



QUALITY OF LIFE BETWEEN SMOKERS AND NON-SMOKERS MALE UNIVERSITY STUDENTS – A COMPARATIVE STUDY.

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ABSTRACT

Background: The study was aimed to compare the quality of life between smokers and non-smokers university going male students.

Material and methods: 68 university students participated in this study, of which 34 were smokers (Group A) and 34 were non-smokers (Group B). After signing the consent, all the participants were asked to fill Short Forum 36 version 2 Questionnaire.

Results: The Quality Metric Health Outcomes™ Scoring Software 5.0 was used to get Physical component score (PCS) and Mental component score (MCS). Students T- Test was used to analyse the data. The PCS of Group A and Group B had mean(SD) 53.56±5.61 and 56.47±4.10 respectively, did not reveal statistically significant results (with t value 2.44 and p value 0.17). MCS of Group A and Group B had mean(SD) 42.99±8.69 and 50.42±7.92 respectively was found to be statistically significant (with t value 3.68 and p value 0.00).

Conclusion: Smoking may affect quality of life as the scores of mental component were significantly reduced in smokers as compared with non-smokers. The scores of Physical component were also reduced even though statistically not significant in smokers as compared with non-smokers.

KEYWORDS : Smoking, Quality of life, Physical component score, Mental component score.

Introduction

The Prevalence of smoking is increasing all around the world including India and other developing countries. Feeling of maturation, peer pressure, poor academic performance, parental smoking, financially implications, influence of western culture, for the sake of enjoyment and relaxation male adolescents get attracted towards smoking in India.^[1]

Previous studies show that smoking is a risk factor for many diseases such as COPD, CVD, peripheral artery disease, coronary artery disease, myocardial infarction, atherosclerosis. Smoking affects the normal functioning of the lungs by reducing the lung capacities. There are 44 harmful compounds contained in tobacco smoking such as nicotine, tar and carbon monoxide.^[2] Nicotine weakens the regulatory capabilities of the cardiac vagus nerve, and increases sympathetic nervous system stimulation which will increase a person's heart rate and stroke volume. Tobacco contains tar which has a detrimental effect on body and can increase pulmonary airway resistance or reduce the contact surface area between oxygen and pulmonary capillaries, thereby decreasing the capacity of the arteries to transport oxygenated blood during exercise or physical activity. Smoking can increase carbon monoxide concentrations in the airways and the blood stream which can reduce the amount of oxygen transport in muscular capillaries which adversely affects their skeletal muscle performance.^[2-5]

Quality of life (QOL) is described as the general well-being of individuals and societies, outlining negative and positive features of life. It takes into account the life satisfaction, which includes everything from physical health, family, education, employment, wealth, religious beliefs, finance and the environment.^[6] Quality of life is reduced in male adolescent university going students by reducing their PCS (Physical component score) and MCS (Mental component score). Quality of life of smokers was assessed in different countries including Scotland, Brazil, Greek, Singapore, Croatia etc by using different types of health related questionnaires.^[7-11] But no such study has been done on Indian population. The present study compares the quality of life between smoker and non-smoker in university going male adolescent students.

Material and methods

Out of a population of about 120 university students, 68 subjects were recruited in this study as per criteria.

Inclusion criteria -

1. age group-18 to 25 years. 2. Male students. 3. For smokers 2-4

years of history of smoking and 10 to 15 cigarettes per day. For non-smokers no history of smoking.

Exclusion criteria -

1. Any history of pulmonary or respiratory disorders, 2. any recent orthopedic injury, 3. history of any metabolic or chronic diseases like thyroid, diabetes 4. any neuropathy. 5. Person with any known psychiatric illness.

Subjects were assigned into two groups by convenient method of sampling. Group A were smokers and Group B were non-smokers. All subjects were taken from Jamia Hamdard campus, New Delhi. Subjects were recruited to the groups after they signed the informed consent, as per the inclusion and exclusion criteria. This study was one-time study.

Short Forum -36 version 2 Questionnaire which contains two components, PCS (Physical component score) and MCS (Mental component score) was used for the assessment of quality of life. PCS contains four domains- Physical functioning (PF), Role physical(RF), Bodily pain(BP) and General health(GH). MCS (Mental component score) contains four domains- Vitality(VT), Social functioning(SF), Role emotional(RE) and Mental health(MH). Questions were filled by both the groups by using pen and paper method.

Result

There was no significant difference in the age and BMI between the groups. Group A had mean(SD) age 22.14±2.13 and mean(SD) BMI 20.62±3.48. Group B had mean(SD) 21.41±2.07 and mean(SD) BMI 21.37±2.74. (Table 1)

Table 1: Demographic data: Depicting the mean(SD), t values and p values for age and BMI of both the groups.

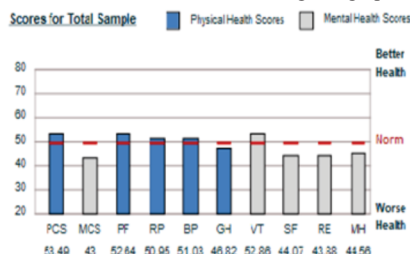
	Group A	Group B	t	P
Age	22.14±2.13	21.41±2.07	1.44	0.15
BMI	20.62±3.48	21.37±2.74	0.98	0.32

For evaluation, all the data were then documented on Quality Metric Health Outcomes™ Scoring Software 5.0. Software itself provides us the scores of PCS and MCS with their domains. Comparison was done by using SPSS (Statistical Package for Social Sciences for windows) software, version 16. Levene's Test for Equality of Variances and students t- test was used to analyze the data among the groups. (p≤0.05)

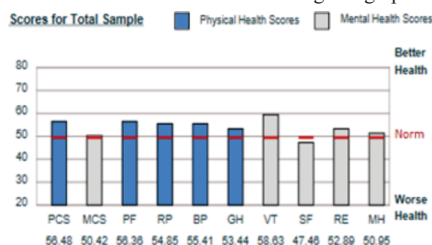
Table 2: The mean(SD), t values and p values for PCS and MCS of both the groups.

	GROUP A	GROUP B	t	p
PCS	53.56±5.61	56.47±4.10	-2.44	0.17
MCS	42.99±8.69	50.42±7.92	-3.68	0.00

Group A had mean(SD) of PCS and MCS 53.561±5.61 and 42.996±8.69 respectively. (Table 2) Detailed values of the components of PCS and MCS of smokers was shown in the given graph 1.

**Graph 1: PCS and MCS of Group A.**

Group B had mean(SD) of PCS and MCS 56.471±4.10 and 50.421±7.92 respectively. (Table 2) Detailed values of the components of PCS and MCS of smokers was shown in the given graph 2.

**Graph 2: PCS and MCS of Group B.**

After analysis of the data using Students t test, it was observed that the quality of life of smokers was affected as seen by the reduction in PCS and MCS scores. The T value for MCS score between smokers and non-smokers was 3.68 was found to be statistically significant (with a p value of 0.00). The T value for PCS score between smokers and non-smokers was 2.44 (with a p value of 0.17). The mean score of PCS was reduced in smokers but statistically not significant. As the PCS and the MCS scores are higher in non-smokers as compared to smokers we can conclude that there was a significant difference in quality of life between smokers and non-smokers. Therefore, smoking has a detrimental effect on the quality of life.

Discussion

The purpose of conducting this study was to know the effect of smoking in university going male students, hence we compared the quality of life between university going male adults smokers and non-smokers.

Smoking affects quality of life of smokers by affecting their physical health and mental health. PCS was lower in smokers (Group A) than non smokers (Group B). The General health of smokers was more affected than the other components of PCS. The possible reason behind comparatively lower score of general health in smokers was that smoking affects the normal physiological functioning of the body. It decreases the ability to perform physical activity. It increases the stroke volume and cardiac output and thereby causing an early fatigue. It increases the airway resistance and can cause restrictive and obstructive pulmonary diseases.^[2,3] Smokers have reduced VO₂ max which reduces their exercise performance.^[12] Smoking decreases sub-maximal aerobic capacity which accelerates the aging of cardiorespiratory and muscular performance. It affects the heart rate, breathing frequency, expired carbon monoxide, Systolic BP or Diastolic BP and lung function.^[13] Study have reported that Peak expiratory flow rate of smokers was less than non-smokers.^[14]

The bigger difference is seen in MCS than PCS. Results indicated that smokers presented significantly lower score of social functioning and role emotional as compared to non-smokers. Nicotine causes lack of restful sleep by causing difficult in initiating and maintaining sleep. Disturbed sleep increases their levels of stress and reduces their ability

to cope up with emotional trauma.^[10,15] The fact that chronic chain smokers comes with more problems related to depression and anxiety also supports the reason of having low scores in MCS.^[11]

Similar research was done in Brazil, which concluded that mental health and vitality were affected most in smokers than the other components of SF-36 Questionnaire.^[8] But when our research was done we found that social functioning and emotional role were most affected in smokers. This difference maybe due to the factors that have attracted the adolescents to smoking. Relationship problems, family issues and low IQ etc could be the reasons of attracting adolescents towards smoking. Nocturnal breathlessness, morning cough, dyspnoea, wheezing are associated symptoms of smokers.^[8] These symptoms reduces their mental health by affecting their nature of well being. Smokers intake more anti-depressants, alcohol and tranquilizers which also supports the low MCS in smokers.

It was seen that male adults start smoking because of depression, anxiety and loneliness. Therefore, the inter-relationship between psychological functioning and initiation of smoking habit should be examined in future researches.

This research had also some limitations. Size of the sample was small due to the time constraint. The Information of cigarettes consumed by the smokers was totally subjective. The high air pollution even though common for both the groups, in Delhi could also influence the results. The Samples can be taken from different universities for a comparative study.

CONCLUSION

Present study concluded that smoking affects the quality of life in male university students. Mental health is more affected than physical health in smokers.

Acknowledgement

We would like to thank Optum to provide SF-36 version 2 questionnaire and it's scoring tool.

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