



A Descriptive Study on Risk Factors for Common Non-Communicable Diseases among the Students of a Nursing Training School Attached To a Tertiary Care Hospital of West Bengal

Kamalika Das¹, Palash Das²

¹Principal Nursing Officer, Dept. of Health & Family welfare, Nursing Training Institute, College of Medicine & Sagore Dutta Hospital, Kolkata

²MSVP, Dept. of Health & Family welfare, Rampurhat Govt. Medical College & Hospital, Birbhum

ABSTRACT

Introduction: Several risk factors would be the predominant cause of non-communicable diseases among the young adolescents girls life style modification maybe the methodology for health promotion & prevention of such non-communicable disease prevalence.

Objectives: To identify the several predisposing factors responsible for non-communicable health problems among the young adolescence.

Materials & Methods: Sample size was 212 and sampling technique was complete enumeration. A descriptive study was conducted where data analyzed through statistical methods like, chi square test.

Result: Study shows majority of the adolescent less than 20yrs old and mostly from rural origin and non vegetarian. Most of them had the habit of vegetable & fruit intake though there was no case of addiction but only 56% were habituated with exercise.

Conclusion: Unhealthy diet pattern, lack of regular exercise would be the predominant cause of different non-communicable disease pattern where LSM is the best way to rectify the situation.

Key-words: Adolescent, Non-communicable disease, lifestyle modification, Body mass index, Waist hip ratio

INTRODUCTION

Worldwide both the male and the female populations are facing the problem of several non-communicable diseases like diabetes, hypertension, cancer etc. Due to demographic, socio-economic, racial factors the problems might be different from one area to other area but the key underlying reasons are more or less same. Risk factors for non communicable diseases in third world country has shown that a good number of productive population (7.7%) have diabetes among whom one half were undiagnosed.¹

It was reflected from some study that physical inactivity is responsible for 6% of the burden of diseases from CHD (3.2% in south-east Asia), 7% of type 2 diabetes (3.9% to 9.6%), 10% of breast cancer and 10% of colon cancer. ² Inactivity is responsible for 9% of premature mortality (5.1% to 12.5%).²

Key indicators of non communicable disease risk factors are evident and these create an opportunity for policy makers, programme managers and researchers to adopt interventions.

How to cite this article: Das K, Das P. A Descriptive Study on Risk Factors for Common Non-Communicable Diseases among the Students of a Nursing Training School Attached To a Tertiary Care Hospital of West Bengal. Natl J Community Med 2021;12(5):106-109. DOI: 10.5455/njcm.20210331054931

Financial Support: None declared **Conflict of Interest:** None declared

Copy Right: The Journal retains the copyrights of this article. However, reproduction is permissible with due acknowledgement of the source.

Date of Submission: 31-03-2021; **Date of Acceptance:** 27-05-2021; **Date of Publication:** 31-05-2021

Correspondence: Smt. Kamalika Das (Email: daskamalika2016@gmail.com)

Inadequate intake of fruit and vegetables, low level of physical activity, obesity, high blood pressure and diabetes mellitus are fairly common in adults. Almost all adults (98.7%) have at least one risk factor and substantial proportion of people have two or more risk factors.^{3,4}

Adolescent health and nutrition status has an inter-generational effect. Therefore, adolescence is one of the important stages of the life cycle in terms of health interventions. Although adolescence is considered to be a healthy phase, more than 33% of the disease burden and almost 60% of premature deaths among adults can be associated with behaviours or conditions that begin or occur during adolescence for example, tobacco and alcohol use, poor eating habits sexual abuse and risky sex (WHO 2002). Within the age group of 10 to 19 years, the profile of disease burden is significantly different for younger and older adolescents. While injuries and communicable diseases are prominent causes of disability and death in the 10 to 14 age group, outcomes of sexual behaviours and mental health become significant for the 15 to 19 years age group.⁵

Several studies shows life style modification is an essential way for future healthy life and one should start the followings from yearly life ,like intake of appropriate diet ,restrain from any kind of addiction , regular physical exercise ,active participation in household work etc. If anybody follow such life style since young life he or she would be physically and psychologically healthy as well as the chances of non communicable diseases will be less.

Here in this study the nursing students are taken as sample because this age group of nursing students are easily accessible for the author/researcher. The age group for first, second, third year GNM students are vulnerable for obesity, hyperglycaemia ,hypertension which are common health hazards now a days. So this kind of study can be conducted on any male/female population of this age group .This kind of study is applicable for both adolescent male and female population .In this study exercise means the sedentary work like cycling ,morning and evening walk, jogging, Joygason and freehand exercise.

For the purpose of data collection simple tape measure was used for measurement of height waist and hip circumference as well as adult weighing machine was used to measure body weight of the sample.

MATERIALS & METHODS

It was an **observational descriptive** study and **period of study was 6 months** (01.01.19 - 30. 06.19). **Place of study** was the nursing training school associated with College of Medicine & Sagore Dutta Hospital (CMSDH), Kolkata. **Population** of the study was general nursing & midwifery students of nursing school attached to CMSDH. **Sampling technique** was complete enumeration. **Sample size** was 120 (one

hundred twenty). **Inclusion Criteria** were the students those were present during the study, those students who gave consent. **Exclusion Criteria** were the pupil nurses those were unwilling and seriously ill. **Technique of data collection** included open and close ended questionnaire, anthropometric data collection, clinical examination, Blood Sugar examination.

Few Variables of the study were age, residential origin, diet pattern (qualitative and quantitative, vegetarian/non vegetarian, history of eating fast food), history of tobacco addiction, exercise, height, weight, waist circumference, hip circumference, blood pressure measurement, blood sugar measurement.

Statistical analysis: Data have been analysed through Chi square test using Epi-Info 7.2

RESULTS

Using a tool in a form of questionnaire, information has been collected in relation to their personal, socio economic, demographic, food habit, life style, health status issues.

Table 1: Distribution of students according to their age and origin (N=212)

Sample characteristics	Frequency (%)
Age of the students (in years)	
<20	171 (80.66)
20-23	37 (17.45)
>23	4 (1.89)
Origin	
Rural	178 (84)
Urban	34 (16)

Table 2: Distribution of students according to their diet, exercise and consumption of fruit

Sample characteristics	Frequency (%)
Diet (Daily)	
Non-Vegetarian	210 (99)
Vegetarian	2 (1)
Exercise (Thrice weekly)	
Yes	119 (56)
No	93 (44)
Consumption of Fruit (Thrice weekly)	
Yes	210 (99)
No	2 (1)

Table 3: Frequency and percentage distribution of students according to their BMI and WHR

Adolescent Health status	Normal (BMI <25, WHR < 0.8)	Abnormal (BMI < 25, WHR < 0.8)	Total
BMI	178	34	212
WHR	178	34	212
Total	356	68	424

* The chi square statistics is 0. The P value is 1. Not significant at p<.05

Majority of the students (80.66%) were less than 20 years old, 17.45% of the students were in the age 20-23 years and rest 1.89% of the students were above 23 years old. They are mostly from rural origin (Table 1).

Diet, exercise and consumption of fruit have been observed among nursing students. Students were mostly non-vegetarian, consumed fruits thrice a week and half of them were found exercising (Table 2).

Body Mass Index (BMI) and Waist-Hip Ratio (WHR) were examined to find out the abnormality present if any. The Chi-square (χ^2) test was done for the values found in the examination and χ^2 statistics was found 0. The p-value became 1. Difference in assessment between BMI and WHR was found not significant at $p < .05$.

Analysed data shown that the young girl nursing students have low rate of fruits consumption or they were not having regular intake of fruits. Also it was found from the analysed data that all were not habituated with regular sound (in respect of quality & time) exercise which is an essential tool for healthy (physical and psychological) living.

DISCUSSION

In the present study all are female and most of them under 20 yrs (80.66%), only 17.45% are from 20-23yrs & nominal of them i.e 1.89% are more than 23yrs. On the other side as per demographic data most of them belong to rural area (84%). The study named prevalence of Diabetes & impaired fasting glucose in the adult population of Iran, by E. Alireza, G Mohamad M,1 already depicted that worldwide both the male & female are facing the problem of several non communicable diseases and due to demographic, socioeconomic, racial factors might be different from one area to another area but the key underlying reason are more or less same. So irrespective of any demographic issues all are more or less vulnerable.

Some other study 'Impact of physical inactivity on the world's major non-communicable diseases' by Lee I-Min, Shriroma J Eric 2 depicted that physical inactivity was responsible for 6% of the burden of diseases from CHD, 7% of type 2 diabetes, 10% of breast cancer & 10% of colon cancer, whereas this study result was showing 44% of the adolescents without having any habit of regular exercise. So they are prone to get said kind of non communicable diseases in the later period.

An Indian studies by Thankappan K R, Shah Bela, Mathur Prashant, 'Risk factor profile for chronic non-communicable diseases' and an International study report published by WHO on 'Non-communicable diseases-risk factor survey' 3revealed that inadequate intake of fruits and vegetables, low level of physical activity, obesity, high blood pressure and

diabetes mellitus were found fairly common in adults and almost all adults (98.7%) had at least one risk factor and substantial proportion of people had two or more risk factors. In this study it can be seen that most of them i. e. 99% were non vegetarian and most of them had the habit of consumption of fruits (99%). All of them had the habit of fast food consumption weekly thrice. If they control their fast food consumption the chances of suffering from NCD can be minimised in the long run.

Present study was also showing that majority of young adults (84%) were having BMI less than 25 and WHR less than 0.8, whereas the rest were found with BMI more than 25 and WHR more than 0.8. This is not so alarming for them and it may be sustainable if they follow their life style modification measures. The analysed data also depicted that there was no incidents of hypertension or hyperglycaemia among this age group and no one was having any addiction.

A report by the Ministry of H & FW, GOI on 'Strategic Approach to Reproductive, Maternal, Newborn, Child and Adolescent Health in India 5, it was declared that adolescence is considered to be a healthy phase, more than 33% of the disease burden and almost 60% of premature death among adults can be associated with behaviour or conditions that begin or occur during adolescence i.e. tobacco & alcohol use, poor eating habit, sexual abuse and risky sex etc. While injuries & communicable diseases are prominent cause of disability and death among teenagers (10-14yrs), sexual behaviour and mental health become significant for the 15-19 yrs of age group.

In this study we could see no cases of addiction but most of them used to with regular fast food consumption. They were also habituated with regular intake of vegetable. Most of them used to with exercises. So these were good to know that the study population were following several life style modification measures which would minimise the non communicable disease burden in future.

RECOMMENDATIONS

There is a need to develop the practice of exercise & life style modification. Development of habit of practicing the diversional activities like music, playing, drawing, dancing, writing, reading etc to spend calories and to gain knowledge is also required. There is also need to develop the habit of nutritious diet intake and motivate to minimise the fast food intake. Need based counselling session at school & college (institution level) are also required.

CONCLUSION

The study population those were mostly belong to the rural origin did not habituated themselves with regular exercises and regular fruits intake. The study shows they were mostly non vegetarian. Most of

them less than 20 yrs of age ,that means they are within the adolescent period and this is the good time for learning and adopting new practices. Regular life style modification and how to avoid different non communicable diseases in later period of life. By participating in the present study they would be able to learn how to measure their BMI and WHR and how those will be helpful to identify their physical health status.

REFERENCE

1. E Alireza, G Mohamad M, A Mehrshad. Prevalence of Diabetes and Impaired fasting glucose in the adult population of Iran, *Diabetes care* 2008 Jan;31(1):96-98
2. Lee I-Min, Shiroma J Eric. Impact of Physical Inactivity on the world's major non-communicable diseases, *Lancet* 2012, Jul21;380(9838):219-229.
3. Thankappan K R, Shah Bela, Mathur Prashant. Risk factor Profile for Chronic non-communicable diseases, Kerala. *Indian J Med Res* 2010 Jan;131:53-63.
4. WHO, Ministry of H & F W, Bangladesh. Non Communicable Disease - Risk factor survey, Bangladesh 2010.
5. Ministry of Health & Family Welfare, GOI, A Strategic Approach To Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A) in India, February 2013
6. Srivastava N M. Adolescent health in India :Need for more interventional research, *September 2016*;4(3):101-102
7. Rose-Clarke K, Pradhan H ,Rath S.Adolescent girls' health ,nutrition and wellbeing in rural eastern India :a descriptive, cross- sectional community -based study,*BMC Public Health*,2019 May;673:1-38.
8. Das Palas ,Pal Ranabir ,Pal Shrayan. Awareness on psychosomatic heath among adolescent girls of three schools in north Kolkata .India,Oct 2010;52(4):355
9. WHO, Adolescent and Young adult health,18 Jan 2021.
10. L G Penny, M G Robert .Adolescent physical activity & inactivity vary by ethnicity: The National Longitudinal Study of Adolescent Health , *September1999*;135 (3):301-306