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Research Article

Is BMI Influence The Depression In Young Indians?

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ABSTRACT

Background: People with obesity face negligence as well as rejection in the society (i.e., School, College and Office) and these lead to the depression. Depressed people are not getting proper mental and physical rehabilitation as well as developmental programs established by different policy makers around globe. In the field of health aspects even the depressed people are getting ignorance and not getting proper care from family.
Purpose: This study mainly focusing on the epidemiology of BMI influencing the Depression.
Design: A Non- Parametric Descriptive Study
Methodology: 150 school students (Both Male & Female) aged between 18-24 years meeting selection criteria where these students are included with several categories of BMI & excluded the person with serious orthopedic, neurologic, or hormonal diseases, who has history of serious health problem such as serious congenital diseases or cancer, addiction of drugs, alcohol, smoking, cognitive impairments, psychological or psychiatric issues etc.
Outcome Measure: Beck Depression Inventory (BDI).
Result: Based on the Results, all the alternative hypothesis of this study show that the Significant Differences are there and yes, BMI is definitely influencing the Depression among the both young Indian Girls and Boys.
Conclusion: The study concluded that depression is more prone to Obese and girls are having increased chance to get the Obesity than to boys. The two more findings also put forward as increase in age and Collegiate students are suffering with depression that are more obese.

Keywords: Body Mass Index (BMI), Obesity, Depression & Young Indians

Introduction

Being underweight or overweight can prompt antagonistic well-being results. Body Mass Index (BMI) — a proportion of being underweight and overweight — is ascending in many nations.[1,2,8] It is generally expressed that urbanization is one of the most basic drivers of the overall ascent in BMI since diet and way of life in urban community leads to adiposity.[1,8] Nonetheless, such explanations are regularly founded on cross-sectional correlations in one or a few nations.[8] A couple of studies have broken down how BMI changes over the long haul in rural and metropolitan regions.[2,8] The larger part has been in one nation, over brief spans, and additionally in one sex and thin age bunch.[6] The few studies that covered more than one nation utilized a few dozen information sources and subsequently couldn't methodically gauge drifts and zeroed in essentially on ladies of childbearing age.[6]
These days, depression is one of the main worldwide medical issues, which is by all accounts heightened under the quarantine conditions brought about by the Corona virus pandemic.[1] This mental problem is positioned second in the weight of illnesses as per the World Health Organization (WHO).[1,2,5,14] Ongoing examinations

have shown that major depressive disorder (MDD) with a 12.9% worldwide predominance is further common in Asian emerging nations (29.2%).[1,2,5,8,] Bothersome outcomes of discouragement influence psychological well-being as well as lead to a few physiologic issues like corpulence and cardiovascular illness (CVD) as well as high monetary weights.[1,2,14] The co-event of heftiness and sadness recommends that expansions in body weight and sorrow might incorporate bi-directional connections.[1,14] A stationary way of life and disconnection, as qualities of gloom, may bring about being overweight, depressed, and having CVD.[1,2,14] It is proposed that the movement of gloom further happens in depressed individuals.[1,2] As such, every one of these boundaries builds the gamble of the other one.[1] Notwithstanding, a high predominance of wretchedness has been accounted for in underweight people.[1,2]

Mental health disorders according to the World Health Organization(WHO) are one of the leading causes of disabilityworldwide.[5,13]Three of the ten driving reasons for handicap in individuals between the ages of 15 and 44 are mental issues, and different causes are frequently connected with mental problems.[5,13] The psychological well-being activity plan for 2013-2020, as of late distributed by the WHO, exhibited the requirement for aggregate proof-based work to work on psychological wellness.[5,13] Stress is anything that represents a test or a danger to our prosperity. It has been characterized as a cycle in which natural requests surpass the versatile limit of a creature, bringing about mental and organic changes that might put people in danger of sickness.[5,13] Uneasiness is a mental and physiological state described by mental, substantial, profound, and conduct parts. These parts consolidate to make a horrendous inclination that is regularly connected with disquiet, dread, or stress.[5,12,13] Tension is a summed-up state of mind condition that happens without a recognizable setting off improvement, while numerous side effects of discouragement incorporate, determined miserable, restless, or "void" sentiments, sensations of sadness, sensations of culpability, uselessness or potentially powerlessness, touchiness, fretfulness, and loss of interest in exercises or side interests once pleasurable.[5,11,12,13] The predominance of stoutness has significantly increased simultaneously with the pace of sadness in numerous nations of the World Health Organization(WHO).[5,13]

Obesity and depression are two worldwide medical issues, that are assessed to cost the worldwide economy trillions of dollars every annum.[1-19] A higher weight file (BMI) is observationally related to higher chances of melancholy.[1-19] Various examinations have utilized this technique to research assuming BMI causally impacts depression.[1-19]

Notwithstanding a deeply grounded relationship between depression and obesity among adults, less is significant awareness of a similar relationship among youth.[4,13,17] Subsequently, contrasted with grown-ups, less had some significant awareness of how much depression adds to obesity among youth.[4,13]The relationship between obesity and depression among youth and grown-ups is perplexing.[4]Research on grown-ups has proposed that orientation adjusts the relationship between obesity and depression.[4,19]Analysts have found that Blacks might contrast with Whites in the connection between obesity and depression.[4] However, the majority of this writing is on grown-ups and restricted data exists on how factors, for example, orientation moderate the impact of gloom on corpulence among youth.[4] Impressive proof proposes that among youth, this affiliation might contrast between males and females.[4]

Aim of the study

- This study mainly focusing on the epidemiology of BMI influencing the Depression.
- Gender difference in Depression based on the BMI.
- BMI and age relation in Depressed population.
- BMI and educational background in Depressed school and collegiate population.

Background of the study

People with obesity face negligence as well as rejection in the society (i.e., School, College and Office) and these lead to the depression. Depressed people are not getting proper mental and physical rehabilitation as well as developmental programs established by different policy makers around globe. In the field of health aspects even the depressed people are getting ignorance and not getting proper care from family.Despite Obesity is a developing global non communicable disease, still the OW or obesity issue is not much discussed in a good way (Michele Capella et al 2007). Lifestyle modifications especially increase in physical activity is an important step towards controlling obesity. Body Mass Index (BMI)has limitations to engage in physical activity in present socio- cultural environment. Hence, the prevalence of obesity in people with disability including depression is more. Obesity is one of the major risk factors for most of the non-communicable diseases like “Hyperglycemia”, “High BP” etc. High BMI leads to life threatening condition like coronary artery disease, stroke etc. (Lee et al 2008). The Obesity in Depression is one of the social issues that should be addressed in a proper way. In rural areas of India including some urban areas (especially, the young Indians) are unaware about these issues. So, that will be new idea to give the proper awareness in the Indian youths and it will help the Indian Health Sector.

Hypothesis:

Alternative Hypothesis

- Most of the depressed young are in the obese category.
- Obese girls are more chance to get depress than the boys.

- With increase in age with obesity is more chance to get depression.
- There is a significant relationship between Education, obesity and depression.

Null Hypothesis

- Most of the depressed young are not in the obese category.
- Depression in obesity have no gender difference
- There is no difference in age with obesity are more chance to get depression.
- There is a no significant relationship between Education, obesity and depression.

RESEARCH METHODOLOGY

Study Design

• Non- Parametric Descriptive Study

Sample Size

• 150 Students

SAMPLE SIZE CALCULATION		
Confidence Level	95%	$\text{Sample size} = \dfrac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 N}\right)}$
Population Proportion (p)	0.5	
Margin of Error (e)	0.05	
Target Population (N)	246	
Alpha divided by 2 (α/2)	0.025	
Z-Score	1.96	
Sample Size (n)	150	
CALCULATION	384.15	
	2.56	

Inclusion Criteria

• Young Indians with Several categories of BMI
• Age- In between 15 and 24 years old.
• Both Genders.

Exclusion Criteria

- Person, with serious orthopedic, neurologic, or hormonal diseases
- Person who has history of serious health problem such as serious congenital diseases or cancer etc.
- Person with addiction of drugs, alcohol, smoking
- Person with cognitive impairments, psychological or psychiatric issues.

Study Setting

• Various High Schools & Higher Secondary Schools of Tripura, India, and a Physiotherapy College of Kopargaon, Maharashtra, India.

Data Collection Duration

• Two months, (from 15th September2022 to 14th October 2022)

Sampling technique

- Simple Random sampling technique

Outcome Measure

- Assessment of Depression by Beck Depression Inventory (BDI)[1,11,13]–After the assessment of depression by questionnaire in all subjects were gone through with the BDI and selected for a validation study. A psychiatrist (LES) from the Department of Psychiatry at the University of Pennsylvania independently diagnosed subjects utilizing a Structured Clinical Interview derived from the mood disorders section of the forth version of the Diagnostic and Statistical Manual of Mental Disorders (SCID). The interview was conducted on telephone. The psychiatrist was blind to questionnaire information regarding previous diagnosis or treatment for depression. These data support the validity of questionnaire assessment.

Beck Depression Inventory (BDI)	
DEGREE	**SCORE**
Minimal	0-9
Mild	10-18
Moderate	19-29
Severe	30-63

Data collection method

- Individual direct interview with the help of research volunteers (i.e., School and College Teachers)

Procedure

The ethical approval for data collection was received from the School and Collegiate students who were available for two-month study period. Online and Offline awareness programs were done to the available target population, their parent or guardian about the research process. Individual consent form is signed by the guardians or the participants and also taken the parental consent from individuals' parents. Data collection was done from the participants those who were selected for the study. Data includes basic demographic data like age, gender, educational status and body weight and height. For execution of the process volunteers are available at the study settings.

DATA ANALYSIS AND DISCUSSION

150 obese school students were met with inclusion and exclusion criteria. Data is collected and Body mass index (BMI) calculation done from the height and weight data. Other data analysis procedure is showing bellow. Data analysis has been done by SPSS v26.

Hypothesis for testing:

Null Hypothesis: H_o:

- $H_{o.1}$: Most of the depressed young are not in the obese category.
- $H_{o.2}$: Depression in obesity have no gender difference
- $H_{o.3}$: There is no difference in age with obesity are more chance to get depression.
- $H_{o.4}$: There is a no significant relationship between Education, obesity and depression.

Alternative Hypothesis: H_1:

- $H_{1.1}$: Most of the depressed young are in the obese category.
- $H_{1.2}$: Obese girls are more chance to get depress than the boys.
- $H_{1.3}$: With increase in age with obesity is more chance to get depression.
- $H_{1.4}$: There is a significant relationship between Education, obesity and depression.

BMI Value	Interpretation
≤15	Very Severely Underweight
16-16.9	Severely Underweight
17-18.4	Underweight
18.5-24.9	Normal
25-29.9	Overweight
30-34.9	Obese I
35-39.9	Obese II
≥40	Obese III

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
BMI	150	25	17	45	31	8.944
Valid N (list wise)	150					

From the above analysis, the mean BMI of Depressed candidates in the various schools and college were31. This measure of central tendency shows most of the Depressed individuals had obese I. The dispersion measure standard deviation shows the spread among the data set is 8.944.
So, we can reject the null hypothesis in this case. We reject H_{01}

FREQUECY TABLE

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15-18	40	26.67	26.67	26.67
	19-21	47	31.33	31.33	58
	22-24	63	42	42	100.0
	Total	150	100.0	100.0	

Sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Girls	75	50	50	50
	Boys	75	50	50	100.0
	Total	150	100.0	100.0	

Sex * BMI Cross tabulation

Count

		BMI				Total
		<18.4	18.5-24.9	25-29.9	>30	
Sex	Girls	2	6	19	48	75
	Boys	4	4	19	48	75
Total		6	10	38	96	150

Age * BMI Cross tabulation

Count

		BMI				Total
		<18.5	18.6-24.9	25-29.9	>30	
Age	18-24	3	14	9	16	42
	25-30	2	9	16	17	44
	31-36	1	10	11	26	48
Total		6	33	36	59	134

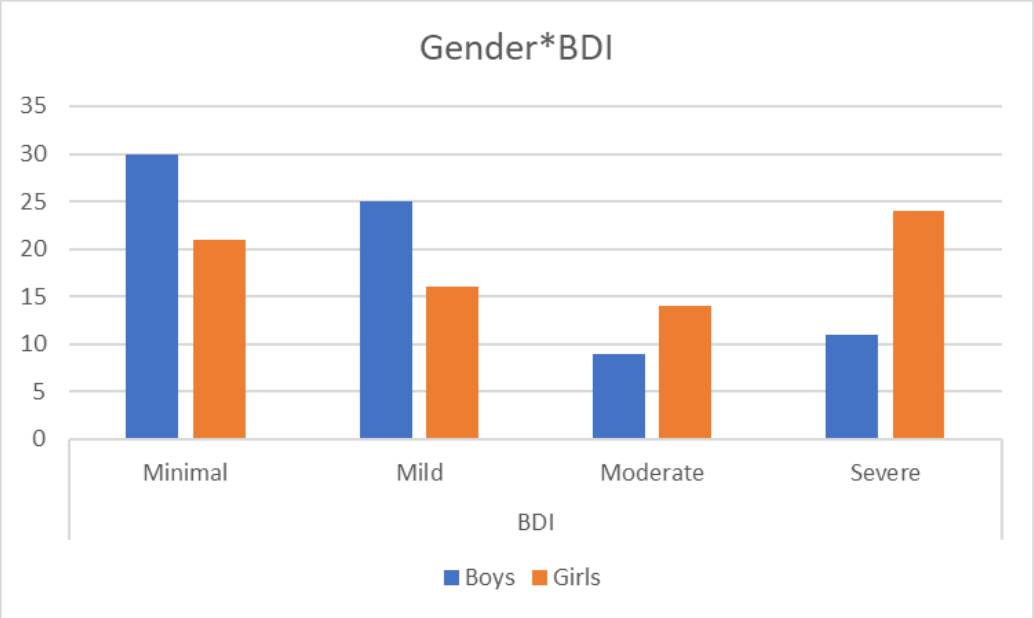
Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * Beck Depression Inventory	150	100.0%	0	0.0%	150	100.0%
Measure in years * Beck Depression Inventory	150	100.0%	0	0.0%	150	100.0%
Organization * Beck Depression Inventory	150	100.0%	0	0.0%	150	100.0%
Body Mass Index * Beck Depression Inventory	150	100.0%	0	0.0%	150	100.0%

Gender * Beck Depression Inventory							
			Beck Depression Inventory				Total
			Minimal	Mild	Moderate	Severe	
Gender	Boy	Count	30	25	9	11	75
		Expected Count	25.5	20.5	11.5	17.5	75.0
	Girl	Count	21	16	14	24	75
		Expected Count	25.5	20.5	11.5	17.5	75.0
Total		Count	51	41	23	35	150
		Expected Count	51.0	41.0	23.0	35.0	150.0

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.479[a]	3	.024
Likelihood Ratio	9.630	3	.022
Linear-by-Linear Association	7.859	1	.005
N of Valid Cases	150		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.50.			

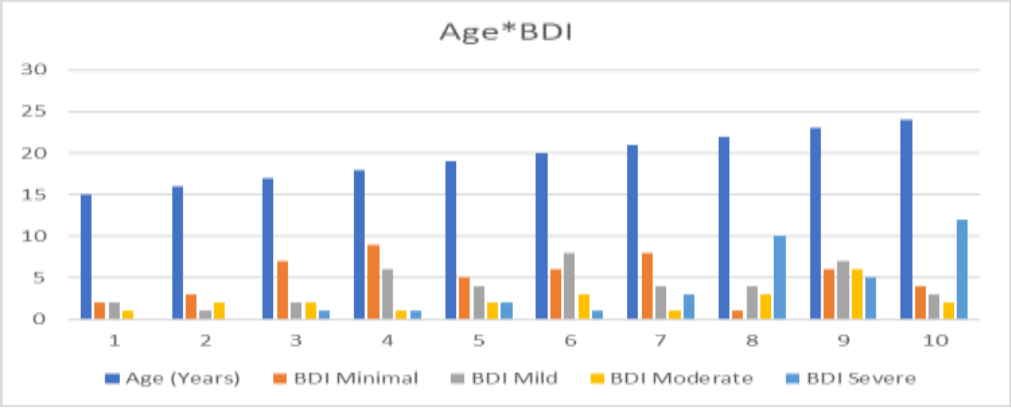
Symmetric Measures					
		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Nominal by Nominal	Contingency Coefficient	.244			.024
Interval by Interval	Pearson's R	.230	.078	2.871	.005[c]
Ordinal by Ordinal	Spearman Correlation	.219	.079	2.730	.007[c]
N of Valid Cases		150			
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					



Measure in years * Beck Depression Inventory							
			Beck Depression Inventory				Total
			Minimal	Mild	Moderate	Severe	
Measure in years	15	Count	2	2	1	0	5
		Expected Count	1.7	1.4	.8	1.2	5.0
	16	Count	3	1	2	0	6
		Expected Count	2.0	1.6	.9	1.4	6.0
	17	Count	7	2	2	1	12
		Expected Count	4.1	3.3	1.8	2.8	12.0
	18	Count	9	6	1	1	17
		Expected Count	5.8	4.6	2.6	4.0	17.0
	19	Count	5	4	2	2	13
		Expected Count	4.4	3.6	2.0	3.0	13.0
	20	Count	6	8	3	1	18
		Expected Count	6.1	4.9	2.8	4.2	18.0
	21	Count	8	4	1	3	16
		Expected Count	5.4	4.4	2.5	3.7	16.0
	22	Count	1	4	3	10	18
		Expected Count	6.1	4.9	2.8	4.2	18.0
	23	Count	6	7	6	5	24
		Expected Count	8.2	6.6	3.7	5.6	24.0
	24	Count	4	3	2	12	21
		Expected Count	7.1	5.7	3.2	4.9	21.0
Total		Count	51	41	23	35	150
		Expected Count	51.0	41.0	23.0	35.0	150.0

Symmetric Measures						
			Value	Asymptotic Standard Error [a]	Approximate T[b]	Approximate Significance
Nominal by Nominal		Contingency Coefficient	.497			.006
Interval by Interval		Pearson's R	.373	.069	4.891	.000[c]
Ordinal by Ordinal		Spearman Correlation	.371	.073	4.856	.000[c]
N of Valid Cases				150		
a. Not assuming the null hypothesis.						
b. Using the asymptotic standard error assuming the null hypothesis.						
c. Based on normal approximation.						

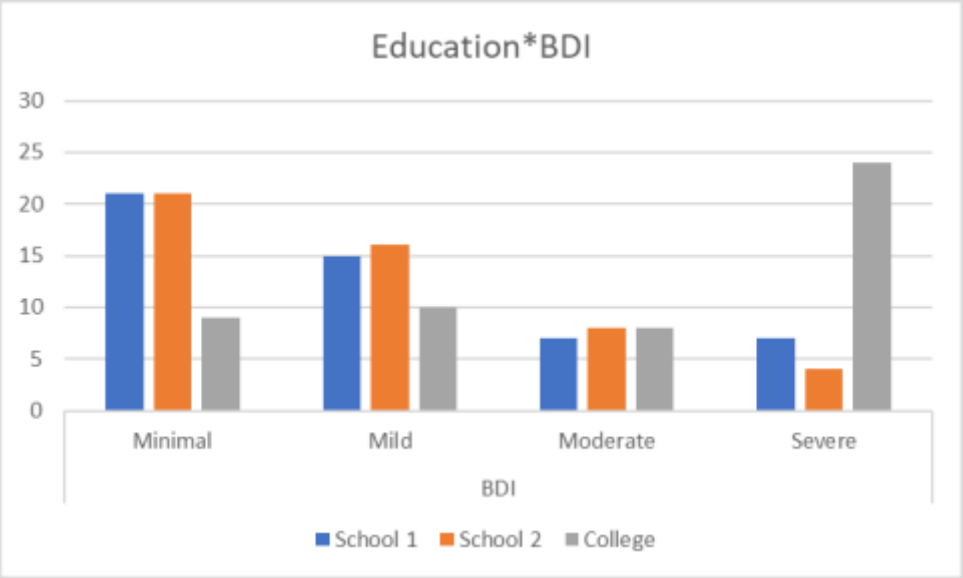
Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	49.279[a]	27	.006
Likelihood Ratio	50.988	27	.003
Linear-by-Linear Association	20.734	1	.000
N of Valid Cases	150		
a. 31 cells (77.5%) have expected count less than 5. The minimum expected count is .77.			



Education * Beck Depression Inventory							
			Beck Depression Inventory				Total
			Minimal	Mild	Moderate	Severe	
Education	School 1	Count	21	15	7	7	50
		Expected Count	17.0	13.7	7.7	11.7	50.0
	School 2	Count	21	16	8	4	49
		Expected Count	16.7	13.4	7.5	11.4	49.0
	College	Count	9	10	8	24	51
		Expected Count	17.3	13.9	7.8	11.9	51.0
Total		Count	51	41	23	35	150
		Expected Count	51.0	41.0	23.0	35.0	150.0

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	26.930[a]	6	.000
Likelihood Ratio	26.848	6	.000
Linear-by-Linear Association	15.923	1	.000
N of Valid Cases	150		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.51.			

Symmetric Measures					
		Value	Asymptotic Standard Error [a]	Approximate T[b]	Approximate Significance
Nominal by Nominal	Contingency Coefficient	.390			.000
Interval by Interval	Pearson's R	.327	.077	4.208	.000[c]
Ordinal by Ordinal	Spearman Correlation	.316	.079	4.057	.000[c]
N of Valid Cases		150			
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					



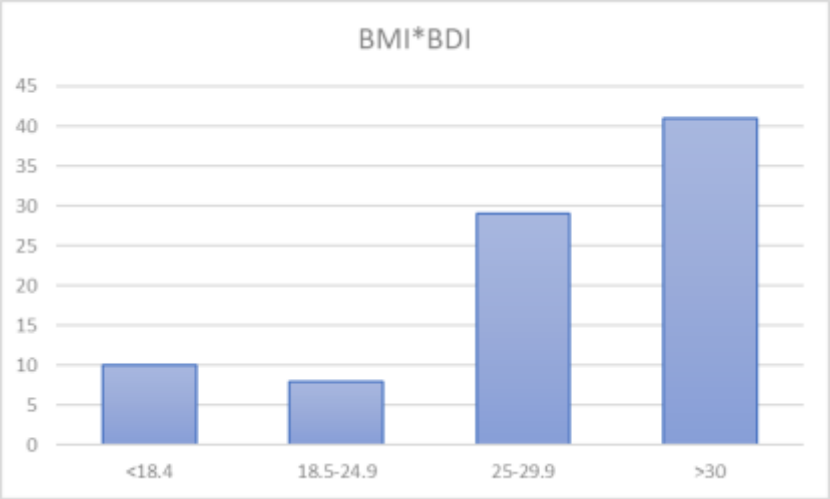
Body Mass Index * Beck Depression Inventory							
			Beck Depression Inventory				Total
			Minimal	Mild	Moderate	Severe	
Body Mass Index	16.0	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	17.0	Count	2	0	0	0	2
		Expected Count	.7	.5	.3	.5	2.0
	18.0	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	18.1	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	18.2	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	18.7	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	19.0	Count	1	2	0	0	3
		Expected Count	1.0	.8	.5	.7	3.0
	19.2	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	21.0	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	22.0	Count	0	0	1	0	1
		Expected Count	.3	.3	.2	.2	1.0
	23.0	Count	1	0	0	1	2
		Expected Count	.7	.5	.3	.5	2.0
	24.8	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	26.0	Count	1	4	2	0	7
		Expected Count	2.4	1.9	1.1	1.6	7.0
	26.1	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	26.2	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	26.3	Count	3	0	0	0	3
		Expected Count	1.0	.8	.5	.7	3.0
	26.4	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	26.5	Count	1	1	0	0	2
		Expected Count	.7	.5	.3	.5	2.0
	26.6	Count	0	1	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	26.7	Count	1	1	0	0	2
		Expected Count	.7	.5	.3	.5	2.0
	27.0	Count	3	3	1	0	7
		Expected Count	2.4	1.9	1.1	1.6	7.0
	27.4	Count	0	0	2	0	2
		Expected Count	.7	.5	.3	.5	2.0
	27.5	Count	0	1	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	27.6	Count	1	1	0	0	2
		Expected Count	.7	.5	.3	.5	2.0
	27.7	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	28.0	Count	0	1	1	0	2
		Expected Count	.7	.5	.3	.5	2.0
	28.2	Count	0	0	0	1	1
		Expected Count	.3	.3	.2	.2	1.0
	28.8	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	29.0	Count	0	0	1	0	1
		Expected Count	.3	.3	.2	.2	1.0
	29.1	Count	0	1	0	0	1
		Expected Count	.3	.3	.2	.2	1.0

	29.5	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	30.0	Count	0	0	0	1	1
		Expected Count	.3	.3	.2	.2	1.0
	30.1	Count	0	1	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	30.3	Count	0	1	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	30.5	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	30.7	Count	1	1	1	0	3
		Expected Count	1.0	.8	.5	.7	3.0
	30.8	Count	2	1	0	0	3
		Expected Count	1.0	.8	.5	.7	3.0
	30.9	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	31.0	Count	6	3	3	5	17
		Expected Count	5.8	4.6	2.6	4.0	17.0
	31.2	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	31.3	Count	1	1	0	0	2
		Expected Count	.7	.5	.3	.5	2.0
	31.4	Count	0	0	1	0	1
		Expected Count	.3	.3	.2	.2	1.0
	31.5	Count	1	0	1	0	2
		Expected Count	.7	.5	.3	.5	2.0
	31.6	Count	2	1	0	0	3
		Expected Count	1.0	.8	.5	.7	3.0
	31.7	Count	0	1	0	1	2
		Expected Count	.7	.5	.3	.5	2.0
	31.8	Count	1	1	0	0	2
		Expected Count	.7	.5	.3	.5	2.0
	32.0	Count	2	9	3	8	22
		Expected Count	7.5	6.0	3.4	5.1	22.0
	32.2	Count	0	0	0	1	1
		Expected Count	.3	.3	.2	.2	1.0
	32.3	Count	2	0	0	0	2
		Expected Count	.7	.5	.3	.5	2.0
	32.5	Count	0	0	1	0	1
		Expected Count	.3	.3	.2	.2	1.0
	32.6	Count	0	0	0	1	1
		Expected Count	.3	.3	.2	.2	1.0
	33.0	Count	0	2	4	4	10
		Expected Count	3.4	2.7	1.5	2.3	10.0
	33.1	Count	0	0	0	1	1
		Expected Count	.3	.3	.2	.2	1.0
	33.4	Count	0	1	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
	34.0	Count	1	1	1	4	7
		Expected Count	2.4	1.9	1.1	1.6	7.0
	35.0	Count	0	0	0	4	4
		Expected Count	1.4	1.1	.6	.9	4.0
	35.1	Count	0	0	0	1	1
		Expected Count	.3	.3	.2	.2	1.0
	36.0	Count	0	1	0	1	2
		Expected Count	.7	.5	.3	.5	2.0
	36.6	Count	0	0	0	1	1
		Expected Count	.3	.3	.2	.2	1.0
	37.0	Count	1	0	0	0	1
		Expected Count	.3	.3	.2	.2	1.0
Total		Count	51	41	23	35	150
		Expected Count	51.0	41.0	23.0	35.0	150.0

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	189.560[a]	177	.246
Likelihood Ratio	194.689	177	.172

Linear-by-Linear Association	29.349	1	.000
N of Valid Cases	150		
a. 236 cells (98.3%) have expected count less than 5. The minimum expected count is .15.			

Symmetric Measures					
		Value	Asymptotic Standard Error [a]	Approximate T[b]	Approximate Significance
Nominal by Nominal	Contingency Coefficient	.747			.246
Interval by Interval	Pearson's R	.444	.056	6.025	.000[c]
Ordinal by Ordinal	Spearman Correlation	.493	.065	6.894	.000[c]
N of Valid Cases		150			
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					



CONCLUSION

Based on the Results, all the alternative hypothesis of this study show that the Significant Differences are there and yes, BMI is definitely influencing the Depression among the both young Indian Girls and Boys. It concludes as people with Depression are more prone to Obese and girls are having increased chance to get the Obesity than to boys. The two more findings also put forward as increase in age and Collegiate students are suffering with depression that are more obese.

Study Limitation

Every research has some limitations. My study also has some limitation which are listed a below

- Study only took Obese issues of Depression as objective
- Study didn't include adults and older adults.
- Other aspects like eating habit or physical activity those which directly related to obesity is not included in the study.
- Data collection is done by using the research volunteer so his/her interest can reflect on the data.
- Sampling technique is convenient method it can be taken as limitation.
- Sample size is less.
- Descriptive study design is used the participants don't have much direct benefit with the study.

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