
**“PREVALENCE OF DEPRESSION
AMONG HIGH SCHOOL STUDENTS
IN AN URBAN AREA”**

**Submitted by
(REG. NO. BD0119003)**

Dissertation

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LIST OF ABBREVIATIONS USED

SL.No	ABBREVIATIONS	EXPANSION OF THE ABBREVIATIONS
1	WHO	World health organization
2	DALY	Disability adjusted life years
3	SPSS	Statistical package for social science
4	CPL	Consumer price index
5	PUC	Pre university course
6	NGO	Nongovernmental organization
7	NMHS	National Mental Health Survey
8	MF	Multiplication factor
9	SES	Socio Economic Status
10	%	Percentage
11	>	Greater than
12	<	Lesser than
13	≤	Lesser than or Equal to
14	UHC	Urban Health Centre
15	χ^2	Chi Square
16	Df	Degree of Freedom
17	P value	Probability value

ABSTRACT

Title: PREVALENCE OF DEPRESSION AMONG HIGH SCHOOL STUDENTS IN AN URBAN AREA

Introduction:

Depression is a common illness which is characterized by a loss of interest, sadness, feeling guilty, disrupted sleep and appetite, poor concentration and feeling tired. Depression is observed in all age children but prevalence usually increases with age, teenagers have a significantly higher prevalence of depression when compared with younger children. Adolescent period is a vital transition phase from childhood to adulthood where rapid social, physical, hormonal, behavioral and psychological changes are noted. These can be an initial point to numerous mental health problems like depression.

National Mental Health Survey of India in the year 2015-2016 shows 2.84% prevalence of mood disorders and prevalence of psychiatric morbidity in the age group of 13 to 17 years was 7.3%.

Numerous epidemiological studies on depression were previously conducted in India using different methodologies, study design, sampling techniques, sample sizes, study instruments and on different time in different study participants. So reliable state and national levels of prevalence of depression is not available and very few community-based studies have been done to assess depression among school going children. Hence this study will be undertaken to know the prevalence of depression and associated risk factors among high school students.

Objectives:

1. To assess the prevalence of depression among high school students.
2. To assess the association of depression with other risk factors.

Materials and Methods:

The present study was a Cross - Sectional study conducted to know the prevalence of depression among high school students in Rukmini Nagar field practice area, Urban health centre of Department of Community Medicine, KLE's Jawaharlal Nehru Medical College, Belagavi. Data was collected for 1 year from 1st January 2020 to 31st December 2020. A sample size of 600 was calculated and obtained by systematic random sampling method. Ethical clearance was obtained from Institutional Ethical Committee. Pretested predesigned questionnaire which included sociodemographic variables, personal history, family history, academic and extra-curricular activities was obtained. Beck's Depression Inventory II was used to find the prevalence of depression which Consisted of 21 questions, each question had 4 options with minimum score of zero and maximum score of 3. Total score was calculated to estimate prevalence of depression.

Results:

The present cross-sectional study, reported an overall prevalence of (18.0%) depression among high school students. Depression was significantly associated with various risk factors like education of father, education of mother, occupation of father, occupation of mother, staying arrangement, sleep pattern, family history of serious illness/ mental illness, death of family member in the past one year, alcohol & tobacco consumption by family member, violent behavior by any family member, repeated

one year, failed in any subject last year and participation in extracurricular activities like sports.

Conclusion:

The present cross-sectional study reported that prevalence of depression among high school students was 18%. Health education to parents, teachers and community is essential to eliminate the stigma attached to these types of disorders. Counsellors can play a vital role in reducing the prevalence of depression and regular counselling by a professional should be made available at all schools for promotion of overall mental health.

Keywords: Depression, Highschool students, Beck's depression inventory, Mental Health.

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INTRODUCTION:

Depression is a common illness which is characterised by a loss of interest, sadness, feeling guilty, disrupted sleep and appetite, poor concentration and feeling tired. ⁽¹⁾ Depression is observed in all age children but prevalence usually increases with age, teenagers have a significantly higher prevalence of depression when compared with younger children. Adolescent period is a vital transition phase from childhood to adulthood where rapid social, physical, hormonal, behavioural and psychological changes are noted. These can be an initial point to numerous mental health problems like depression. ⁽²⁻³⁾

Depression in school going children might be related with poor quality of life and negative consequences like learning problems, excessive risk-taking behaviour, isolation from family, carelessness with personal hygiene, eating disorders, phobias, school dropouts, anti-social behaviours like drug and substance abuse and delinquency. Depression may lead to thoughts of self-harm and which ultimately leads to suicide. ⁽³⁾

World health day on 7th April 2017 had a slogan “Depression – Let’s Talk” emphasising depression is a leading cause of disability which needs to be addressed. Globally more than 264 million individuals are affected with depression, its prevalent in all age group individuals. Depression is a major contributor to overall global burden of disease. Females are more commonly affected with depression when compared with male. ⁽⁴⁾

It has been detected worldwide that 10% to 20% of adolescents and children are affected by mental health problems. In adolescents aged 10 to 19 years mental health diseases contribute to 16% of global burden of disease and injury. 15 to 30% of DALYs (disability-adjusted life years) are lost in the first 30 years of life due to mental health issues. Yearly 8,00,000 people commit suicide and die and it's the 2nd leading cause of mortality in 15 to 29 years age group individuals. ^(1&5)

National Mental Health Survey of India in the year 2015-2016 shows 2.84% prevalence of mood disorders and prevalence of psychiatric morbidity in the age group of 13 to 17 years was 7.3%. ⁽⁶⁾

In India prevalence of depression in adolescents varied from 6.7% to 79.2% these included school students, college students and drop out's the age group of 10 to 19 years. Pooled prevalence of depression in adolescents was 33.9% (95% CI 26.3% to 41.4%) which included 22 studies from various parts of India conducted from the year 2004 to 2018. These studies reported that females, parental conflicts, older age of adolescents, poor school performance, smoking, decreased BMI (Body Mass Index), alcoholism and physical punishments in school were significantly associated with depression. ^(5,7,8)

In few studies done in Karnataka prevalence of depression in adolescents varied from 18% to 79.2% conducted from the year 2012 to 2018. These studies reported that increased age, resident school, nuclear family, students from government school, lower academic performance and lack of family support were significantly associated with depression. Male and female gender association varied from study to study. ⁽⁸⁻¹⁰⁾

In Belagavi a study done in the year 2019 estimated overall prevalence of depression in adolescents to be 62.60% but association between age, sex, socioeconomic status, type of family was not statistically significant. ⁽¹¹⁾

There are well established management for mental disorders, but about 76% and 85% of the population living in middle- and low-income countries does not receive any type of treatment for their mental conditions. These problems are caused majorly due to some barriers like social stigma, lack of health care professionals, inaccurate assessment and lack of resources.

Numerous epidemiological studies on depression were previously conducted in India using different methodologies, study design, sampling techniques, sample sizes, study instruments and on different time in different study participants. So reliable state and national levels of prevalence of depression is not available and very few community-based studies have been done to assess depression among school going children. Hence this study will be undertaken to know the prevalence of depression and associated risk factors among high school students.

OBJECTIVES:

1. To assess the prevalence of depression among high school students.
2. To assess the association of depression with other risk factors.

REVIEW OF LITERATURE:

A community based cross-sectional study was conducted in Mangalore, Karnataka in the year 2018, to assess the prevalence of depression and anxiety among 201 school going adolescents. Among the total participants male and female distribution was 128(63.7%) and 73(36.3%) respectively. Mean age of the study participants was 16.3 years (SD±0.71). Becks Depression Inventory (BDI) was used to calculate prevalence of depression which was 82(40.8%) overall in this study. Screening for Child Anxiety Related Disorders was used to calculate prevalence of anxiety which was 110(54.7%) in this study. The risk of developing depression was two times higher in females when compared to males. Participants with pre-existing disorder of anxiety had higher chances of depression when compared to participants without anxiety. ⁽²⁾

A cross-sectional study was conducted in rural Ramanagaram district, south Karnataka in the year 2017. Totally 223 rural school-going adolescents were included in the study. Among the total participants male and female distribution was 128(57.4%) and 95(42.6%) respectively. Patient Health Questionnaire (PHQ-9) was used for screening of depression which was 87(39%) in this study. Suicidal intentions were reported in 40(17.9%) of the study participants. Depression was significantly associated with family factors like frequently fighting parents, family members death in the past year, serious illness to a family member, history of mental illness to a family member and consumption of alcohol by a family member. Depression was significantly associated with parents pressuring the participants to perform well in exams and non-participation in sports. ⁽¹²⁾

In a community based cross-sectional study which was conducted in Nadia district, West Bengal in the year 2016, to assess mental health and depression among 167 school going adolescents, it was observed that among the total participants male and female distribution was 110(65.9%) and 73(34.1%) respectively. Becks Depression Inventory (BDI) was used to calculate prevalence of depression which was 57(34.2%) in this study. Depression was significantly associated with higher age groups and the class the participants were currently studying. Pattern of staying with parents was also significantly associated with depression. ⁽¹³⁾

A school based cross-sectional study was conducted in Chandigarh in the year 2017, to assess prevalence and factors associated with depression among 542 school going adolescents. Among the total participants male and female distribution was 303(57.4%) and 239(42.6%) respectively. Patient Health Questionnaire (PHQ-9) was used for screening of depression which was 40% overall in this study. Depression was significantly associated with family factors like consumption of alcohol by father, smoking by father and financial constraints in the family. Academic factors like studying for less hours, lack of satisfaction in studies, attending 10th standard was significantly associated to depression. ⁽¹⁴⁾

A community based cross-sectional study was conducted in Haryana, in 2015, to assess prevalence of depression among 374 school going adolescents. Among the total participants male and female distribution was 254(67.9%) and 120(32.1%) respectively. Becks Depression Inventory (BDI) was used to calculate prevalence of depression which revealed mild depression 149(39.8%), moderate depression 42(11.3%), severe depression 7(1.8%) and the overall prevalence of depression in the study was 198(52.9%). ⁽¹⁵⁾

A community based cross-sectional study was conducted in Thiruvallur District, Tamilnadu in 2014, to assess prevalence of depression among 2432 school going adolescents. Among the total study participants, 280 (50%) were female and 280 (50%) were male. Becks Depression Inventory (BDI) was used to calculate prevalence of depression. In this study 45.7% had moderate depression and 9.3% had minimal and depression these adolescents were referred to psychiatrist. Depression was diagnosed in 612(25%) which was confirmed by psychiatrist. ⁽¹⁶⁾

In a cross-sectional study conducted in Pune, Maharashtra in 2019 among 500 school going school to assess the prevalence of depression it was observed that among the total study participants 177 (35.4%) were female and 323 (64.6%) were male. A two-phase model was used on the students, participants screened positive for depression was interviewed by psychiatrist. CDI (Children depression inventory) was used in the study which revealed 54 students (36 male and 18 female) positive for depression. All 54 students were then interviewed by a psychiatrist in which 42 students had clinical depression. The overall prevalence of depression was 8.4%, 28(8.67%) males among 323 males and 14(7.91%) females among 177 females were found to be clinically depressed. Age of the students was significantly associated to depression as the age increases prevalence of depression was found to be higher. Birth order was also significantly associated to depression as 50% of them were firstborn or only child. ⁽³⁾

A cross-sectional study was conducted among high school students in Pokhara, Nepal in the year 2018. Total of 312 students participated in this study in which 218(69.9%) were males and 94(30.1%) were females. The mean age of study participants was 16.8(SD \pm 0.98). Among the total participants 165(52.9%) were

from government or public schools and 147(47.1%) were from private schools. CES-D (Center for Epidemiologic studies Depression scale) was used to find the prevalence of depression. The overall prevalence of depression was 44.2% and furthermore 25.5% of the participants had mild depression 18.9 % had major depression. Level of depression was significantly higher in students living in joint family when compared to students in a nuclear family with 2.206 more odds. Students who perceived lower social support had 3.107 times more odds of being depressed. ⁽¹⁷⁾

A community based cross-sectional study was conducted in Varanasi district, Uttar Pradesh in the year 2017, to assess the prevalence of depression and anxiety among 200 children in rural and sub urban areas. Among the total participants male and female distribution was 111(55.5%) and 89(44.5%) respectively. CDI (Children depression inventory) was used in the study which revealed 29 students positive for depression. 15 participants were from rural area and 14 participants were from urban area. Participants living in joint family had significantly higher prevalence of depression when compared to participants living in nuclear family. Maximum number of cases of depression was found in lower -middle socioeconomic group. ⁽¹⁸⁾

An institution based cross-sectional study was conducted in Hyderabad, Telangana in the year 2017, to assess depression, anxiety and stress among 400 school students. Among the total participants 179(44.75%) were males and 221(55.25%) were females. Participants were from both public and private schools, majority of the study participants in public school were females (59.33%) and majority of the study participants in private school were males (57%). Prevalence of depression, anxiety and stress in public school was 13%, 63% and 13% respectively.

In private school participants depression was 6%, anxiety was 60% and stress was 27%. 95% of the participants in public school and 94% of the participants in private school used watching TV as their coping mechanism. ⁽¹⁹⁾

A hospital based cross sectional study was done among 100 children who attended psychiatric out patient department in a tertiary care hospital in western Uttar Pradesh. The study was done between January 2016 to December 2017. Among total participants 45 (45%) were males and 55 (55%) were females. More than half (n=57, 57%) of the participants were in the age group of 12-14 years, majority of the study participants (n=54, 54%) were in upper middle socio-economic class, 54% of the participants were from urban area, and (n=37, 37%) were from nuclear family. Depression/Dysthymia/Adjustment Disorder (n=21, 21%) were the most common cases followed by anxiety disorders (n=13, 13%) and Oppositional Defiance Disorder (n=13, 13%) and then followed by attention deficit hyperactivity disorder (n=9, 9%) and Conduct Disorder (n=9, 9%). ⁽²⁰⁾

A school based cross-sectional study was conducted in Tirunelveli, Tamilnadu in the year 2018, to assess depression, anxiety, stress and its correlates among 400 urban school going adolescents. Among the total study participants 219(55%) were female and 181 (45%) were male. Majority of the participants were from upper lower socio-economic class (n=212, 53%). DASS (Depression Anxiety Stress Scales) 21 item scale was used which denoted the overall prevalence of depression as 73.5%, anxiety as 86.5% and stress as 24.7%. Depression, anxiety and stress was seen significantly high among 10th class students when compared to other class students. ⁽²¹⁾

A cross-sectional study was conducted in Chandigarh, India. The study was done between January 2014 to April 2014, to assess depression, anxiety and stress among 470 government school students. Among the total participants Male and female distribution was 257(54.68%) and 213(45.31%) respectively. DASS (Depression Anxiety Stress Scales) 21 item scale was used which denoted the overall prevalence of depression as 65.53%, anxiety as 80.85% and stress as 47.02%. Depression, anxiety and stress was seen significantly high among 18-year-old students when compared to other age students, females had significantly higher depression, anxiety and stress when compared to males. ⁽²²⁾

A school based cross-sectional study was conducted in Barabanki district, Uttar Pradesh in the year 2016, to assess depression among 336 school going adolescent girls. Kutchers adolescent depression scale (KADS) was used to find out the prevalence of depression which was 56(18.7%). Adolescent girls who were in the lower socioeconomic status were had significantly higher level of depression with an odds ratio ([OR] 2.08); [CI] 1.18 – 3.21; p= 0.03). There was no statistical association found between religion, age of the participants, caste, type of family and mother's education with depression. ⁽²³⁾

A community based cross-sectional study was conducted in Iran. The study was done in the year 2018, to assess prevalence of depression among 783 adolescents. Among the total participants male and female distribution was 433(55.3%) and 350(44.7%) respectively. Becks Depression Inventory (BDI) was used to calculate prevalence of depression which revealed 17.8% of girls and 29.5%of boys were suffering from high depression and this difference was

statistically significant. The participants belonging to 17 years age group had significantly higher depression when compared to other age groups. ⁽²⁴⁾

A cross-sectional study was conducted in Imphal, Manipur, between September 2014 to October 2014, to assess depression, anxiety and stress among 830 secondary school students. Mean age of the study participants was 17.06 ± 0.68 years. DASS (Depression Anxiety Stress Scales) scale was used which denoted the overall prevalence of depression as 19.5%, anxiety as 24.4% and stress as 21.1%. At least one of the studied disorders were observed in 81.6% of the total participants. Depression and stress were significantly high among 12th standard students when compared with other standard students, females had significantly higher levels of anxiety and stress when compared to males. ⁽²⁵⁾

A cross-sectional observational study was conducted in North Kerala, India in the year 2015, to assess the prevalence of depression and their associated risk factors among 130 high school students. Only 11th standard boarding school students were included in the study. Among the total participants male and female distribution was 80(62%) and 50(38%) respectively. Mean age of the study participants was 15.32 ± 0.66 years. CES-DC (Center for Epidemiologic studies Depression scale for children) was used to find the prevalence of depression. The overall prevalence of depression was 57.7%, females had significantly higher prevalence of depression when compared to males. Participants attending tuition class, previous academic year performance and the subject stream selected had a significantly higher depression when compared to their counterpart. Staying in boarding school for a year didn't have any association with depression. ⁽²⁶⁾

A school based cross-sectional study was conducted in Bihar in the year 2016, to assess depression among 1412 school-going adolescents. Among the total participants male and female distribution was 893(63.2%) and 519(36.8%) respectively. Becks Depression Inventory (BDI) was used to calculate prevalence of depression which revealed overall prevalence to be 49.2% and 7.7% were severely depressed. Participants belonging to minorities (Buddhism and Jainism) were more depressed compared to other religion. As the age increased the prevalence of depression also increased. Females had significantly higher prevalence of depression when compared to males. ⁽²⁷⁾

A cross-sectional study was conducted among secondary school students in Hamadan, Iran to assess the prevalence of depression and its association with various sociodemographic factors in the year 2016. Total of 670 female students participated in this study. The mean age of study participants was 16.2(SD \pm 0.68). CES-D (Center for Epidemiologic studies Depression scale) was used to find the prevalence of depression. The prevalence of severe depression was 52.6%, significantly higher prevalence of depression was found with family income, type of school, field of study and living in suburbs. ⁽²⁸⁾

A school based cross-sectional study was conducted in Bhopal, Madhya Pradesh in the year 2015, to assess depression among 136 higher secondary school-going adolescents. Among the total participants male and female distribution was 80(58.8%) and 56(41.2%) respectively. Becks Depression Inventory (BDI) was used to calculate prevalence of depression. The prevalence depression was 60(44.1%) mild, 33(24.3%) moderate and 4(2.9%) severe and the overall prevalence was 97(71.3%). Females had significantly higher prevalence of depression when

compared to males. Students from nuclear family had significantly higher prevalence of depression when compared to students from joint family.⁽²⁹⁾

A school based cross-sectional study was conducted in Mangalore in the year 2015, to assess prevalence of depression among 284 school going adolescents in a rural area. Among the total participants male and female distribution was 147(51.8%) and 137(48.2%) respectively. The mean age of study participants was 14(SD \pm 0.9). Patient Health Questionnaire (PHQ-9) was used for screening of depression which was 49% overall in this study. Females had significantly higher prevalence of depression when compared to males, as the age increased the prevalence of depression also increased.⁽⁹⁾

A cross-sectional study was conducted in Belagavi, Karnataka in the year 2020, to assess depression among 254 school-going adolescents. Among the total participants male and female distribution was 110(43.31%) and 144(56.69%) respectively. Becks Depression Inventory (BDI) was used to calculate prevalence of depression. The prevalence of depression was 85(33.46%) mild, 57(22.40%) moderate, 13(5.12%) severe, 4(1.57%) very severe and the overall prevalence was 62.6%. Majority of the participants belonged to nuclear family 160(62.99%), socioeconomic class II (89(35.04%) and Hindu religion 244(96.06%). There was no statistical association between depression and type of family, sex and socio-economic status.⁽¹¹⁾

A community based cross-sectional study was conducted in Bangalore, India in the year 2016, to assess the prevalence of subclinical depression among 800 school going adolescents. Among the total participants male and female distribution was 57% and 43% respectively. The mean age of study participants was 14.2(SD \pm

0.93). CDI (Children depression inventory) was used in the study which revealed prevalence of depression to be 18%. Females had significantly higher prevalence of depression when compared to males. Majority of the participants belonged to nuclear family 84%, 39% of father and mother of participants were graduates. ⁽¹⁰⁾

A cross-sectional study was conducted in Davangere, Karnataka in the year 2012, to assess depression and suicidal tendency among 3126 school-going adolescents. Among the total participants male and female distribution was 1841 and 1285 respectively. Becks Depression Inventory (BDI) was used to calculate prevalence of depression. The overall prevalence was 57.7%. Males had significantly higher prevalence of depression when compared to females. Suicidal intentions were significantly high among depressed participants when compared with participants who were not depressed. Participants from joint family had less depression when compared to participants from nuclear family. Factors like class, age, recent academic performance, education of mother, factors at home like financial trouble, quarrel, chronic illness in parents and alcoholism showed significant association with depression. ⁽³⁰⁾

A cross-sectional study was conducted among high school students in Raipur, India in the year 2014 to assess magnitude and grades of depression among adolescents. Total of 321 students participated in this study in which 185 were males and 136 were females. The mean age of study participants was 16.7(SD \pm 0.6). CES-D (Center for Epidemiologic studies Depression scale) was used to find the prevalence of depression. The overall prevalence of depression was 59.49% and furthermore 40.49% of the participants had mild depression and 19% had major depression. Females had significantly higher prevalence of depression when

compared to males. Factors like participants living away from home, working mothers, parental or self-dissatisfaction with academic achievement and poor relationship with members of family showed significant association with depression.

(31)

MATERIALS AND METHODS:

METHODOLOGY

a) **SOURCE OF DATA:**

The present study was conducted in all High schools in Rukmini Nagar field practice area, Urban health centre of Department of Community Medicine, KLE's Jawaharlal Nehru Medical College, Belagavi.

b) **STUDY DESIGN:**

The present study was a Cross - Sectional study conducted to know the prevalence of depression among high school students in an urban area.

c) **STUDY PERIOD:**

Data was collected for 1 year from 1st January 2020 to 31st December 2020.

d) **STUDY POPULATION:**

The study was done among 8th, 9th and 10th standard students in all high schools in Rukmini Nagar field practice area.

e) **SAMPLE SIZE CALCULATION:**

Sample size was calculated by using the formula

$$n = \frac{4pq}{d^2}$$

where, n = sample size

p= 40% (prevalence of depression) ⁽²⁾

$$q = (100 - p) = (100 - 40) = 60$$

$$d = \text{relative error } 10\% \text{ of } p, \text{ i.e., } 10\% \text{ of } 40\% = 4$$

$$n = \frac{4 \times 40 \times 60}{4^2}$$
$$= 600$$

Hence the total sample size is 600

SAMPLING FRAME:

Total number of high schools in Rukmini nagar are 9 and total number of students studying in 8th, 9th and 10th standard in both public and private school are 2000 from which 600 students were selected using systematic random sampling method.

$$K = \text{Total study population} / \text{Study sample size}$$
$$= 2000 / 600$$
$$= 3.33$$

First participant was selected randomly and there after every 3rd student was included in the study till the sample size was met.

Permission from each school principal was obtained. Written informed consent was obtained from parents/ and assent was obtained from high school students.

INCLUSION CRITERIA:

1. High school students in Rukmini Nagar urban area.
2. High school students who give informed consent.

EXCLUSION CRITERIA:

1. High school students with Known history of psychiatric illness.

PILOT STUDY

A pilot study was conducted on 10% of the sample population (10% of 600) which was 60 high school students which were taken from another urban area of Belagavi (Ashok nagar). The questionnaire was validated and required changes were made.

ETHICAL CLEARANCE

Ethical clearance was obtained from Institutional Ethical Committee, J.N. medical college, KAHER, Belagavi. The Ethical committee clearance letter has been attached.

Informed written consent was taken from the study participants parents/guardian. Assent was taken from the study participants as their age was less than 18 years.

Privacy and confidentiality were maintained throughout the study.

Data collection method:

The list of all the schools in Belagavi district was obtained from the Office of the Deputy Director of Public Instructions Belagavi (DDPI) from which all the high schools in Rukmini nagar was selected. A pilot study was done and required changes were made in the predesigned pretested questionnaire. Sampling frame was prepared with total number of students studying in class 8th,9th and 10th in all the high school in Rukmini nagar field practice area.

Permission from each school principal was obtained before starting data collection. A good rapport was established with the students and their parent/guardian, written consent and assent regarding the purpose of study was obtained. Every third student was selected using systematic random sampling and were then interviewed with the pretested predesigned questionnaire which included sociodemographic variables, personal history, family history, academic and extra-curricular activities was obtained. Beck's Depression Inventory II was used to find the prevalence of depression which Consisted of 21 questions, each question had 4 options with minimum score of zero and maximum score of 3. Total score was calculated to estimate prevalence of depression.⁽³²⁾

Statistical analysis:

Data collected using the questionnaire was coded and entered in to Microsoft Excel. Data management was done in Microsoft Excel and analysed using SPSS (statistical package for social science) software version-20. Data was analysed using percentages, chi square test and Fisher's exact test. Chi square test and Fisher's exact test was used to find association between depression and their risk factors. A probability value (p value) of less than 0.05 was considered as statistically significant.

MATERIALS:

The questionnaire included the following components:

1. SOCIO – DEMOGRAPHIC VARIABLES.
2. PERSONAL HISTORY
3. FAMILY HISTORY
4. ACADEMIC AND EXTRACURRICULAR ACTIVITIES
5. BECK’S DEPRESSION INVENTORY.

Definition of Study variables-

Age:

Age was recorded to the nearest completed years (As on last birthday).

Religion:

The participant’s religion was grouped under “Hindus”, “Muslims” and others which include Christians, Sikhs, Buddhists, and Jains.

Type of family ⁽³³⁾

1. Nuclear: The family consisting of married couple along with their dependent children.
2. Joint family: It consists of number of married couples and their children who live in the same household
3. Problem family: here the standards of life are generally far below the accepted minimum and parents are unable to meet the physical and emotional needs of their children and the home life is utterly unsatisfactory.
4. Broken family: A broken family is one where the parents have separated, or where death has occurred of one or both the parents.

Educational Qualification ⁽³⁴⁾

1. Illiterate: those who cannot read or write with understanding in any language.
2. Primary: those who had completed one to five years of schooling.
3. Secondary: those who had completed six to ten years of schooling.
4. PUC: those who had completed education up to PUC.
5. Degree: those who had completed any graduation degree course.
6. Post graduate: the person who has studied up to Master degree or more.

Occupation:

The source of their income, as self-reported by the beneficiaries, who would earn his or her living by means of it.

1. Farmer: owns his land or on a contract basis or who works at any place including agricultural fields on a daily wage basis.
2. laborer- who works on any place including agricultural fields on a daily wage base
3. Business/self-employed: a person engaged in commercial or industrial business either an owner or executive
4. Government employee: beneficiary who is a permanent or contract worker in any government agencies.
5. Private employee: beneficiary who is a permanent or contract worker in any private companies or factories or NGOs.
6. Retired/pensioner: beneficiary who currently is not working and is receiving pension from any means
7. Unemployed: beneficiary who currently is not working or not receiving benefits of any kind

8. Home maker/ Housewife: beneficiary who looks after the home, children and currently not working in any kind

Socioeconomic class

Modified B. G. Prasad’s classification was used. It was based on per capita monthly income and the scale evolved in 1961. BG Prasad’s classification was introduced considering the base of Consumer Price Index (CPI) for 1960 as 100 modified in 1982 and 2001 by introducing linking factors to convert CPI (1982).

All India average Consumer Price index (for Industrial workers) for January 2020 (on Base 2001=100) = 330. ⁽³⁵⁾

Multiplication factor = Current index value (330)/Base index value in 2001 (100) = 3.3.

Therefore, New income value = multiplication factor × old income value × 4.63 × 4.93.

Here 4.63 and 4.93 are the linking factors given by the Labour Bureau of India

So, after substituting the values, the new scale is,

Socioeconomic status: class	B. G. Prasad’s classification of 1961 (monthly income in rupees)	Revised B. G. Prasad’s classification for 2020 (monthly income in rupees) ⁽³⁶⁾
I	100 and above	7533 and above
II	50 to 99	3766-7532
III	30 to 49	2260-3765
IV	15 to 29	130-2259
V	Below 15	1129 and below

BECK'S DEPRESSION INVENTORY.

Pre-designed and pre-tested questionnaire Beck's Depression Inventory will be used to detect depression, it consists of 21 questions, each question will have 4 options with a minimum score of zero and a maximum score of 3. Total score will be calculated. (1-10) Normal, (11-16) Mild mood disturbance, (17-20) Borderline clinical depression, (21-30) Moderate depression, (31-40) Severe depression, (over 40) Extreme depression. ^(7,37)

RESULTS:**I. SOCIO-DEMOGRAPHIC PROFILE OF STUDY PARTICIPANTS****Table 1: Distribution of study participants according to age (n=600)**

Age group (years)	Number(n)	Percentage (%)
12-14	307	51.16
15-17	293	48.84
Total	600	100

Among 600 high school students, the mean age was 14.7 ± 0.96 years. 307 (51.16%) were in the 12 – 14 years age group and 293 (48.84%) were in 15 – 17 years age group.

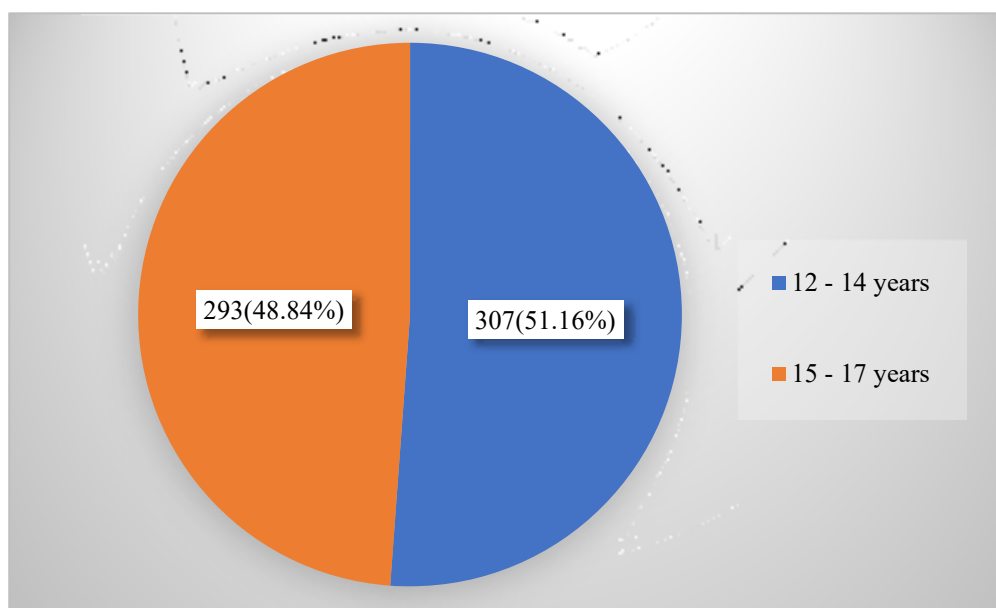
Graph 1: Distribution of study participants according to age (n=600)

Table 2: Distribution of study participants according to their schooling (n=600).

School Standard/Class	Number(n)	Percentage (%)
VIII Standard	218	36.33
IX Standard	134	22.34
X Standard	248	41.33
Total	600	100

In the present study, 218 (36.33%) were studying in VIII standard, 134 (22.34%) were studying in IX standard and 248 (41.33%) were studying in X standard.

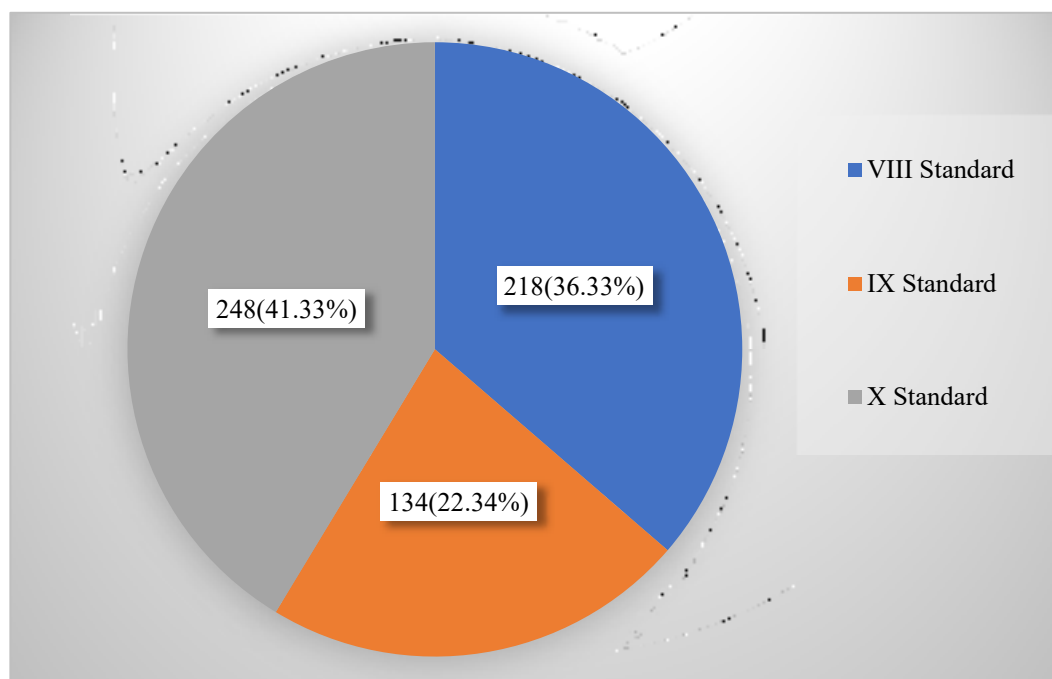
Graph 2: Distribution of study participants according to their schooling (n=600)

Table 3: Distribution of study participants according to Gender (n=600).

Gender	Number (n)	Percentage (%)
Male	329	54.83
Female	271	45.17
Total	600	100

Out of 600 study participants, 329 (54.83%) were male and 271 (45.17%) were female.

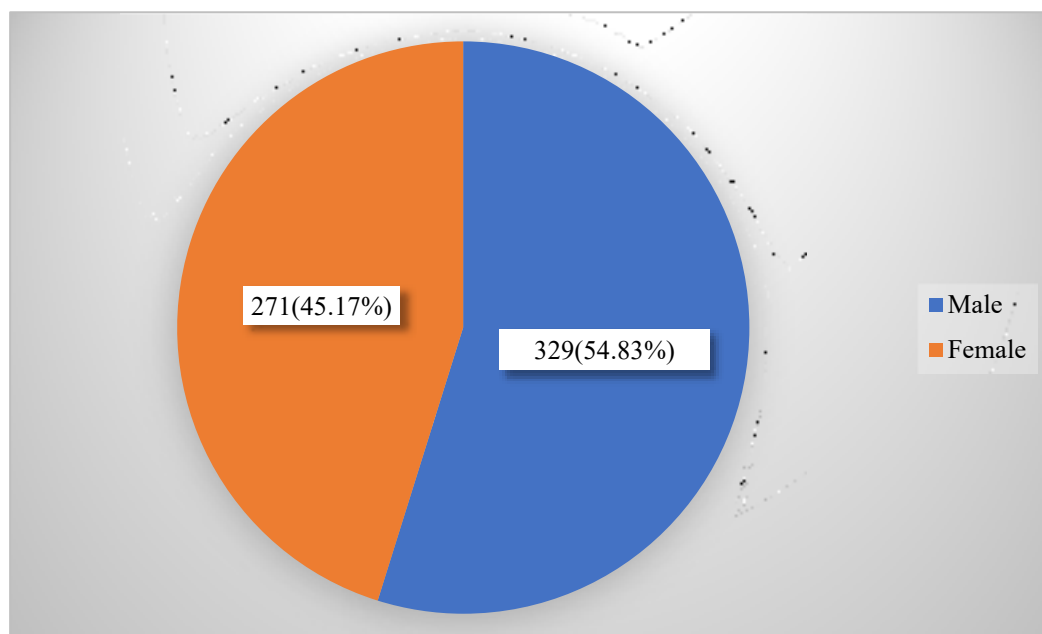
Graph 3: Distribution of study participants according to Gender (n=600).

Table 4: Distribution of study participants according to religion (n=600).

Religion	Number(n)	Percentage (%)
Hindu	437	72.83
Muslim	135	22.50
Others	28	4.67
Total	600	100

In the present study maximum participants 437 (72.83%) were Hindus, 135 (22.50%) were Muslims and 28 (4.67%) belonged to others which included Christians, Sikhs, Buddhists, and Jains.

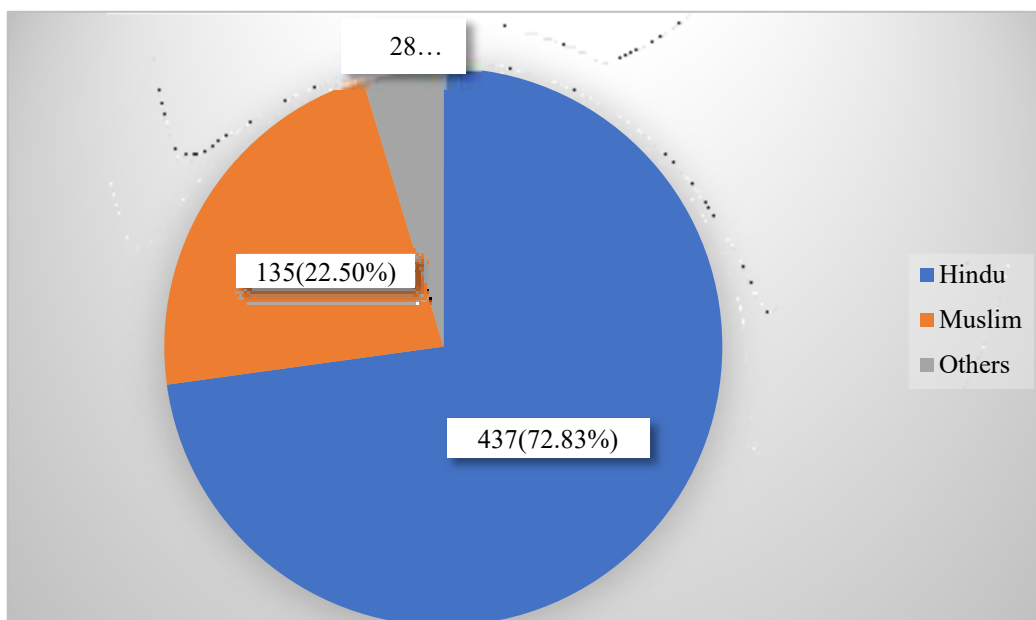
Graph 4: Distribution of study participants according to religion (n=600).

Table 5: Distribution of study participants according to type of family (n=600).

Family Type	Number (n)	Percentage (%)
Nuclear	443	73.83
Joint	146	24.34
Broken	11	1.83
Total	600	100

Among the 600 study participants, 443 (73.83%) belonged to nuclear family, 146(24.34%) lived in joint family and 11 (1.83%) belonged to broken family.

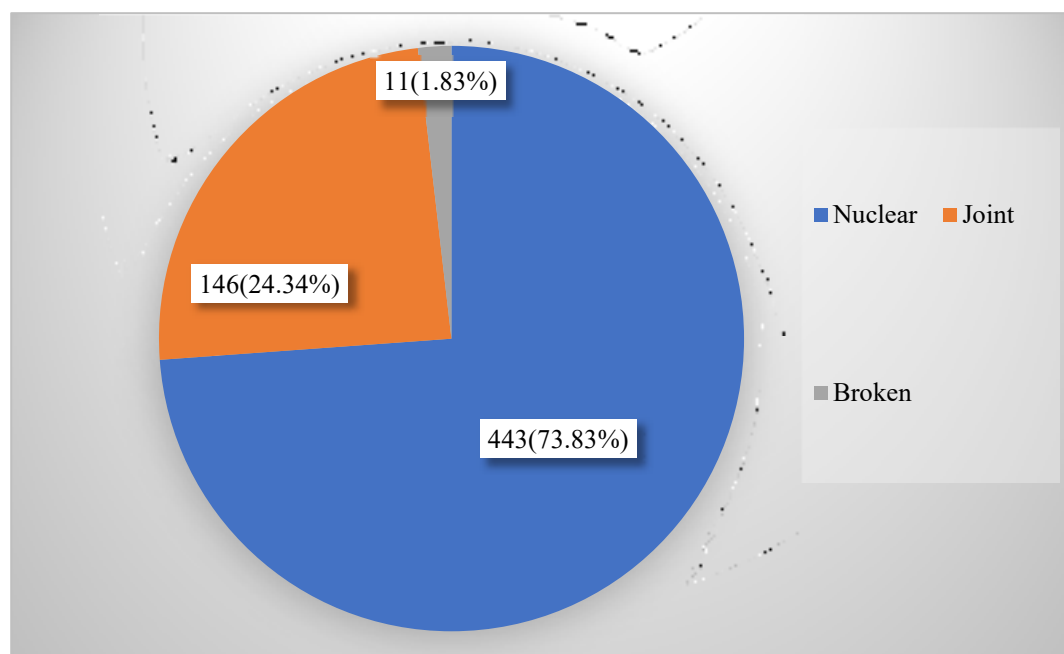
Graph 5: Distribution of study participants according to type of family (n=600).

Table 6: Distribution of study participants according to education of father (n=600).

Education	Number (n)	Percentage (%)
Illiterate	13	2.17
Primary (1 – 5 th)	53	8.83
Secondary (6 – 10 th)	95	15.83
Pre – university college (11 th &12 th)	92	15.33
Graduate	317	52.84
Postgraduate	30	5.00
Total	600	100

Educational qualification of the fathers of the study participants was assessed which revealed that 13 (2.17%) were illiterates, 53 (8.83%) had completed primary education, 95 (15.83%) had completed secondary education, 92 (15.33%) had completed pre – university, 317 (52.84%) were graduates and 30 (5.00%) were Postgraduates.

Graph 6: Distribution of study participants according to education of father (n=600).

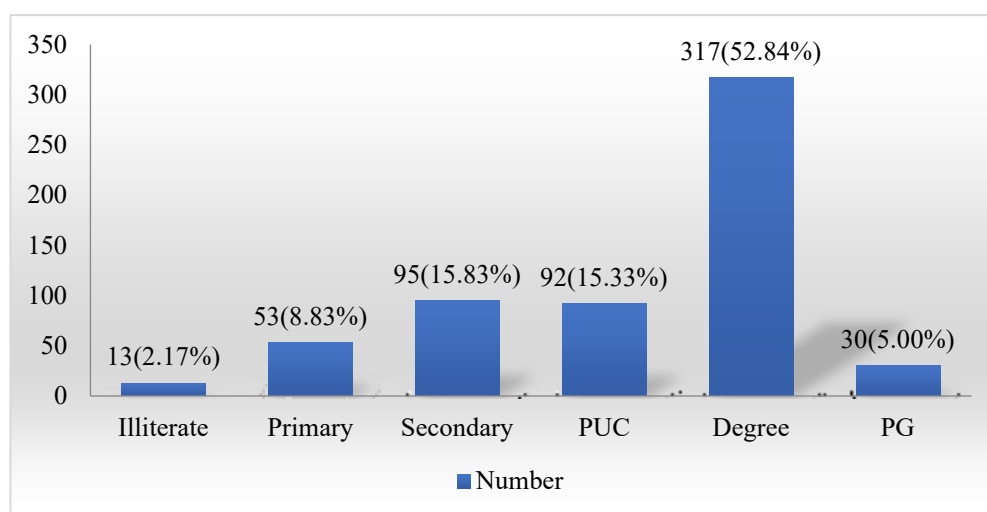


Table 7: Distribution of study participants according to education of mother (n=600).

Education	Number (n)	Percentage (%)
Illiterate	34	5.67
Primary (1 – 5 th)	77	12.83
Secondary (6 – 10 th)	132	22.00
Pre – university college (11 th &12 th)	116	19.33
Graduate	222	37.00
Postgraduate	19	3.17
Total	600	100

Educational qualification of the mother of the study participants was assessed which revealed that 34 (5.67%) were illiterates, 77 (12.83%) had completed primary education, 132 (22.00%) had completed secondary education, 116 (19.33%) had completed pre – university, 222 (37.00%) were graduates and 19 (3.17%) were Postgraduates.

Graph 7: Distribution of study participants according to education of mother (n=600).

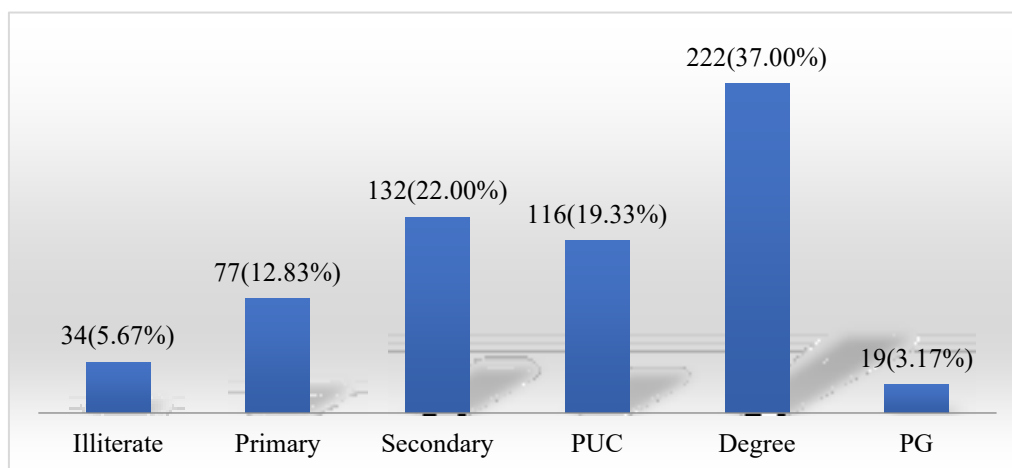


Table 8: Distribution of study participants according to occupation of father (n=600).

Occupation of father	Number (n)	Percentage (%)
Farmer	29	4.83
Labourer	27	4.50
Self-employed	197	32.84
Government Employee	158	26.33
Private Employee	183	30.50
Retired/Pensioner	6	1.00
Total	600	100

Occupation of the study participants fathers was assessed which revealed that 29 (4.83%) were farmers, 27 (4.50%) were labourers, 197 (32.84%) were self-employed, 158 (26.33%) were Government Employees, 183 (30.50%) were Private Employees and 6 (1.00%) were Retired.

Graph 8: Distribution of study participants according to occupation of father (n=600).



Table 9: Distribution of study participants according to occupation of mother (n=600).

Occupation of mother	Number (n)	Percentage (%)
Farmer	11	1.83
Labourer	8	1.33
Self-employed	56	9.34
Government Employee	44	7.33
Private Employee	75	12.50
Home maker	406	67.67
Total	600	100.00

In the present study, out of 600 participants it was observed that 11 (1.83%) of the mothers were farmers, 8 (1.33%) were labourers, 56 (9.34%) were self-employed, 44 (7.33%) were Government Employees, 75 (12.50%) were Private Employees, 406 (67.67%) were home makers.

Graph 9: Distribution of study participants according to occupation of mother (n=600).

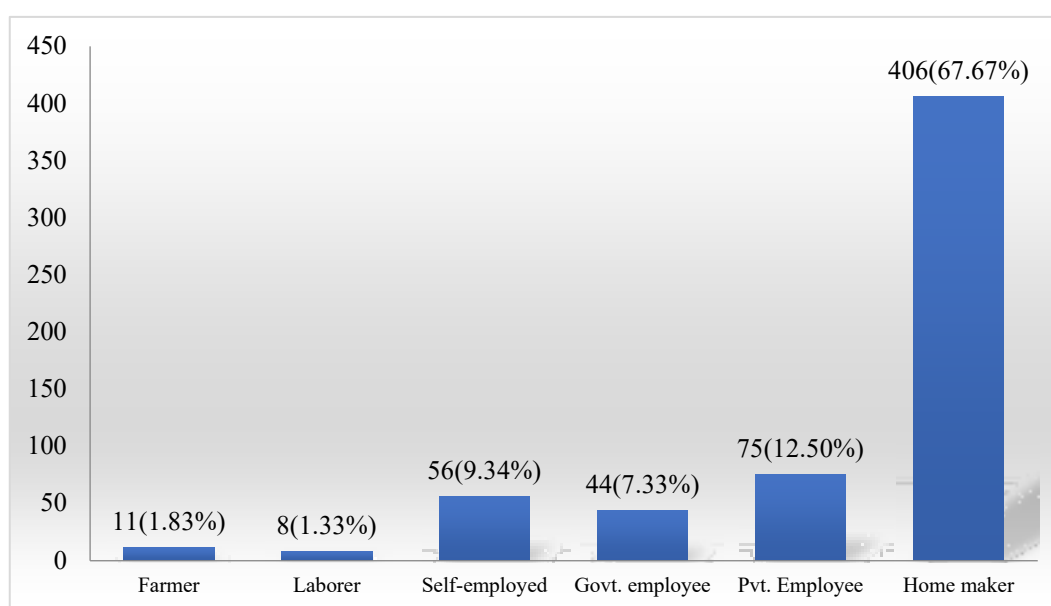


Table 10: Distribution of study participants (n=600).

A). According to type of School	Number (n)	Percentage (%)
Government	83	13.83
Private	517	86.17
Total	600	100
B). According to Place of residence	Number (n)	Percentage (%)
Urban	453	75.50
Rural	105	17.50
Sub Urban	42	7.00
Total	600	100
C). According to Staying arrangements.	Number (n)	Percentage (%)
With Both parents	550	91.67
With Mother Alone	40	6.67
With Father alone	5	0.83
With Grand parents	5	0.83
Total	600	100

Among the 600 high school students, 83 (13.83%) were studying in government schools and 517 (86.17%) were studying in private schools.

Out of 600 study participants, 453 (75.50%) were living in urban areas, 105 (17.50%) were living in rural areas and 42 (7.00%) were living in sub urban areas.

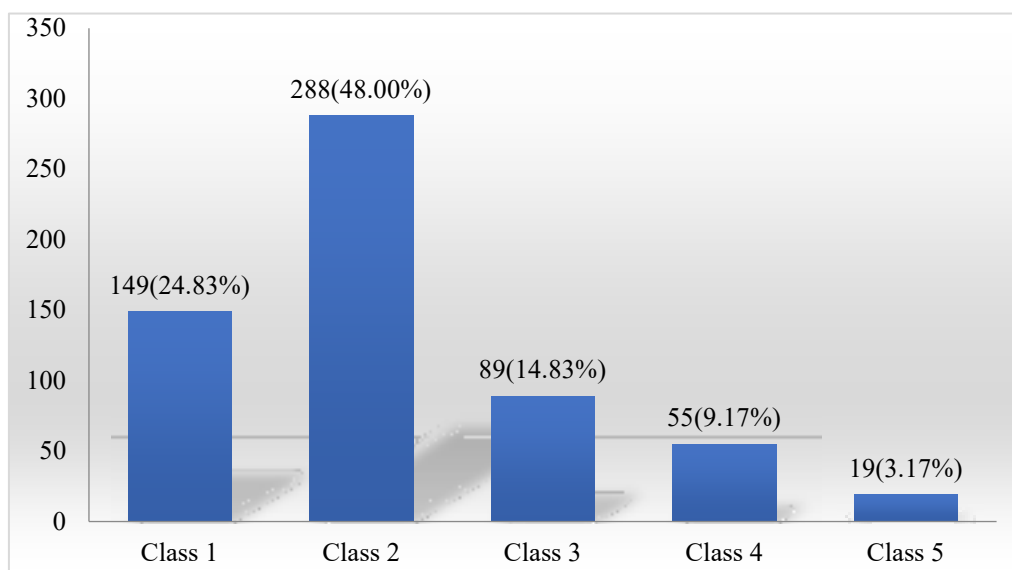
Among 600 study participants, 550 (91.67%) were living with both parents, 40 (6.67%) were living with mother alone, 5 (0.83%) were living with father alone and 5 (0.83%) were living with their grandparents.

Table 11: Distribution of study participants according to socio economic status (According to modified B.G. Prasad classification, 2020) (n=600).

Socio Economic Status	Number (n)	Percentage (%)
Class I	149	24.83
Class II	288	48.00
Class III	89	14.83
Class IV	55	9.17
Class V	19	3.17
Total	600	100

According to Modified B. G. Prasad's Classification of socio – economic status, 149 (24.83%) participants belonged to Class I, 288 (48.00 %) belonged Class II, 89 (14.83 %) were in Class III, 55 (9.17 %) were in Class IV and 19 (3.17%) belonged to Class V.

Graph 10: Distribution of study participants according to socio economic status (According to modified B.G. Prasad classification, 2020) (n=600).



II. PERSONAL HISTORY:

Table 12: Distribution of study participants according to Diet & sleep pattern (n=600).

A). Diet	Number (n)	Percentage (%)
Vegetarian	285	47.50
Mixed	315	52.50
Total	600	100
B). Sleep (in hours)	Number (n)	Percentage (%)
<6hrs	109	18.17
6-8hrs	302	50.33
>8hrs	189	31.50
Total	600	100

In the present study, 285 (47.50%) were consuming vegetarian diet and 315 (52.50%) were consuming mixed diet.

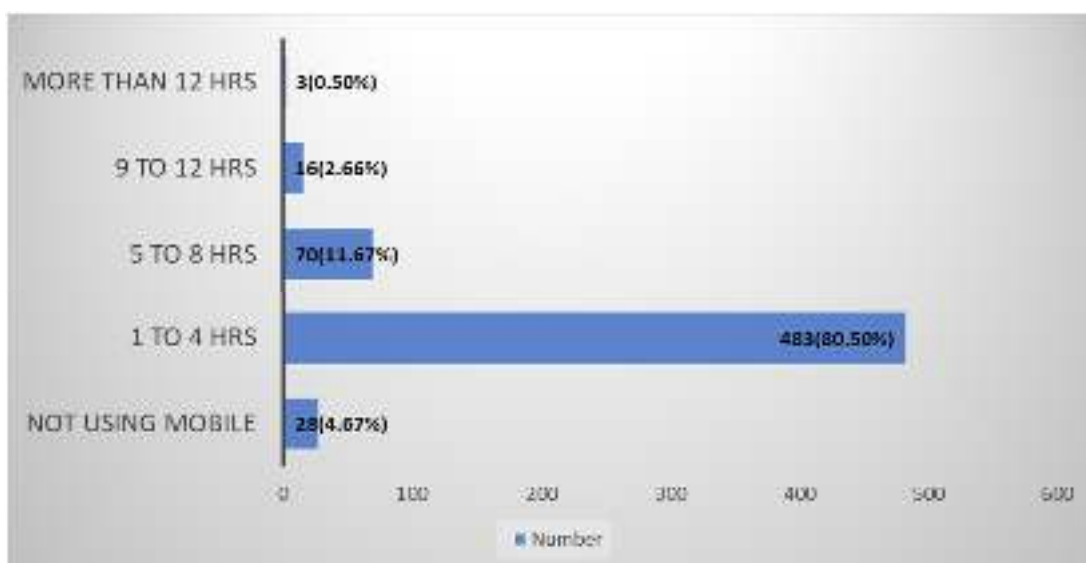
Among the 600 high school students, 109(18.17%) had less than 6 hours of sleep per day, 302 (50.33%) had 6 to 8 hours of sleep per day and 189 (31.50%) had more than 8 hours of sleep per day.

Table 13: Distribution of study participants according to their mobile phone usage in hours (n=600).

Hours in phone	Number (n)	Percentage (%)
Not using Mobile	28	4.67
1 to 4 hrs	483	80.50
5 to 8 hrs	70	11.67
9 to 12 hrs	16	2.66
> 12 hrs	3	0.50
Total	600	100

In the present study, 28 (4.67%) were not using mobile phones, 483 (80.50%) were using mobile phones for 1 to 4 hours per day, 70 (11.67%) were using mobile phones for 5 to 8 hours per day, 16 (2.66%) were using mobile phones for 9 to 12 hours per day and 3 (0.50%) were using mobile phones for more than 12 hours per day.

Graph 11: Distribution of study participants according to their mobile phone usage in hours (n=600).



III. FAMILY HISTORY:

Table 14: Distribution of study participants according to family history (n=600).

A). Serious illness/ mental illness in family	Number (n)	Percentage (%)
YES	34	5.66
NO	566	94.34
Total	600	100
B). Death of any family member in the past one year.	Number (n)	Percentage (%)
YES	83	13.83
NO	517	86.17
Total	600	100
C). Alcohol usage By Family Member	Number (n)	Percentage (%)
YES	73	12.17
NO	527	87.83
Total	600	100
D). Tobacco usage by family member	Number (n)	Percentage (%)
YES	67	11.17
NO	533	88.83
Total	600	100
E). H/O Violence by family member	Number (n)	Percentage (%)
Yes	54	9.00
No	546	91.00
Grand Total	600	100

Out of 600 participants, 34 (5.66%) had a history of serious illness or mental illness in family members and 566 (94.34%) didn't have any family history of serious illness or mental illness.

Among 600 study participants, 83 (13.83%) had death of a family member in the past one year and 517 (86.17%) didn't have any history of death of family members in the past one year.

In the present study, 73 (12.17%) family members of the study participants were consuming alcohol and 527 (87.83%) family members of the study participants were not consuming alcohol.

In the present study, 67 (11.17%) family members of the study participants were consuming tobacco and 533 (88.83%) family members of the study participants were not consuming tobacco.

Out of 600 participants, 54 (9.00%) had a history of violent behaviour by any family member and 546 (91.00%) didn't have any history of violent behaviour by any family member.

IV. ACADEMIC AND EXTRACURRICULAR ACTIVITIES

Table 15: Distribution of study participants according to their academic performance and extracurricular activities (n=600).

A). Repeated one year	Number (n)	Percentage (%)
YES	43	7.16
NO	557	92.84
Total	600	100
B). Failed in any subject in last year		
YES	81	13.50
NO	519	86.50
Total	600	100
C). Punished at school		
YES	224	37.33
NO	376	62.67
Total	600	100
D). Pressurised by parents		
YES	152	25.33
NO	448	74.67
Total	600	100
E). Participation in sports		
YES	495	82.50
NO	105	17.50
Total	600	100

Among 600 high school students their academic and extracurricular activities was assessed, in which 43 (7.16%) repeated an academic year, 81 (13.50%) failed in any subject in the past one academic year, 224 (37.33%) were punished for their poor performance or behaviour, 152 (25.33%) had a history of being pressurised by parents to perform well and 495 (82.50%) were actively participating in sports.

V. BECK'S DEPRESSION INVENTORY

Table 16: Distribution of study participants according to beck's depression inventory score (n=600).

Beck's depression inventory	Number (n)	Percentage (%)
Normal	401	66.83
Mild mood disturbance	91	15.17
Borderline clinical depression	34	5.66
Moderate depression	62	10.34
Severe depression	12	2.00
Extreme depression	0	0.00
Total	600	100

Among 600 high school student's depression was assessed using becks depression inventory, 401 (66.83%) were normal, 91 (15.17%) had mild mood disturbance, 34 (5.66%) had borderline clinical depression, 62 (10.34%) had moderate depression, 12 (2.00%) had severe depression and none of the participants had extreme depression.

The overall prevalence of depression was calculated by adding all the study participants in borderline, moderate, severe and extreme depression.

The overall prevalence of depression in the present study was 18.00% (n=108).

Graph 12: Distribution of study participants according to beck's depression inventory score (n=600).

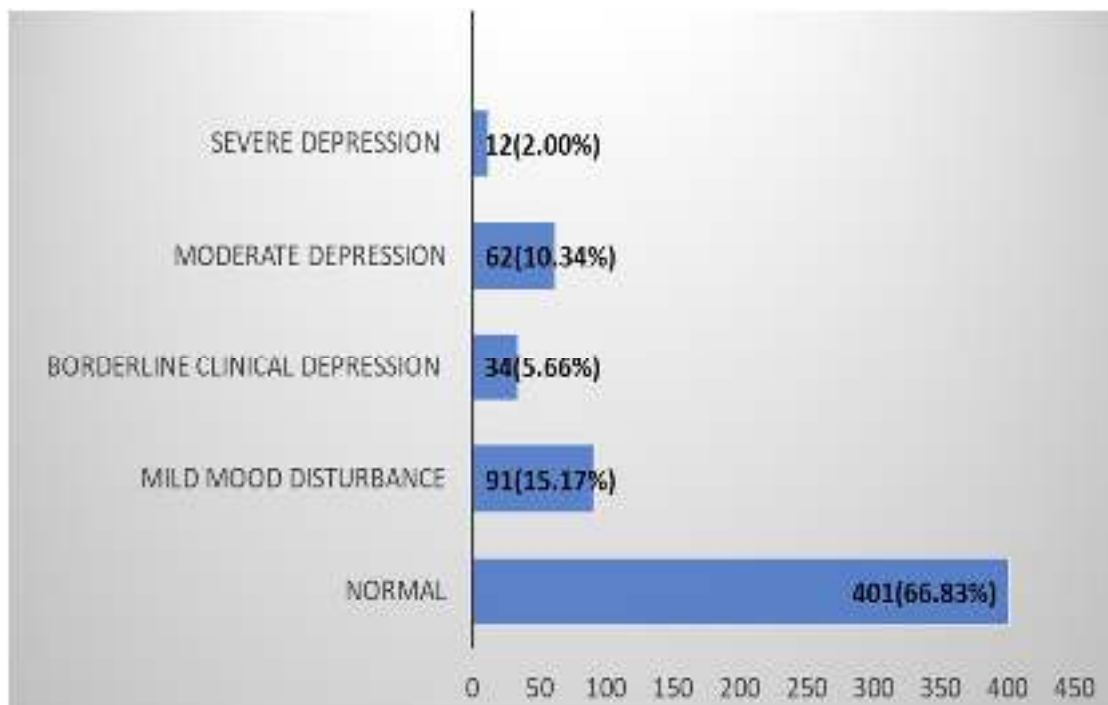


Table 17: Association of depression with sociodemographic variables like age, gender, religion, type of family, place of residence and socioeconomic class of the study participants.

	Depression				x ²	Df	P value
	Absent		Present				
	Number (n)	Percentage (%)	Number (n)	Percentage (%)			
A). Age							
12 - 14 years	256	83.4	51	16.6	0.82	1	0.365
15 - 17 years	236	80.5	57	19.5			
B). Gender							
Male	261	79.3	68	20.7	3.515	1	0.061
Female	231	85.2	40	14.8			
C). Religion							
Hindu	367	84.0	70	16.0	4.345	2	0.114
Muslim	104	77.0	31	23.0			
Others	21	75.0	7	25.0			
D). Type of family							
Nuclear	362	81.7	81	18.3	4.435	2	0.109
Joint	122	84.7	22	15.3			
Broken	8	61.5	5	38.5			
E). Place of residence							
Urban	379	83.7	74	16.3	3.586	2	0.166
Rural	80	76.2	25	23.8			
Sub Urban	33	78.6	9	21.4			
F). Socio Economic Status							
Class I	121	81.2	28	18.8	4.003	4	0.406
Class II	244	84.7	44	15.3			
Class III	68	76.4	21	23.6			
Class IV	43	78.2	12	21.8			
Class V	16	84.2	3	15.8			

Association of depression with sociodemographic variables like age, gender, religion, type of family, place of residence and socioeconomic class of the study participants was not found to be statistically significant in the present study.

Table 18: Association of depression with education of Father of the study participants.

Education of Father	Depression				x2	Df	P value
	Absent		Present				
	Number (n)	Percentage (%)	Number (n)	Percentage (%)			
Illiterate	13	100.0	0	0.0	11.145	5	0.049*
Primary (1 – 5 th)	37	69.8	16	30.2			
Secondary (6 – 10 th)	79	83.2	16	16.8			
Pre – university college (11 th & 12 th)	77	83.7	15	16.3			
Graduate	258	81.4	59	18.6			
Postgraduate	28	93.3	2	6.7			

Prevalence of depression was more among the responders whose father had studied up to primary level (30.2%), followed by graduates (18.2%), secondary education (16.8%), pre – university college education (16.3%), postgraduate (6.7%) and the least among illiterates (0%) and the association was statistically significant (p value = 0.049).

Graph 13: Association of depression with education of Father of the study participants.

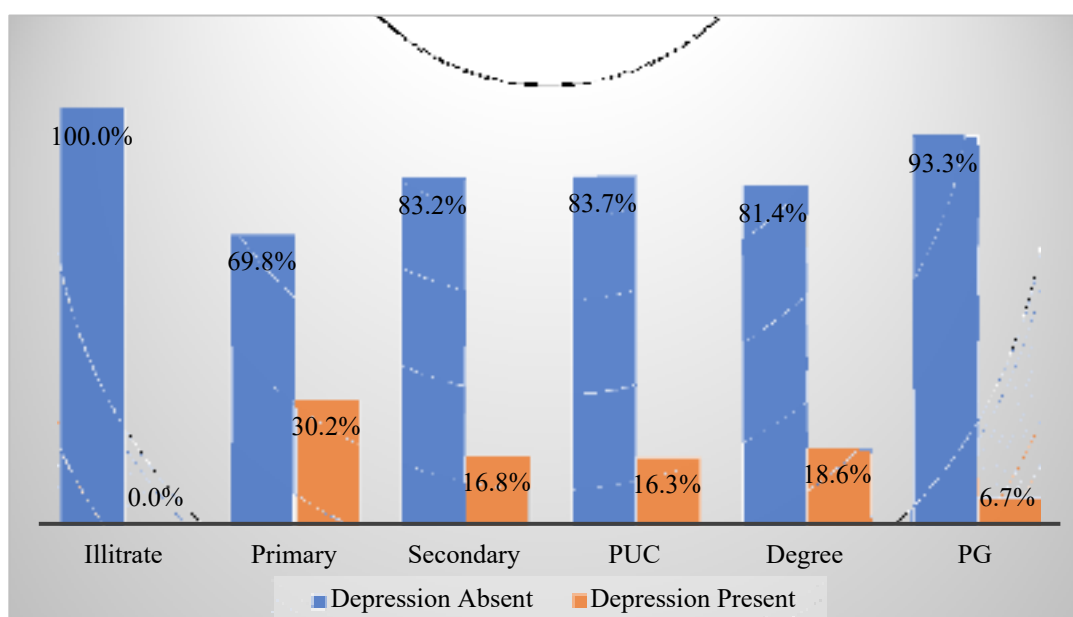


Table 19: Association of depression with of Education of Mother of the study participants.

Education of Mother	Depression				x ²	Df	P value
	Absent		Present				
	Number (n)	Percentage (%)	Number (n)	Percentage (%)			
Illiterate	20	58.8	14	41.2	16.463	5	0.006*
Primary (1 – 5 th)	63	81.8	14	18.2			
Secondary (6 – 10 th)	107	81.1	25	18.9			
Pre – university college (11 th & 12 th)	93	80.2	23	19.8			
Graduate	192	86.5	30	13.5			
Postgraduate	17	89.5	2	10.5			

Prevalence of depression was more among the responders whose mothers are illiterate (41.2%), followed pre – university college education (19.8%), secondary education (18.9%), primary education (18.2%), graduates (13.5%) and the least among post graduates (10.5%) and the association was statistically significant (p value = 0.006).

Graph 14: Association of depression with of Education of Mother the study participants.

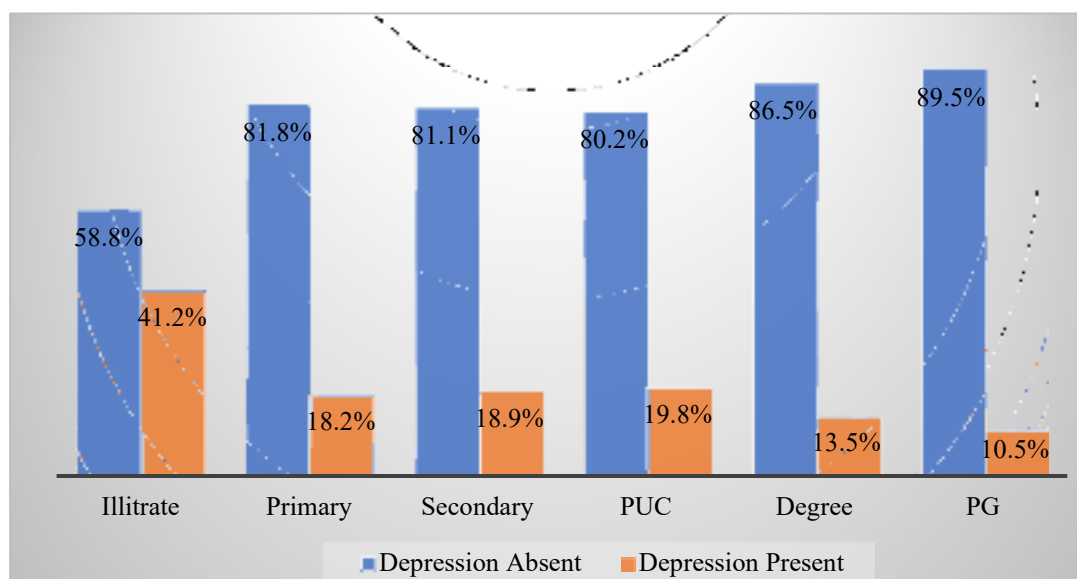


Table 20: Association of depression with Occupation of Father of the study participants.

Occupation of Father	Depression				Fisher's Exact Test	P value
	Absent		Present			
	Number (n)	Percentage (%)	Number (n)	Percentage (%)		
Farmer	27	93.1	2	6.9	19.312	0.001*
Labourer	17	63.0	10	37.0		
Self-employed	166	84.3	31	15.7		
Government Employee	136	86.1	22	13.9		
Private Employee	144	78.7	39	21.3		
Retired/Pensioner	2	33.3	4	66.7		

Prevalence of depression was more among the responders whose father is retired (66.7%), followed by labourer (37.0%), private employee (21.3%), self-employed (15.7%), government employee (13.9%) and least was seen in farmers (6.9%) and the association was statistically significant (p value = 0.001).

Graph 15: Association of depression with Occupation of Father of the study participants.

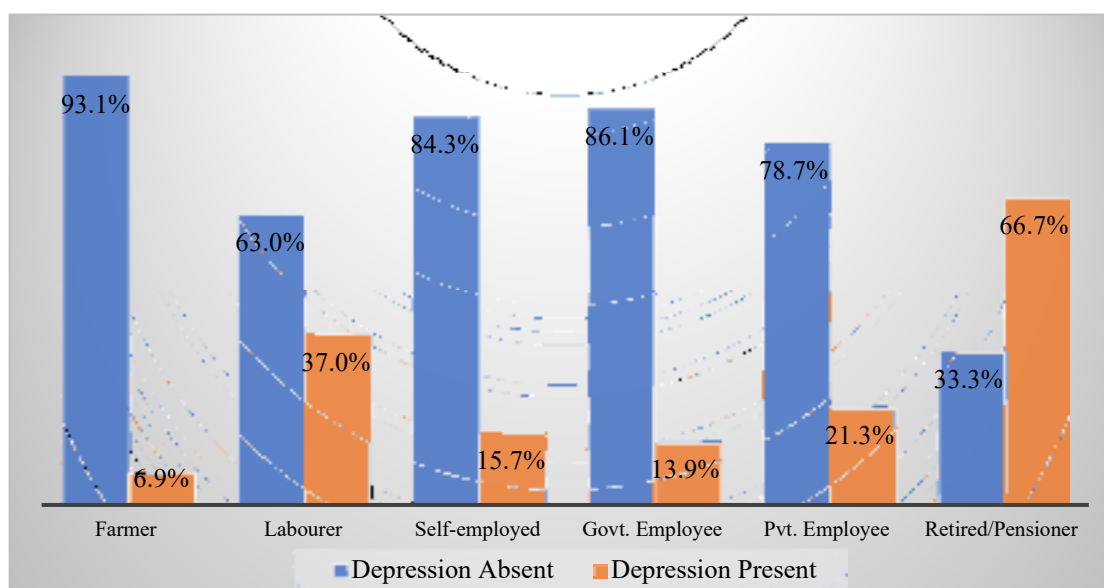


Table 21: Association of depression with Occupation of Mother of the study participants.

Occupation of Mother	Depression				x2	Df	P value
	Absent		Present				
	Number (n)	Percentage (%)	Number (n)	Percentage (%)			
Farmer	7	63.6	4	36.4	18.59	5	0.003*
Labourer	3	37.5	5	62.5			
Self-employed	45	80.4	11	19.6			
Government Employee	40	90.9	4	9.1			
Private Employee	67	89.3	8	10.7			
Home maker	330	81.3	76	18.7			

Prevalence of depression was more among the responders whose mothers had an occupation as labourer (62.5%), followed by farmer (36.4%), self-employed (19.6%), Home maker (18.7%), private employee (10.7%) and least was seen in government Employee (9.1%) and the association was statistically significant (p value = 0.003).

Graph 16: Association of depression with Occupation of Mother of the study participants.

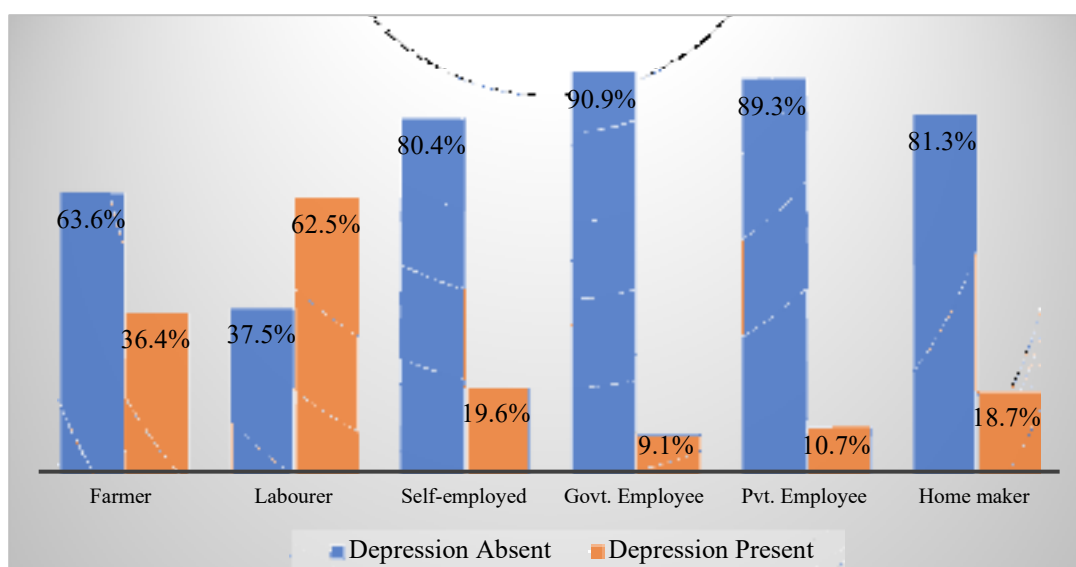


Table 22: Association of depression with staying arrangement of study participants.

Staying arrangement of study participants	Depression				Fisher's Exact Test	P value
	Absent		Present			
	Number (n)	Percentage (%)	Number (n)	Percentage (%)	11.439	0.006*
With Both parents	452	82.2%	98	17.8%		
With Mother alone	36	90.0%	4	10.0%		
With Father alone	2	40.0%	3	60.0%		
With Grandparents	2	40.0%	3	60.0%		

Prevalence of depression was more among the responders who were living with father alone or with grandparents (60.0% & 60.0%), followed by participants living with both parents (17.8%) and least was seen participants living with mother alone (10.0%) and the association was statistically significant (p value = 0.003).

Graph 17: Association of depression with staying arrangement of study participants.

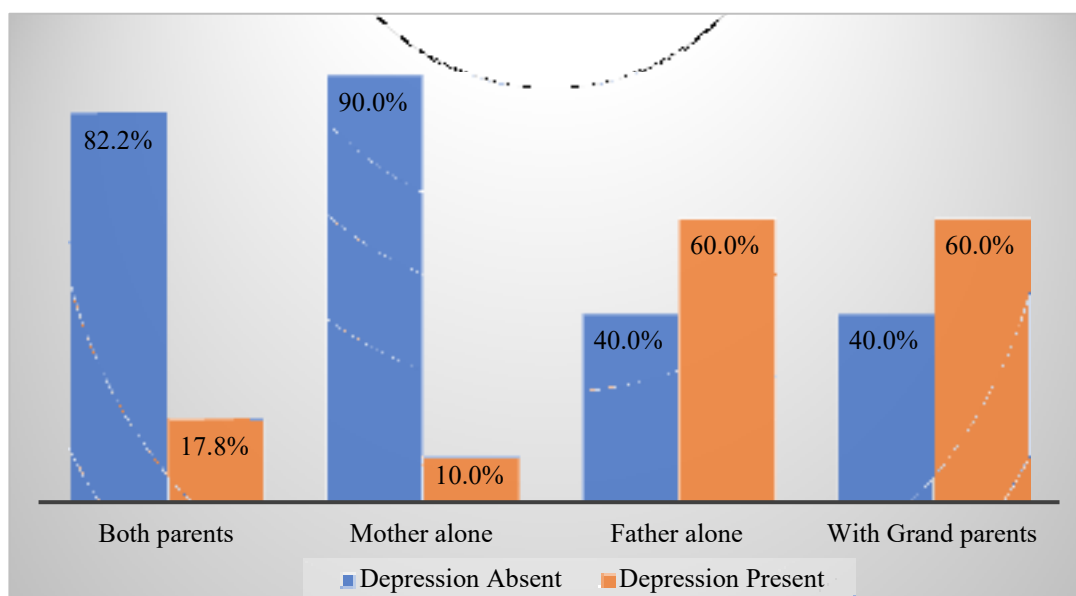


Table 23: Association of depression with Sleep pattern of the study participants.

Sleep	Depression				x2	D f	P value
	Absent		Present				
	Number (n)	Percentage (%)	Number (n)	Percentage (%)			
<6 hours	84	77.1	25	22.9	8.086	2	0.018*
6 - 8 Hours	261	86.4	41	13.6			
>8 hours	147	77.8	42	22.2			

Prevalence of depression was more among the responders who slept for less than 6 hours (22.9%), followed by participants who slept for more than 8 hours (22.2%) and least was seen participants who slept for 6 to 8 hours (13.6%) and the association was statistically significant (p value = 0.018).

Graph 18: Association of depression with Sleep pattern of the study participants.

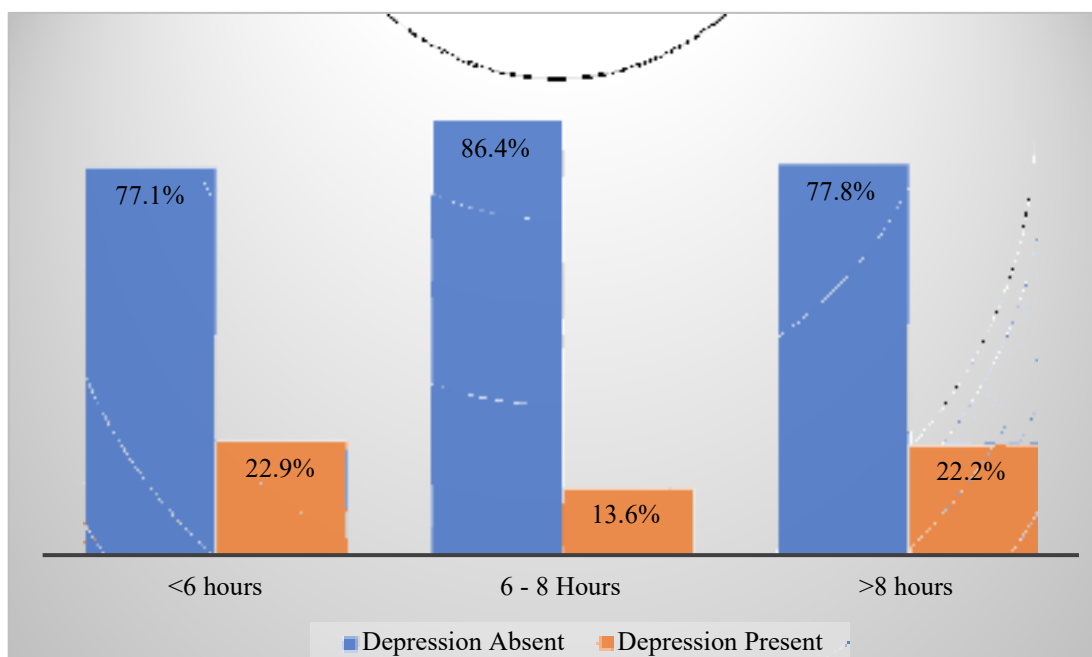


Table 24: Association of depression with Mobile phone usage of the study participants.

Mobile phone usage	Depression				Fisher's Exact Test	P value
	Absent		Present			
	Number (n)	Percentage (%)	Number (n)	Percentage (%)		
Not using mobile	24	85.7	4	14.3	8.197	0.068
1 - 4 hours	404	83.6	79	16.4		
5 - 8 hours	50	71.4	20	28.6		
9 - 12 hours	14	73.6	5	26.4		

Association of mobile usage with depression was not found to be statistically significant in our study.

Graph 19: Association of depression with Mobile phone usage of the study participants.

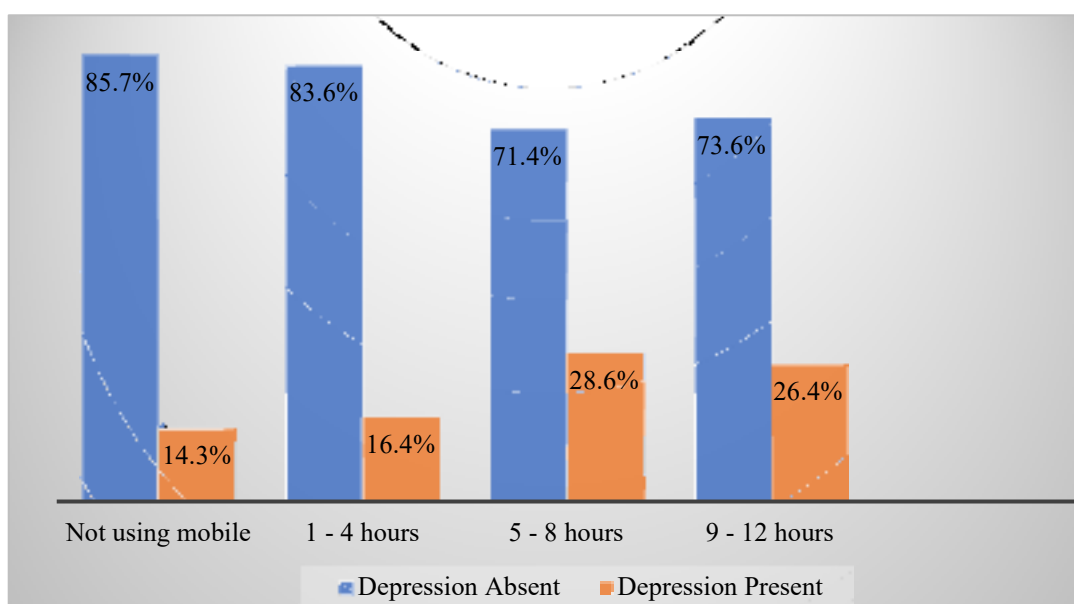


Table 25: Association of depression with history of serious illness/ mental illness in family members.

Illness to family member	Depression				x2	Df	P value
	Absent		Present				
	Number (n)	Percentage (%)	Number (n)	Percentage (%)			
Yes	23	67.6	11	32.4	5.03	1	0.025*
No	469	82.9	97	17.1			

In the present study, prevalence of depression was more in participants who had a family member with history of serious medical or mental illness (32.4%) when compared to participants who didn't have any family member with history of serious medical or mental illness (17.1%) and the association was statistically significant (p value = 0.025).

Graph 20: Association of depression with history of serious illness/ mental illness in family members.

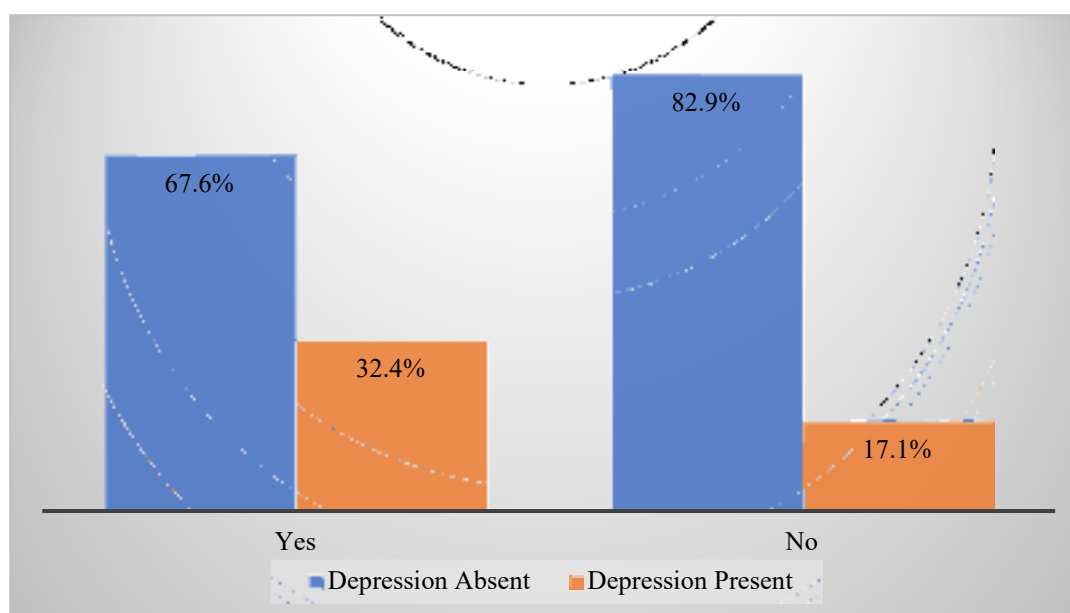


Table 26: Association of depression with death of any family member in the past one year.

Death of family member	Depression				x2	Df	P value
	Absent		Present				
	Number (n)	Percentage (%)	Number (n)	Percentage (%)			
Yes	52	63.7	31	37.3	24.434	1	0.0001*
No	440	85.1	77	14.9			

In the current study the prevalence of depression was more in participants who experienced death of family member in the past year (37.3%) when compared to participants who didn't experience any loss of any family members (14.9%) and the association was statistically significant (p value = 0.0001).

Graph 21: Association of depression with death of any family member in the past one year.

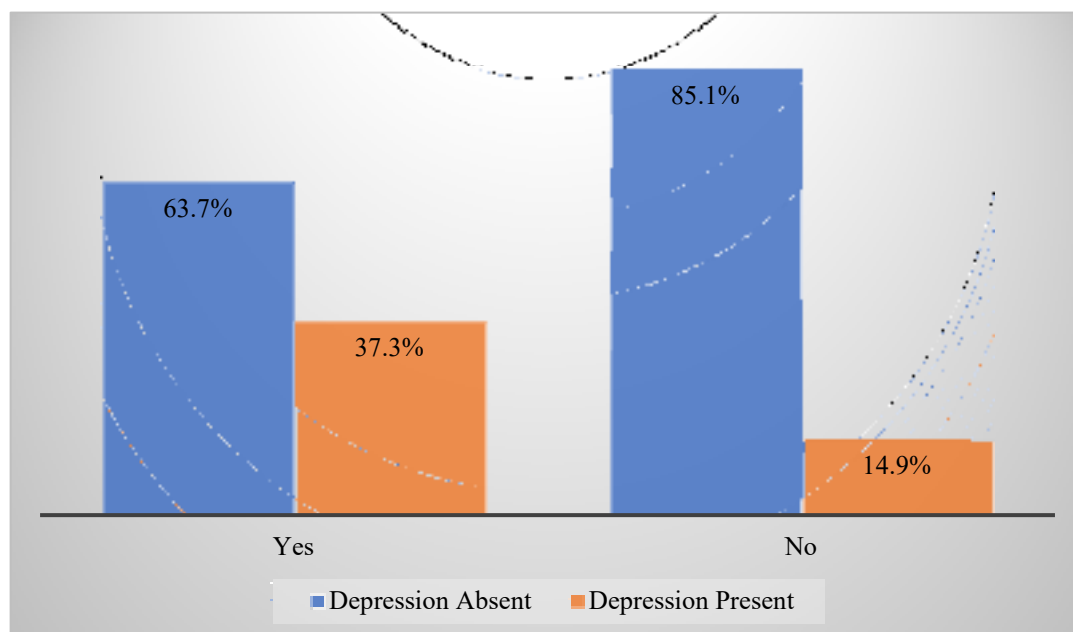


Table 27: Association of depression with alcohol & tobacco consumption by any family member.

	Depression				x ²	Df	P value
	Absent		Present				
	Number (n)	Percentage (%)	Number (n)	Percentage (%)			
A). Alcohol usage by family member							
Yes	52	71.2	21	28.8	6.528	1	0.011*
No	440	83.5	87	16.5			
B). Tobacco usage by family member							
Yes	49	73.1	18	26.9	4.016	1	0.045*
No	443	83.1	90	16.9			

Our study showed that prevalence of depression was higher if the family members consumed alcohol regularly (28.8%) when compared to those who didn't consume alcohol (16.5%). The difference was significant (p value = 0.011).

Our study also showed that prevalence of depression was higher if the family members consumed tobacco regularly both chewing and smoking (26.9%) compared to those who didn't consume tobacco in any form (16.9%). The difference was significant (p value = 0.045).

Table 28: Association of depression with violent behaviour by any family member.

Violent behaviour by family member	Depression				x2	Df	P value
	Absent		Present				
	Number (n)	Percentage (%)	Number (n)	Percentage (%)			
Yes	35	64.8	19	35.2	11.873	1	0.001*
No	457	83.7	89	16.3			

In the current study the prevalence of depression was more in participants who had a family member with history of violent behaviour (35.2%) when compared to participants who didn't experience any violent behaviour from family members (14.9%) and the association was statistically significant (p value = 0.001).

Graph 22: Association of depression with violent behaviour by any family member.

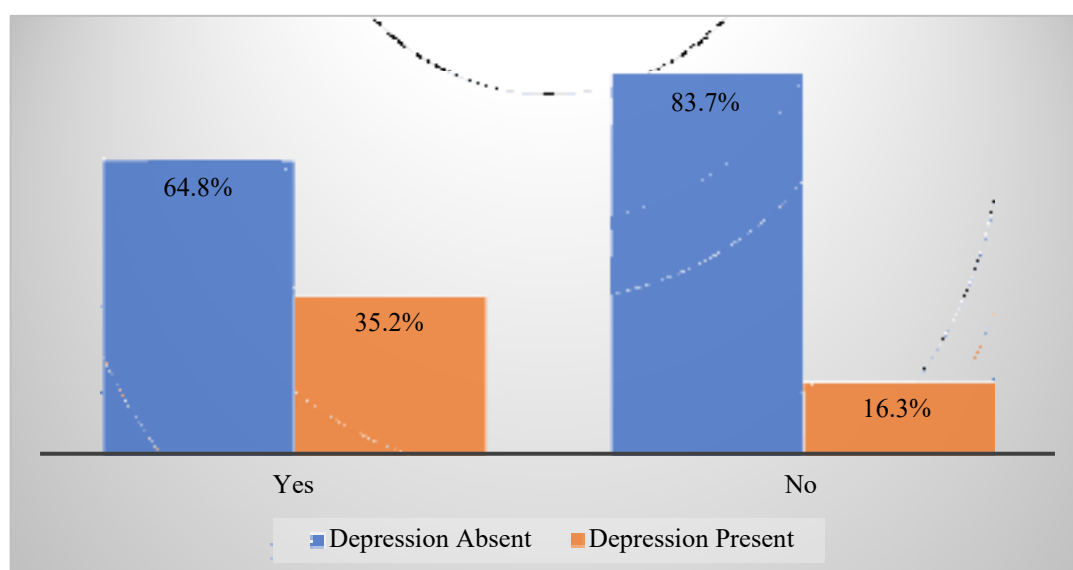


Table 29: Association of depression with academic performance and extracurricular activities of the study participants.

0	Depression				x ²	Df	P value
	Absent		Present				
	Number (n)	Percentage (%)	Number (n)	Percentage (%)			
A). Repeated one year							
Yes	25	58.1	18	41.9	17.866	1	0.0001*
No	467	83.8	90	16.2			
B). Failed in any subject in last year							
Yes	46	56.8	35	43.2	40.32	1	0.0001*
No	446	85.9	73	14.1			

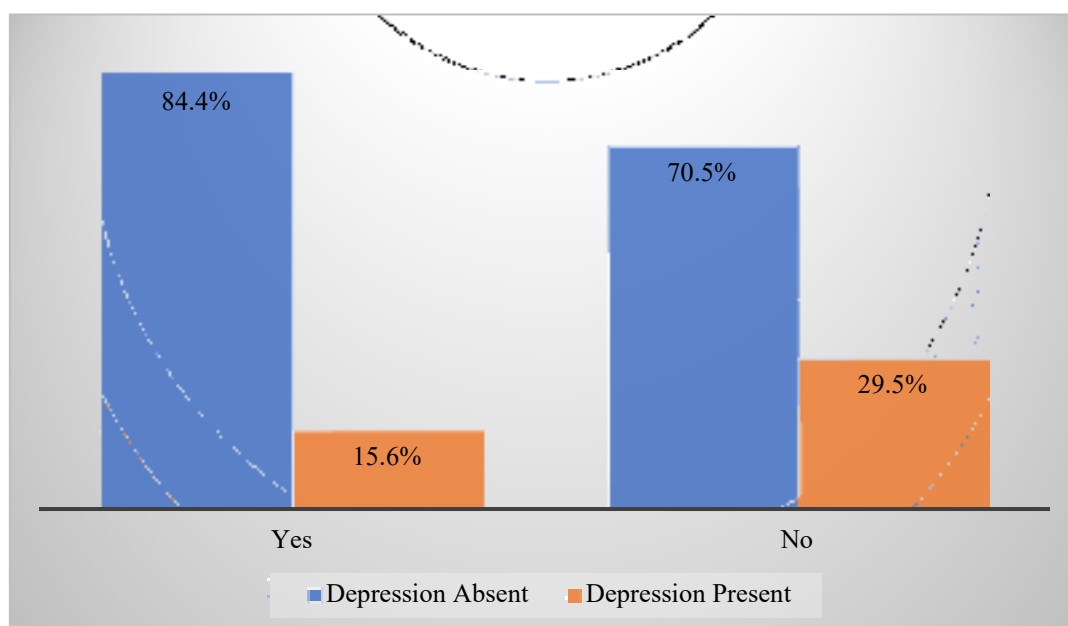
As far as academic performance is concerned, maximum prevalence of depression was observed among participants who repeated an academic year (41.9%) when compared to participants who didn't repeat an academic year (16.2%). The difference was significant (p value = 0.0001) and among participants who failed in any subject in the past academic year (43.2%) when compared to participants who didn't fail any subject in the past academic year (14.1%). The difference was statistically significant (p value = 0.0001).

Table 30: Association of depression with Sports Participation by study participants.

Sports Participation	Depression				x2	Df	P value
	Absent		Present				
	Number (n)	Percentage (%)	Number (n)	Percentage (%)			
Yes	418	84.4	77	15.6	11.451	1	0.001*
No	74	70.5	31	29.5			

In the current study the prevalence of depression was more in participants who were not involved in sports activities (29.5%) when compared to participants who were involved in sports activities (15.6%) and the association was statistically significant (p value = 0.001).

Graph 23: Association of depression with Sports Participation by study participants.



DISCUSSION:

I. SOCIO-DEMOGRAPHIC PROFILE OF STUDY PARTICIPANTS

Table 1: Distribution of study participants according to their age.

In our study among 600 high school students, the mean age was 14.7 ± 0.96 years. 307 (51.16%) were in the 12 – 14 years age group and 293 (48.84%) were in 15 – 17 years age group.

Similarly, a study conducted in Mangalore showed that mean age of the participants was 14 ± 0.9 and majority of the participants were belonging to age group of 12-15 years. ⁽⁹⁾ Another study conducted in Barabanki district, Uttar Pradesh the mean age of participants was 14.3 ± 3.1 and majority of the participants were in the age group 10 – 13 years. ⁽²³⁾

Table 2: Distribution of study participants according to their schooling

In the present study, 218 (36.33%) were studying in VIII standard, 134 (22.34%) were studying in IX standard and 248 (41.33%) were studying in X standard.

Similarly, a study conducted in Chandigarh showed that majority of the students (28.8%) were studying class X. ⁽¹⁴⁾

Table 3: Distribution of study participants according to Gender

In the present study 329 (54.83%) were male and 271 (45.17%) were female.

Similarly, a study conducted in Thiruvallur District, Tamilnadu showed 280 (50%) were female and 280 (50%) were male ⁽⁶⁾, another study conducted in Varanasi district, Uttar Pradesh revealed male and female distribution to be 111(55.5%) and 89(44.5%) respectively.⁽¹⁸⁾

Table 4 & 5: Distribution of study participants according to religion & type of family

In the present study maximum participants 437 (72.83%) were Hindus, 135 (22.50%) were Muslims and 28 (4.67%) belonged to others which included Christians, Sikhs, Buddhists, and Jains. In our study among the 600 study participants, 443 (73.83%) belonged to nuclear family, 146(24.34%) lived in joint family and 11 (1.83%) belonged to broken family.

Similarly, a study conducted by Jha et., in 2017 revealed that maximum participants (79.4%) were Hindus followed by (16.4%) Muslims and least in (4.2%) others which included (Buddhism, Jainism, etc.) and maximum number of participants (61.5%) lived in a nuclear family ⁽²⁷⁾

Table 6 & 7: Distribution of study participants according to education of father & mother

Educational qualification of the fathers of the study participants was assessed which revealed that 13 (2.17%) were illiterates, 53 (8.83%) had completed primary education, 95 (15.83%) had completed secondary education, 92 (15.33%) had completed pre – university, 317 (52.84%) were graduates and 30 (5.00%) were Postgraduates.

A study conducted in Hyderabad, Telangana in the year 2017 revealed that majority (35.25%) of the father of participants were illiterates, (33.5%) had completed primary education, (23.25%) had completed secondary education, (5%) had completed pre – university and (3%) were graduates.

Educational qualification of the mother of the study participants was assessed which revealed that 34 (5.67%) were illiterates, 77 (12.83%) had completed primary education, 132 (22.00%) had completed secondary education, 116 (19.33%) had completed pre – university, 222 (37.00%) were graduates and 19 (3.17%) were Postgraduates.

A study conducted in Hyderabad, Telangana in the year 2017 revealed that majority (45.5%) of the mother of participants were illiterates, (36%) had completed primary education, (12.25%) had completed secondary education, (2.75%) had completed pre – university and (3.5%) were graduates.

The difference in the results might be due the variation in the literacy rate between each state and majority of the participants were from public schools in the study conducted in Hyderabad. ⁽¹⁹⁾

Table 8: Distribution of study participants according to occupation of father (n=600).

In our study, 29 (4.83%) of fathers were farmers, 27 (4.50%) were labourers, 197 (32.84%) were self-employed, 158 (26.33%) were Government Employees, 183 (30.50%) were Private Employees and 6 (1.00%) were Retired.

Similarly, a study conducted in Chandigarh revealed that majority of the fathers of study participants (56.7%) were working in either government/private jobs.

(14)

Table 9: Distribution of study participants according to occupation of mother (n=600).

In the present study, out of 600 participants it was observed that 11 (1.83%) of the mothers were farmers, 8 (1.33%) were labourers, 56 (9.34%) were self-employed, 44 (7.33%) were Government Employees, 75 (12.50%) were Private Employees, 406 (67.67%) were home makers.

Similarly, a study conducted in Haryana revealed that majority of the mothers of study participants (90.6%) were home makers. ⁽¹⁵⁾

Table 10: Distribution of study participants according to type of School, place of residence and staying arrangements.

Among the 600 high school students, 83 (13.83%) were studying in government schools, 453 (75.50%) participants were living in urban areas and 550 (91.67%) were living with both parents in our study.

A study conducted among high school students in Pokhara, Nepal in the year 2018 revealed that majority of the participants were living with their family (82.1%) but majority of the students were studying in government school (52.9%) this difference might be due to different demographic area and schooling system in their country. Another study conducted by Fallahi M et al. in the year 2018 revealed that majority of the participants were living in an urban area (66.1%) which was similar to our study. ^(17,24)

Table 11: Distribution of study participants according to socio economic status (According to modified B.G. Prasad classification, 2020).

According to Modified B. G. Prasad's Classification of socio – economic status, 149 (24.83%) participants belonged to Class I, 288 (48.00 %) belonged Class II, 89 (14.83 %) were in Class III, 55 (9.17 %) were in Class IV and 19 (3.17%) belonged to Class V in the present study.

Similarly, a study conducted in an urban area of Karnataka showed majority of the participants (35.04%) belonged to class II and least participants (3.54%) belonged to class V. ⁽¹¹⁾

II. PERSONAL HISTORY:

Table 12: Distribution of study participants according to Diet & sleep pattern

In the present study, 285 (47.50%) were consuming vegetarian diet and 315 (52.50%) were consuming mixed diet.

Among the 600 high school students, 109(18.17%) had less than 6 hours of sleep per day, 302 (50.33%) had 6 to 8 hours of sleep per day and 189 (31.50%) had more than 8 hours of sleep per day.

Table 13: Distribution of study participants according to their mobile phone usage in hours

In the present study, 28 (4.67%) were not using mobile phones, 483 (80.50%) were using mobile phones for 1 to 4 hours per day, 70 (11.67%) were using mobile phones for 5 to 8 hours per day, 16 (2.66%) were using mobile phones for 9 to 12

hours per day and 3 (0.50%) were using mobile phones for more than 12 hours per day.

Similarly, a study conducted in Chandigarh revealed majority (47%) of the participants used mobile phone up to 5 hours per day. ⁽¹⁴⁾

III.FAMILY HISTORY:

Table 14: Distribution of study participants according to family history.

Out of 600 participants, 566 (94.34%) didn't have any family history of serious illness or mental illness, (86.17%) didn't have any history of death of family members in the past one year, 527 (87.83%) family members of the study participants were not consuming alcohol, 533 (88.83%) family members of the study participants were not consuming tobacco and out of 600 participants, 546 (91.00%) didn't have any history of violent behaviour by any family member.

Similarly, in a study conducted in Bangalore and Chandigarh majority of the participants didn't have any family history of serious illness (85.2%) or mental illness (91.1%), 69.1% didn't have any history of death of family members in the past one year, 71.8% family members of the study participants were not consuming alcohol, 85.2% family members of the study participants were not consuming tobacco and 69.2% didn't have any history of violent behaviour by any family member. ^(12,14)

IV. ACADEMIC AND EXTRACURRICULAR ACTIVITIES

Table 15: Distribution of study participants according to their academic performance and participation in extracurricular activities

Among 600 high school students their academic and extracurricular activities was assessed, in which 43 (7.16%) repeated an academic year, 81 (13.50%) failed in any subject in the past one academic year, 224 (37.33%) were punished for their poor performance or behaviour, 152 (25.33%) had a history of being pressurised by parents to perform well and 495 (82.50%) were actively participating in sports.

Similarly, a study conducted Bangalore revealed that 8 (5.3%) repeated an academic year, 22 (9.8%) failed in any subject in the past one academic year, 81 (36.3%) were punished for their poor performance or behaviour, 143 (64.1%) had a history of being pressurised by parents to perform well and 201 (90.1%) were actively participating in sports. This study participants were pressurised by parents 2 times more when compared to our study. ⁽¹²⁾

V. BECK'S DEPRESSION INVENTORY

Table 16: Distribution of study participants according to Beck's depression inventory score (n=600).

Among 600 high school student's depression was assessed using Becks depression inventory, 401 (66.83%) were normal, 91 (15.17%) had mild mood disturbance, 34 (5.66%) had borderline clinical depression, 62 (10.34%) had moderate depression, 12 (2.00%) had severe depression and none of the participants had extreme depression.

The overall prevalence of depression was calculated by adding all the study participants in borderline, moderate, severe and extreme depression. The overall prevalence of depression in the present study was 18% (n= 108).

Studies conducted in Mangalore, Nadia west Bengal, Haryana, Chennai Tamilnadu, Hyderabad Telangana, Barabanki Uttar Pradesh, Bihar and Bhopal Madhya Pradesh revealed prevalence of depression to be 40.8%, 34.2%, 52.9%, 25%, 13%, 18.7%, 49.2% and 71.3% respectively. ^(2,13,15,16,19,23,27,29)

Table 17: Association of depression with sociodemographic variables like age, gender, religion, type of family, place of residence and socioeconomic class of the study participants.

Association of depression with sociodemographic variables like age, gender, religion, type of family, place of residence and socioeconomic class of the study participants was not found to be statistically significant in the present study.

Similarly, studies conducted in Barabanki Uttar Pradesh and Belagavi Karnataka revealed that sociodemographic variables like age, gender, religion, type of family, place of residence and socioeconomic class of the study participants was not associated with depression. ^(23,11)

Table 18: Association of depression with education of Father of the study participants.

Prevalence of depression was more among the responders whose father had studied up to primary level (30.2%), followed by graduates (18.2%), secondary education (16.8%), pre – university college education (16.3%), postgraduate (6.7%)

and the least among illiterates (0%) and the association was statistically significant (p value = 0.049).

In a study conducted in Mangalore and Bhopal Madhya Pradesh revealed that depression was not associated with education of father of the participants with p value (0.096) and (0.851) respectively. ^(2,29)

Table 19 & 21: Association of depression with of Education and Occupation of Mother of the study participants.

Prevalence of depression was associated with education and occupation of mother among the respondents and the association was statistically significant with p value (0.006) and (0.003) respectively.

Similarly, in a study conducted in Bhopal Madhya Pradesh it was observed that depression was associated with education and occupation of mother of the participants and the association was statistically significant with p value (0.007) and (0.003) respectively. ⁽²⁹⁾

Table 20: Association of depression with Occupation of Father of the study participants.

Prevalence of depression was more among the responders whose father is retired (66.7%), followed by labourer (37.0%), private employee (21.3%), self-employed (15.7%), government employee (13.9%) and least was seen in farmers (6.9%) and the association was statistically significant (p value = 0.001).

Similarly, in a study conducted in Chennai revealed that depression was associated with occupation of father among the study participants and the association was statistically significant with p value (0.05).⁽¹⁶⁾

Table 22: Association of depression with staying arrangement of study participants.

Prevalence of depression was more among the study participants who were living with father alone or with grandparents (60.0% &60.0%), followed by participants living with both parents (17.8%) and least was seen participants living with mother alone (10.0%) and the association was statistically significant (p value = 0.003).

Similarly, in a study conducted in Nadia west Bengal it was observed that depression was associated with staying arrangement of study participants and the association was statistically significant with p value (0.004).⁽¹³⁾

Table 23: Association of depression with Sleep pattern of the study participants

Prevalence of depression was more among the study participants who slept for less than 6 hours (22.9%), followed by participants who slept for more than 8 hours (22.2%) and least was seen participants who slept for 6 to 8 hours (13.6%) and the association was statistically significant (p value = 0.018).

Table 24: Association of depression with Mobile phone usage of the study participants.

Association of mobile usage with depression was not found to be statistically significant in our study.

Table 25 & 26: Association of depression with history of serious illness/ mental illness in family members and death of any family member in the past one year.

In the present study, prevalence of depression was significantly associated with family member with history of serious medical or mental illness with p value (0.025) and participants who experienced death of family member in the past year with p value (0.0001).

Similarly, a study conducted in Bangalore, Karnataka revealed that depression was significantly associated with family member with history of serious medical or mental illness with p value (0.013) and participants who experienced death of family member in the past year with p value (0.016).⁽¹²⁾

Table 27 & 28: Association of depression with alcohol & tobacco consumption by any family member and violent behaviour by any family member.

Our study showed that prevalence of depression was significantly higher if the family members who consumed alcohol regularly with p value (0.011), who consumed tobacco regularly with p value (0.045) and participants who had a family member with history of violent behaviour with p value (0.001).

Similarly, a study conducted in Chandigarh revealed that depression was significantly associated with family members who consumed alcohol regularly with p value (0.001), who consumed tobacco regularly with p value (0.014) and participants who had a family member with history of violent behaviour with p value (0.018).⁽¹⁴⁾

Table 29 & 30: Association of depression with academic performance and extracurricular activities of the study participants.

In the present study, prevalence of depression was significantly associated with participants who repeated an academic year with p value (0.0001), participants who failed in any subject in the past academic year with p value (0.0001) and participants who were not involved in sports activities with p value (0.001).

In a study conducted in Bangalore Karnataka was observed that depression was significantly associated with participants who were not involved in sports activities with p value (0.001) and depression was not significantly associated in participants who repeated an academic year with p value (0.065) and participants who failed in any subject in the past academic year with p value (0.514) this disparity might be seen because all the participants were from government or government aided school. ⁽¹²⁾

CONCLUSION:

The present cross-sectional study, reported a prevalence of (18.0%) depression among high school students in Rukmini nagar an urban field practice area of Jawaharlal Nehru medical college, Belagavi, Karnataka. Among the 600 participants 401 (66.83%) were normal, 91 (15.17%) had mild mood disturbance, 34 (5.66%) had borderline clinical depression, 62 (10.34%) had moderate depression, 12 (2.00%) had severe depression and none of the participants had extreme depression.

Depression was significantly associated with various risk factors like education of father, education of mother, occupation of father, occupation of mother, staying arrangement, sleep pattern, family history of serious illness/ mental illness, death of family member in the past one year, alcohol & tobacco consumption by family member, violent behaviour by any family member, repeated one year, failed in any subject last year and participation in extracurricular activities like sports.

Depression was not significantly associated with some risk factors like age, gender, religion, type of family, place of residence, socio economic status, mobile phone usage, punished at school and pressurised by parents.

RECOMMENDATIONS:

Based on the findings of our study, following recommendations are suggested for prevention and control of depression:

1. Emphasis on IEC activates to ensure early recognition of symptoms of depression for early intervention.
2. Active early intervention can prevent worsening of depression to serious problems like drug abuse, violence and suicide.
3. Health education to parents, teachers and community is essential to eliminate the stigma attached to these types of disorders.
4. Studies similar to our study is vital for school-based intervention which might help students with mild and moderate depressive symptoms with early detection and intervention.
5. Periodical screening at institutional level should be promoted and person identified with depressive symptoms must be referred for further intervention.
6. Counsellors can play a vital role in reducing the prevalence of depression and regular counselling by a professional should be made available at all schools for promotion of overall mental health.
7. Political interest and policies should be made to address the need of good mental health at school and community level.

STRENGTHS:

The strengths of the study were:

1. The current study shows the magnitude of depressive problem among high school students and its associated factors in an urban area.
2. Efforts were made to collect data in the difficult period of the pandemic as most of the schools were closed during this time, data was collected with the help of school principal and teachers during the parent teacher's meeting which was held with appropriate measures during the pandemic.
3. Our study gives an opportunity for further evaluation with quantitative and qualitative studies.

LIMITATIONS

The limitations of the study were:

1. This current study was conducted performed only in urban area; hence it reflects the prevalence of depression in urban high school students.
2. Majority of the high school students were from upper and middle socioeconomic class and inclusion of participants from lower socioeconomic class could have led to more comprehensive conclusion.

SUMMARY

The present study was a cross sectional study under taken to estimate the prevalence of depression among high school students with the help of Becks depression inventory scale and associated risk factors were also assessed.

This study included 600 students from all High schools in Rukmini Nagar field practice area, Urban health centre of Department of Community Medicine, KLE's Jawaharlal Nehru Medical College, Belagavi. The duration of the study was one year from 1st January 2020 to 31st December 2020.

Mean age of participants was 14.7 ± 0.96 years. 51.16% were in the 12 – 14 years age group and 48.84% were in 15 – 17 years age group. Majority of the participants 41.33% were studying in X standard. Among them 54.83% were male and 45.17% were female.

Maximum participants 72.83% were Hindus and 73.83% belonged to nuclear family. Majority of the father and mother of participants were graduates (52.83%) and (37.00%) respectively. Majority of the father of participants were self-employed (32.83%) and majority of the mothers were homemakers (67.67%).

Among the 600 high school students, 83 (13.83%) were studying in government schools and 517 (86.17%) were studying in private schools.

Out of 600 study participants, 453 (75.50%) were living in urban areas, 105 (17.50%) were living in rural areas and 42 (7.00%) were living in sub urban areas, 550 (91.67%) were living with both parents, 40 (6.67%) were living with mother

alone, 5 (0.83%) were living with father alone and 5 (0.83%) were living with their grandparents.

According to Modified B. G. Prasad's Classification of socio – economic status, majority of them (48.00 %) belonged Class II followed by 149 (24.83%) participants belonged to Class I.

In the present study, 285 (47.50%) were consuming vegetarian diet and 315 (52.50%) were consuming mixed diet.

Among the 600 high school students, 109(18.17%) had less than 6 hours of sleep per day, 302 (50.33%) slept 6 to 8 hours per day and 189 (31.50%) had more than 8 hours of sleep per day.

In the present study, 28 (4.67%) were not using mobile phones, 483 (80.50%) were using mobile phones for 1 to 4 hours per day, 70 (11.67%) were using mobile phones for 5 to 8 hours per day, 16 (2.66%) were using mobile phones for 9 to 12 hours per day and 3 (0.50%) were using mobile phones for more than 12 hours per day.

Family history was elicited among the 600 participants, which revealed that 5.66% had a history of serious illness or mental illness in family members, 13.83% had death of a family member in the past one year, 12.17% family members of the study participants were consuming alcohol, 11.17% family members of the study participants were consuming tobacco, 9% had a history of violent behaviour by any family member.

Out of 600 high school students 7.16% repeated an academic year, 13.50% failed in any subject in the past one academic year, 37.33% were punished for their poor performance or behaviour, 25.33% had a history of being pressurised by parents to perform well and 82.50% were actively participating in extracurricular activities like sports.

Among 600 high school student depression was assessed using becks depression inventory which showed that 401 (66.83%) were normal, 91 (15.17%) had mild mood disturbance, 34 (5.66%) had borderline clinical depression, 62 (10.34%) had moderate depression, 12 (2.00%) had severe depression and none of the participants had extreme depression. The overall prevalence of depression in the present study was 18% (n= 108).

Depression was significantly associated with various risk factors like education of father, education of mother, occupation of father, occupation of mother, staying arrangement, sleep pattern, family history of serious illness/ mental illness, death of family member in the past one year, alcohol & tobacco consumption by family member, violent behaviour by any family member, repeated one academic year, failed in any subject last year and participation in extracurricular activities like sports.

Depression was not significantly associated with risk factors like age, gender, religion, type of family, place of residence, socio economic status, mobile phone usage, punished at school and pressurised by parents.

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ANNEXURES

ANNEXURE I – ETHICAL CLEARANCE LETTER



K.J.E. ACADEMY OF HIGHER EDUCATION AND RESEARCH
(Deemed-to-be University)

Accredited 'A' Grade by NAAC 17th Cycle

Placed in Category 'A' by MHRD (Govt)

JAWAHARLAL NEHRU MEDICAL COLLEGE,
NEHRU NAGAR, BELAGAVI-590010 (KARNATAKA-INDIA)

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Ref: MDC/DOME/ 238

Date: 24/12/2019

To,

(REG. NO. BD0119003)

J.N.Medical College,
BELAGAVI.

Sub: Institutional Ethical Clearance for the study.

With reference to the above, we wish to inform you that your proposed research project titled "PREVALENCE OF DEPRESSION AMONG HIGH SCHOOL STUDENTS IN AN URBAN AREA", is ethical and justifiable. The proposed research project has been cleared by the JNMC Institutional Ethics Committee on Human Subjects Research.

(Dr. Anita Dalal)
Member Secretary
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belagavi.

(Dr. Roopa M Bellad)
Chairman,
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belagavi.

ANNEXURE II- INFORMED CONSENT

**“PREVALENCE OF DEPRESSION AMONG HIGH SCHOOL STUDENTS IN
AN URBAN AREA”.**

Investigator:

PG Student, Department of Community Medicine

J.N. Medical College, KLE University, Belagavi-10.

Guide:

Professor, Department of community medicine

J.N. Medical College, KLE University, Belagavi-10.

Introduction:

Depression is the leading cause of ill health and disability worldwide; Adolescence is an important period of transition in human life. Due to various physical, hormonal, and behavioral changes during this period, it becomes a starting point to many mental health issues including depression.; Hence the present study will be undertaken to know the prevalence of depression and associated risk factors among school students.

Methodology:

High school students in Rukmini nagar field practice area will be interviewed personally by the investigator by using a predesigned and pretested questionnaire.

Possible benefits:

The investigator does not promise or guarantee you any direct benefits or services from this study. This study is going to help in detecting the prevalence of depression among high school students.

Possible risks:

There are no risks involved in this study.

Cost of participation:

The cost of the study will be entirely borne by the researcher. There will be no cost to you for your participation in this study.

Legal rights:

By signing this consent form, you are not waiving off any of your legal rights.

Privacy and Confidentiality:

Your identity will not be revealed and all information collected will be coded so that, no one other than the investigator will know your identity.

Withdrawal from the study:

You can withdraw from the study at any point of time.

Authorization to publish the results:

The researcher may use the information gathered from this study for presentation or publication in scientific journals. However, your personal identity will not be revealed.

Questions:

If you still have any queries, you can contact **Dr. Roopa M Bellad** Chairperson, Institutional Ethics Committee for Human Subjects' Research, J.N. Medical College, Belagavi – 590010, Ph no: or **Dr.(Mrs) N.S. Mahantshetti**, Principal, J.N. Medical College, Belagavi-590010, Ph no: 0831-2471350.

CONSENT STATEMENT

“I have been explained in my own understandable language about the contents in this form and my queries have been clarified by the investigator and I have been told that I have the right to withdraw from participating in this study at any point of time. I have been assured that confidentiality will be maintained and will be used only for this study and my identity shall never be revealed in future”.

I hereby give my consent for participation in the study **“PREVALENCE OF DEPRESSION AMONG HIGH SCHOOL STUDENTS IN AN URBAN AREA”** voluntarily and not under the influence of the investigator or any other influence.

Name of the parents/guardian

Signature.

Name of the interviewer

Signature.

Date: __/__/____

Place: _____.

Signature of the guide.

ASSENT FORM

“I have been explained in my own understandable language about the contents in this form and my queries have been clarified by the investigator and I have been told that I have the right to withdraw from participating in this study at any point of time. I have been assured that confidentiality will be maintained and will be used only for this study and my identity shall never be revealed in future”.

I hereby give my assent for participation in the study “PREVALENCE OF DEPRESSION AMONG HIGH SCHOOL STUDENTS IN AN URBAN AREA” voluntarily and not under the influence of the investigator or any other influence.

Name of the participant

Signature/ Left thumb impression.

Name of the interviewer

Signature.

Date: __/__/____

Place: _____.

Signature of the guide.

Annexure III- QUESTIONNAIRE

TITLE: -“PREVALENCE OF DEPRESSION AMONG HIGH SCHOOL STUDENTS IN AN URBAN AREA”.

SCHOOL NAME:

Sl. No: _____

A. SOCIO DEMOGRAPHIC DETAILS:

1] Name :
Master/Miss _____

2] Age : _____ years

3] Class a) VIII b) IX c) X

4] Sex a) Male b) Female

5] Religion a) Hindu b) Muslim c) others, specify _____

6] Type of the family a) Nuclear b) Joint c) Broken

7] Educational qualification of Father a) Illiterate b) Primary c) Secondary
d) PUC e) Degree f) Post graduate

8] Educational qualification of Mother a) Illiterate b) Primary c) Secondary
d) PUC e) Degree f) Post graduate

9] Occupation of Father a) Farmer b) Laborer c) Self-employed
d) Govt. employee e) Pvt. Employee
f) Retired/Pensioner g) Unemployed

C. FAMILY HISTORY:

- 1] Family member with past history of any psychiatric illness a) Yes b) No
- 2] Family member with any serious illness / mental illness a) Yes b) No
- 3] Death of any family member in the past one-year a) Yes b) No
- 4] Alcohol usage by any family member a) Yes b) No
- 5] Tobacco usage by any family member a) Yes b) No
- 6] Violence by any family member a) Yes b) No

D. ACADEMIC AND EXTRACURRICULAR ACTIVITIES

- 1] Ever failed/ repeated a year at school a) Yes b) No
- 2] Failed in a subject in the last 1-year a) Yes b) No
- 3] Get punished at school for any reason a) Yes b) No
- 4] Report feeling pressurized by parents to perform well in exams
a) Yes b) No

Extra-curricular activities

- 5] Participation in extracurricular activities a) Yes b) No
- 6] Participation in sports a) Yes b) No

E. BECK'S DEPRESSION INVENTORY

1.

- 0 I do not feel sad.
- 1 I feel sad
- 2 I am sad all the time and I can't snap out of it.
- 3 I am so sad and unhappy that I can't stand it.

2.

- 0 I am not particularly discouraged about the future.
- 1 I feel discouraged about the future.
- 2 I feel I have nothing to look forward to.
- 3 I feel the future is hopeless and that things cannot improve.

3.

- 0 I do not feel like a failure.
- 1 I feel I have failed more than the average person.
- 2 As I look back on my life, all I can see is a lot of failures.
- 3 I feel I am a complete failure as a person.

4.

- 0 I get as much satisfaction out of things as I used to.
- 1 I don't enjoy things the way I used to.
- 2 I don't get real satisfaction out of anything anymore.
- 3 I am dissatisfied or bored with everything.

5.

- 0 I don't feel particularly guilty
- 1 I feel guilty a good part of the time.
- 2 I feel quite guilty most of the time.
- 3 I feel guilty all of the time.

6.

0 I don't feel I am being punished.

1 I feel I may be punished.

2 I expect to be punished.

3 I feel I am being punished.

7.

0 I don't feel disappointed in myself.

1 I am disappointed in myself.

2 I am disgusted with myself.

3 I hate myself.

8.

0 I don't feel I am any worse than anybody else.

1 I am critical of myself for my weaknesses or mistakes.

2 I blame myself all the time for my faults.

3 I blame myself for everything bad that happens.

9.

0 I don't have any thoughts of killing myself.

1 I have thoughts of killing myself, but I would not carry them out.

2 I would like to kill myself.

3 I would kill myself if I had the chance.

10.

0 I don't cry any more than usual.

1 I cry more now than I used to.

2 I cry all the time now.

3 I used to be able to cry, but now I can't cry even though I want to.

11.

- 0 I am no more irritated by things than I ever was.
- 1 I am slightly more irritated now than usual.
- 2 I am quite annoyed or irritated a good deal of the time.
- 3 I feel irritated all the time.

12.

- 0 I have not lost interest in other people.
- 1 I am less interested in other people than I used to be.
- 2 I have lost most of my interest in other people.
- 3 I have lost all of my interest in other people.

13.

- 0 I make decisions about as well as I ever could.
- 1 I put off making decisions more than I used to.
- 2 I have greater difficulty in making decisions more than I used to.
- 3 I can't make decisions at all anymore.

14.

- 0 I don't feel that I look any worse than I used to.
- 1 I am worried that I am looking old or unattractive.
- 2 I feel there are permanent changes in my appearance that make me look unattractive
- 3 I believe that I look ugly.

15.

- 0 I can work about as well as before.
- 1 It takes an extra effort to get started at doing something.
- 2 I have to push myself very hard to do anything.
- 3 I can't do any work at all.

16.

- 0 I can sleep as well as usual.
- 1 I don't sleep as well as I used to.
- 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
- 3 I wake up several hours earlier than I used to and cannot get back to sleep.

17.

- 0 I don't get more tired than usual.
- 1 I get tired more easily than I used to.
- 2 I get tired from doing almost anything.
- 3 I am too tired to do anything.

18.

- 0 My appetite is no worse than usual.
- 1 My appetite is not as good as it used to be.
- 2 My appetite is much worse now.
- 3 I have no appetite at all anymore.

19.

- 0 I haven't lost much weight, if any, lately.
- 1 I have lost more than five pounds.
- 2 I have lost more than ten pounds.
- 3 I have lost more than fifteen pounds.

20.

- 0 I am no more worried about my health than usual.
- 1 I am worried about physical problems like aches, pains, upset stomach, or constipation.
- 2 I am very worried about physical problems and it's hard to think of much else.
- 3 I am so worried about my physical problems that I cannot think of anything else.

ANNEXURE IV- KEY TO MASTER CHART

A. SL. NO

B. Age

C. Class

D. Sex

Male- 1

Female- 2

E. Religion:

Hindu- 1

Muslim- 2

Christian- 3

Others- 4

F. Type of the family:

Nuclear- 1

Joint- 2

Broken-3

G. Educational qualification of Father

Illiterate- 1

Primary- 2

Secondary- 3

PUC- 4

Degree- 5

PG- 6

H. Educational qualification of Mother

Illiterate- 1

Primary- 2

Secondary- 3

PUC- 4

Degree- 5

PG- 6

I. Occupation of Father:

Farmer-1

Labourer- 2

Self-employed- 3

Govt. employee- 4

Pvt. Employee- 5

Retired/Pensioner- 6

Unemployed- 7

J. Occupation of Mother:

Farmer-1

Labourer- 2

Self-employed- 3

Govt. employee- 4

Pvt. Employee- 5

Retired/Pensioner- 6

Unemployed- 7

Home maker- 8

K. Place of residence

Urban- 1

Rural-2

Suburban-3

L. Living with

Both parents- 1

Mother alone- 2

Father alone- 3

Grandparents- 4

M. Socio economic status (modified B.G. Prasad's classification)

Class I- 1

Class II- 2

Class III- 3

Class IV- 4

Class V- 5

N. Diet

Vegetarian- 1

Mixed (non veg)-2

O. Sleep

< 6 hrs- 1

6 – 8 hrs- 2

> 8 hrs- 3

P. Appetite (Hunger)

Regular- 1

Irregular- 2

Q. Bowel and bladder (Bathroom habits)

Regular- 1

Irregular- 2

R. Use of Alcohol

YES-1

NO-2

S. Use of Tobacco/ smoking

YES-1

NO-2

T. Hours spent on mobile phone

YES-1

NO-2

U. Family member with any serious illness / mental illness

YES-1

NO-2

V. Death of any family member in the past one-year

YES-1

NO-2

W. Alcohol usage by any family member

YES-1

NO-2

X. Tobacco usage by any family member

YES-1

NO-2

Y. Violence by any family member

YES-1

NO-2

Z. Ever failed/ repeated a year at school

YES-1

NO-2

AA. Failed in a subject in the last 1-year

YES-1

NO-2

AB. Get punished at school for any reason

YES-1

NO-2

AC. Report feeling pressurized by parents to perform well in exams

YES-1

NO-2

AD. Participation in extracurricular activities

YES-1

NO-2

AE. Participation in sports

YES-1

NO-2

AF. BECKS SCORE TOTAL

ANNEXURE V- MASTER CHART

SL. NO	AGE	CLASS	SEX	RELIGION	FAMILY TYPE	EDUCATION OF FATHER	EDUCATION OF MOTHER	OCCUPATION OF FATHER	OCCUPATION OF MOTHER	PLACE OF RESIDENCE	LIVING WITH	SOCIO ECONOMIC STATUS	DIET	SLEEP	APPETITE	BOWEL AND BLADDER	USE OF ALCOHOL	USE OF TOBACCO	HOURS IN PHONE	FAMILY MEMB WITH ILLNESS	DEATH OF FAMILY MEM IN LAST ONE YEAR	ALCOHOL BY FAMILY MEM	TOBACCO BY FAMILY MEM	VIOLENCE BY FAMILY MEM	FAILED/REPEATED ONE YEAR	FAILED IN ANY SUBJECT IN LAST YEAR	GET PUNISHED AT SCHOOL	PRESSURISED BY PARENTS	PARTICIPATION IN EXTRACURRICULAR	PARTICIPATION IN SPORTS	BECKS TOTAL SCORE
1	14	8	1	1	1	5	1	4	8	1	1	2	1	3	1	1	2	2	1	2	2	2	2	2	1	2	2	2	1	1	33
2	14	8	1	1	1	5	5	5	5	1	1	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	2	6
3	14	8	1	1	2	5	5	4	5	1	1	3	2	3	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	6	
4	14	8	2	1	2	6	5	4	4	1	1	3	2	3	1	1	2	2	2	2	2	2	2	2	2	2	1	1	16		
5	13	8	1	4	1	5	5	3	3	1	1	1	1	3	1	1	2	2	2	2	2	2	2	2	2	1	2	2	1	2	
6	14	8	2	1	1	5	5	4	8	2	1	1	1	3	1	1	2	2	2	2	2	2	2	2	2	2	1	2	4		
7	14	8	1	1	1	2	2	3	4	1	1	3	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	0	
8	14	8	1	2	3	5	1	5	8	1	3	2	2	2	1	1	2	2	2	1	2	2	1	1	2	1	2	2	1	20	
9	13	8	1	1	2	4	4	5	8	1	1	2	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	18	
10	14	8	2	2	1	4	4	2	8	1	1	2	2	2	1	1	2	2	1	2	2	2	2	2	2	2	2	2	1	1	
11	14	8	2	2	1	5	5	5	4	1	1	1	2	2	1	1	2	2	5	2	2	2	2	1	2	1	1	2	1	8	
12	14	8	2	1	1	5	4	5	3	1	1	2	2	2	1	1	2	2	5	2	2	2	2	1	2	1	1	2	1	8	
13	13	8	2	1	2	5	5	3	8	2	2	2	2	3	2	2	2	2	1	2	2	1	1	2	2	2	2	2	1	2	
14	14	8	1	1	1	2	2	3	3	1	1	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2	1	1	3		
15	13	8	1	1	1	6	5	4	8	1	1	1	1	2	1	1	2	2	2	2	2	2	2	2	2	2	1	2	2	2	
16	14	8	2	1	1	5	5	4	4	1	1	1	1	2	1	1	2	2	2	2	2	2	2	2	1	1	1	1	2	5	
17	14	8	1	1	1	2	2	3	3	1	1	1	1	2	1	1	2	2	1	2	2	2	2	2	2	2	2	2	2	22	
18	14	8	1	1	1	5	5	4	8	1	1	1	2	2	1	1	2	2	1	2	1	2	2	2	2	2	1	2	2	20	
19	14	8	2	1	1	5	4	5	8	3	1	3	1	2	1	2	2	2	1	2	2	2	2	2	2	2	1	2	2	24	
20	14	8	2	1	2	5	5	5	8	1	1	1	1	2	1	2	2	2	2	2	2	2	1	2	2	2	1	2	1	5	
21	14	8	2	1	2	5	5	5	8	1	1	1	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	1	1	5	
22	14	8	1	2	2	3	3	3	5	1	1	3	2	2	1	1	2	2	3	2	2	2	1	1	2	2	2	2	1	13	
23	14	8	1	2	1	2	5	5	5	1	1	3	1	3	1	1	2	2	1	2	2	2	2	2	2	2	1	1	1	22	
24	14	8	2	1	1	2	1	3	8	1	1	4	1	2	1	2	2	2	1	2	2	2	1	2	2	2	2	2	1	8	
25	14	8	1	4	1	5	1	3	8	1	1	2	1	2	1	2	2	2	1	2	2	1	2	2	2	1	1	2	1	3	
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Introduction



Aim and Objectives



Review of Literature



Methodology



Results



Discussion



Conclusion



Recommendations



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Summary



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Annexures
