalandhar and Patiala).

2.4 Statistical Technique

Data were summarized by descriptive statistics (mean, standard deviation). In order to compare body composition, resting metabolic rate and medical health of subjects between and within groups Analysis of Variance (ANOVA) was used. The significance was tested at 0.05 level. All the statistical procedure was performed with the help of SPSS (v.18).

3. Results

3.1 Findings

The score of fat percentage, muscle percentage, RMR and medical health for various comparisons have been presented in the following tables:

Table 1: ANOVA summary of fat & muscle percentage (body composition), RMR and medical health variable among professionals, service and sales and elementary group in 31-40 years age group of non sportsmen

Variables	Source of Variance	Sum of Squares	DF	Mean Square	F
Fat	Between Groups	176.957	2	88.479	3.828*
	Within Groups	3397.872	147	23.115	
	Total	3574.830	149		
Muscle	Between Groups	26.968	2	13.484	2.743
	Within Groups	722.715	147	4.916	
	Total	749.683	149		
RMR	Between Groups	493601.213	2	246800.607	9.242*
	Within Groups	3925617.880	147	26704.884	
	Total	4419219.093	149		
Medical Health	Between Groups	20.520	2	10.260	3.288*
	Within Groups	458.740	147	3.121	
	Total	479.260	149		

*Significant

Tab. $F_{.05}$ (2,147) = 3.06)

As statistically analysed in the above table 1 that, the computed value of *F* (3.82), *F* (9.24) and *F* (3.28) is more than the tabulated value of *F* (3.06) for fat, RMR and medical health variables respectively hence it is revealed that: There exists a significant difference of fat percentage, RMR and medical health among professionals, service and sales and elementary groups in 31-40 years age group of non sportsmen whereas there do not exists significant difference in muscle percentage variable among professionals, service and sales and elementary groups in 31-40 years age group of non sportsmen.

Further to analyze which occupational group had better fat, RMR and medical health, Tukey Post-hoc test was performed and its result is presented in the following table:

Table 2: Tukuy's results for fat percentage variable among professionals, service and sales and elementary group in 31-40 years age group of non sportsmen

Mean Value			MD	Sig.
Professionals	Service and Sales	Elementary		
25.93	25.91		0.02	1.000
25.93		23.62	2.31*	0.045
	25.91	23.62	2.29*	0.048

*****Significant at .05 level

Pair wise mean comparison of fat percentage is presented in table 2, and it is revealed that there is a significant difference between professionals and elementary group (*MD*=2.31), and service & sales and elementary group (MD=2.29); whereas no significant difference was computed between professionals and elementary group (*MD* = 0.02).

Fig 2: Mean comparison of fat percentage on body composition variable among professionals, service and sales and elementary group in 31-40 years age group of non sportsmen.

Table 3: Tukuy's results for RMR variable among professionals, service and sales and elementary group in 31-40 years age group of non sportsmen

Mean Value			MD	Sig.
Professionals	**Service and Sales**	**Elementary**		
1649.4	1709.2		-59.82	32.683
1649.4		1569.2	80.20*	32.683
	1709.2	1569.2	140.02*	32.683

***Significant at .05 level

Pair wise mean comparison of RMR is presented in table 3, and it is revealed that there is a significant difference between professionals and elementary group (*MD* = 80.20), and service & sales and elementary group (MD=140.02); whereas no significant difference was computed between professionals and elementary group (*MD* = 59.82).

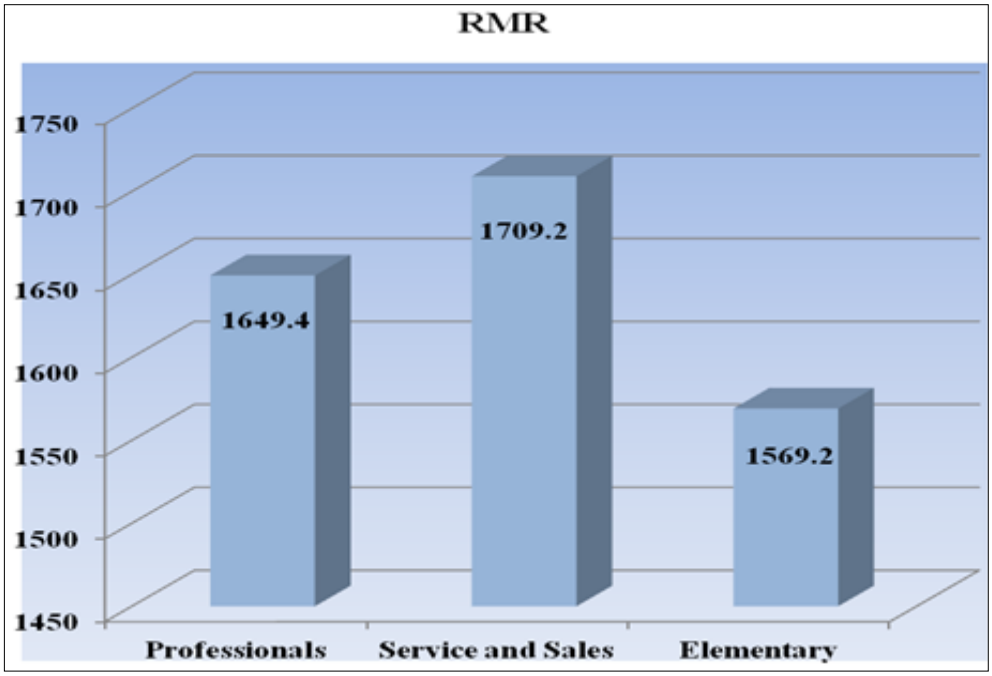

Fig 3: Mean comparison of RMR variable among professionals, service and sales and elementary group in 31-40 years age group of non sportsmen

Table 4: Tukuy's results for medical health variable among professionals, service and sales and elementary group in 31-40 years age group of non sportsmen

Mean Value			MD	Sig.
Professionals	**Service and Sales**	**Elementary**		
1.04	1.40		-0.36	0.566
1.04		1.94	-0.90*	0.032
	1.40	1.94	-0.54	0.281

***Significant at .05 level

Pair wise mean comparison of medical health is presented in table 4, and it is revealed that there is a significant difference between professionals and elementary group (*MD* = 0.90); whereas no significant difference was computed between professionals and service & sales group (*MD* = 0.36), and service & sales and elementary group (MD=0.54).

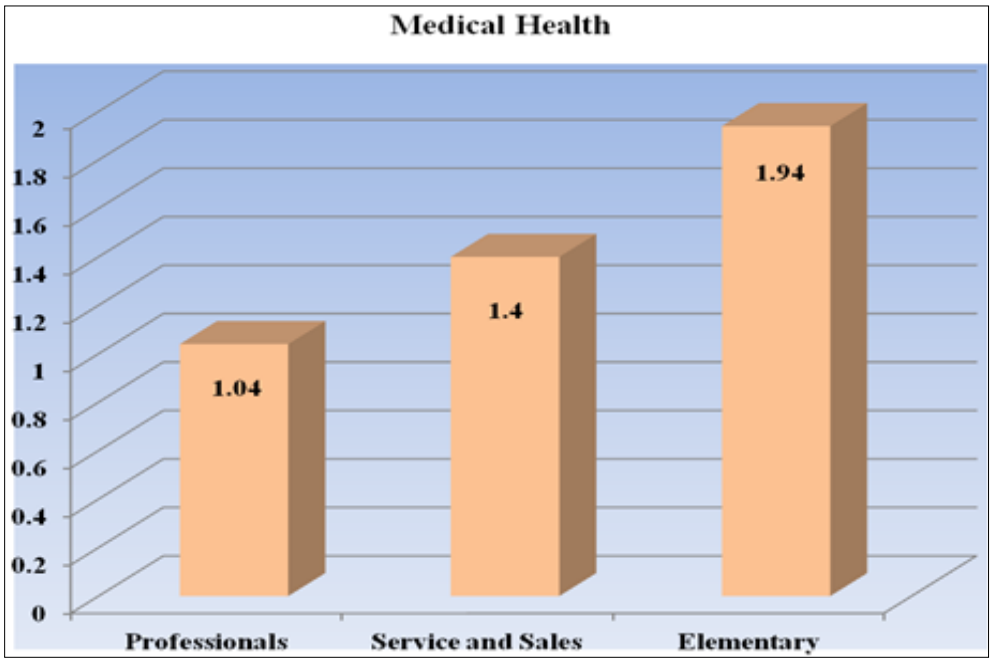

Fig 4: Mean comparison of medical health variable among professionals, service and sales and elementary group in 31-40 years age group of non sportsmen

4. Discussion

Significant difference exists among professionals, service & sales, and elementary group in 31-40 years age group of non sportsmen for fat variable (body composition), RMR and medical health whereas no significant difference exists in muscle variable (body composition).

It may be due to the reason that the non sportsmen groups had different nature of job thus requires different physical and psychic demands, their educative and psycho-socio belief pattern also differs, lifestyle and economic status also varies thus all these reasons would be summed to have significant differences.

5. Conclusion

Within limitations of the study, following summarized conclusions have been presented as an abstract outcome of the research study.

5.1 Fat Percentage: Elementary occupational have shown better fat percentage with a mean value of 23.62 and this could be attributed to their nature of job and amount of physical exertion involved in it. However professional and service & sales group have shown average 3.9 percentage more accumulated fat from the standard health recommendations.

5.2 RMR: Professionals (1649.4 KCal) and service & sales (1709.2 KCal) occupational have reported with higher side of fat accumulation i.e. approx. 3.9 percentage higher. So it reveals that there is an imbalance of intake of diet with respect to existing RMR or total work done (total energy expenditure), which needs to adjusted for good and healthy physique.

5.3 Medical Health: Professionals have been inflicted with lowest number of diseases with a mean value of 1.04 and elementary occupations had inflicted with significantly highest number of diseases with a mean value of 1.94 which gives an alarming state of their educative background, socio economic status and prevailing health service.

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