

A Pilot Study to Evaluate the Effectiveness of an Educational Intervention on Depression Literacy and Stigma among Adolescent Students

Mrs. ChintalPurohit^{1*}, Dr. KritagnasinhVaghela²

¹*Ph.D. Scholar, Parul Institute of Nursing, Parul University

²HOD and Professor, Department of Psychiatry Parul Institute of Medical Science & Research, Parul University, Vadodara (Research Guide)

Corresponding Author: Mrs. ChintalPurohit¹

Abstract: Background: Depression literacy means to have adequate knowledge and positive attitudes in adolescents students towards Depression and stigma related to it that would make early recognition of and appropriate intervention in these disorders more likely and better outcome of illnesses. it is important to educate adolescents regarding depression and its symptoms however very little attention has been paid to depression literacy and stigma among adolescents.

Aim &Objective: The Aim of this study is to Assess Depression Literacy and stigma towards depression among adolescent students and to evaluate the effectiveness of an educational intervention on Depression.

Materials and Methods:The pilot study was conducted at School Named Maharaja RajendrasinhjiVidhyalaya, Rajpipla,Gujarat40 Adolescent students were selected from a school using Convenient sampling technique after taking consent, the students were requested to fill up Performawhich included Demographic characteristics, D-Lit (Depression literacy questionnaire) and DSS (Depression stigma Scale personal and perceived) Educational Intervention on Depression was delivered to students and again post test was conducted.40 responses of the students were reviewed and analyzed in the month of November-2022.

Result: Out of the 40 participants, 11(27.5%) were 16 year of age,27(67.5%) were 17 year of age and 2(5.0%) were of 18 year of age. 21(52.5%) students were Female and 19 (47.5%) were male. 38(95.05%) were Hindu and 2(5.0%) were Muslim. 2(5.2%)Students' father had Government Job 8(20.0%) Students' father were in Private Sector, 27(67.5%) Students' father were self-employed, 3(7.5%) Students' father were unemployed. 1(2.5%) Students 'mother had Government Job 9(22.5%) Students' mother were in Private Sector, 11(27.5%) Students' mother were self-employed, 6(15.0%) Students' mother were unemployed.13(32.5%) students' mother were house wives.29(72.5%) students were living in joint family,11((27.5%) students 'were living in nuclear Family.4(10%) students had familiarity with depression with family, 8(20%) students had familiarity with depression with friends,4(10%) students had familiarity with depression with self,23(57%)students had familiarity with depression with none. Kolmogorov-Smirnov test was applied to test normality of data and Wilcoxon Signed Ranks Test applied to compare averages (Median) between pre and post measures.**POST TEST DLIT – PRETEST DLIT:** Negative ranks are zero and all 40 differences has positive ranks. Test statistic value -5.523 with p value < 0.001 (Significance Level). i.e., DLIT score was significantly increased after intervention. **POST PERSONAL DSS - PRE PERSONAL DSS:** Negative ranks are 36, there is no positive rank and only 4 ties. Test statistic value -5.238 with p – value < 0.001 (significance Level). i.e., PERSONAL DSS score was significantly decreased after intervention.**POST PERCIEVED DSS - PRE PERCIEVED DSS:** Negative ranks are 40, there is no positive rank and ties. Test statistic value -5.518 with p – value < 0.001 (significance Level). i.e., **PERCIEVED DSS** score was significantly decreased after intervention. Correlation coefficient r between**DLIT** change in % and **PERCIEVED DSS** Change in % is -0.323 with p – value 0.042 < 0.05 (Significance Level). i.e., there is significant weak negative correlation between **DLIT** change in % and **PERCIEVED DSS** Change in %, as **DLIT** change in % increased **PERCIEVED DSS** Change in % decreased. Dependent Variable: **PERCIEVED DSS** Change in % Predicted regression line (equation) **PERCIEVED DSS** Change in % = 54.232 + -0.049 (DLIT change in %)

Conclusion

The students had very low levels of depression literacy and high level of stigma Education on depression was effective and reduced the sigma and improved literacy and Hence there should be a curriculum for enhancing Depression literacy among adolescent students which can reduce their stigma.

Keywords: Depression Literacy, Depression Stigma, Adolescents, Educational Interventio.

1. Introduction

Depression literacy means knowledge about depression as a psychiatric disorder. Many studies have indicated that the prevalence of depression among adolescents ranges from 3.2 % to 8.9%. And prevalence of suicide ideations among adolescents is 21.1% while the prevalence of suicidal attempt in adolescents is 7.1%¹

Depression is a common illness globally affecting more than 300 million people. Depression as a emotion is universal experienced by all human being, however when it lasts for more than two weeks, when is severe enough to impair academic, occupational and social functioning besides producing immense distress it may become a disorder. At its worst, depression can lead to suicide. About 800 000 people die of suicide every year. Suicide is the second leading cause of death in youth of 15-19-year age group. More than 80% who die of suicide are suffering from depression.²

Globally, depression is one of the leading causes of illness and disability among adolescents. Suicide is the third leading cause of death in 15-19-year-olds. The consequences of not addressing adolescent mental health conditions extend to adulthood, impairing both physical and mental health and limiting opportunities to lead fulfilling lives as adults.³

About 70% mentally ill do not receive any treatment.⁴The reasons include ignorance about the clinical features and treatability of psychiatric disorders, lack of knowledge about how to seek treatment, prejudice against people who have psychiatric disorder, and expectations of discrimination against people who have a diagnosis of such disorder.⁵

The stigma can be personal i.e. a person's own personal attitude to depression and perceived stigma as a person's belief about the stigmatizing attitude of others. In a multicenter international study, 20–37% of persons with depression in India had stopped themselves from doing something important because of anticipated discrimination. The study also found discrimination experience for depression in 79% with significant impact on family, work, or social relationships. The study paradoxically found that family members were the main source of discrimination, who were also the source of most reported support.⁶

If a person with psychiatric disorder perceives stigma on part of mental health professionals it also predicts internalized or 'self-stigma' and disempowerment.⁷

In Saudi Arabia, a study has shown that the prevalence of depression among male secondary school students in Abha City is 38.2%. Another study done in the same region found depression in 13.9% of female students. A study done in Al-Ahsa found the symptoms of depression in 24.4% of King Faisal University students. Suicidal ideation in the past 4 weeks was reported by 1.1% of students. Major depression was significantly higher among females. Another study found that the prevalence of depression was 22.4% as moderate, 7.3% as severe, and 3.7% as very severe, with depression occurring 1.5 times more often in girls than in boys.⁸

2. Objectives

- To assess the level of Depression literacy among adolescent students.
- To assess the level of Depression stigma among adolescent students.
- To find out the correlation between Depression literacy and Depression stigma.
- To evaluate the effectiveness of an educational intervention on Depression literacy and Depression stigma among adolescent students.

3. Methods

The Pilot study was conducted at School Named Maharaja Rajendrasinhji Vidhyalaya, Rajpipla Town, Dist-Narmada, and Gujarat. 40 Adolescent students were selected using convenient sampling technique. Participants were informed about the study objectives and consent was obtained. Participants were chosen as per inclusion criteria. Participants were requested to fill up a Form which included-Section A -Socio Demographic Variables: Demographic characteristics such as (age, sex, Religion, type of family, class grade, father's occupation, mother's occupation and details familiarity with depression (if self/family member/relative/friend has suffered from depression))-Section B-Depression Literacy Questionnaire-The D-Lit assesses mental health

literacy specific to depression. The questionnaire consists of 22 true-or-false items. Respondents can answer each item with 1 of 3 options: “true,” “false,” or “don’t know.” Each correct response receives 1 point. Higher scores indicate higher mental health literacy of depression. D-Lit items are about depression symptoms, management, treatment, and duration, as well as differentiation between depression and other mental illnesses. Section C-Depression Stigma Scale (DSS)-The Depression Stigma Scale is designed to measure stigma associated with depression. It has two subscales which measure two different types of stigma: personal and perceived. The Personal Stigma Subscale measures stigma in the respondents own attitudes towards depression by asking them to indicate how strongly they personally agree with nine statements about depression. The Perceived Stigma Subscale measures the respondent’s perception about the attitudes of others towards depression by asking them to indicate what they think most other people believe about the same nine statements. Responses to each item are measured on a five-point scale (ranging from zero ‘strongly disagree’ to four ‘strongly agree’). Higher scores indicate higher levels of depression stigma.

After collecting the first part data Educational intervention was delivered to participants total duration of an educational intervention was 40 minutes which included: 1. lecture on Depression :-Introduction, risk factors-causes, sign symptoms, treatments including therapies, professional help available and appropriate ways to seek help. 2. Interactive session with students concerning common 5 myths about Depression 3. Brochure Distribution: -Including how to recognize depression, risk factors-causes, and where to approach 4. Posters (display): -Posters with mental-health slogans about depression was Placed round the classroom.

Post test was conducted using the same tool D-Lit (Depression literacy questionnaire) and DSS (Depression stigma Scale personal and perceived) and responses of the students were reviewed and analyzed in the month of November-2022.

4. Results

Out of the 40 participants, 11(27.5%) were 16 year of age, 27(67.5%) were 17 year of age and 2(5.0%) were of 18 year of age. 21 (52.5%) students were Female and 19 (47.5%) were male. 38(95.05%) were Hindu and 2(5.0%) were Muslim. 2(5.2%) Students’ father had Government Job 8(20.0%) Students’ fathers were in Private Sector, 27(67.5%) Students’ father were self-employed, 3(7.5%) Students’ father were unemployed. 1(2.5%) Students’ mother had Government Job 9(22.5%) Students’ mother were in Private Sector, 11(27.5%) Students’ mother were self-employed, 6(15.0%) Students’ mother were unemployed. 13(32.5%) students’ mother were house wives. 29(72.5%) students were living in joint family, 11(27.5%) students ‘were living in nuclear Family. 4(10%) students had familiarity with depression with family, 8(20%) students had familiarity with depression with friends, 4(10%) students had familiarity with depression with self,

4(10%) students had familiarity with depression with self. 23(57%) students had familiarity with depression with none. Kolmogorov-Smirnov test was applied to test normality of data and Wilcoxon Signed Ranks Test applied to compare averages (Median) between pre and post measures. POST TEST DLIT – PRETEST DLIT: Negative ranks are zero and all 40 differences has positive ranks. Test statistic value -5.523 with p value < 0.001 (Significance Level). i.e., DLIT score was significantly increased after intervention. POST PERSONAL DSS - PRE PERSONAL DSS: Negative ranks are 36, there is no positive rank and only 4 ties. Test statistic value -5.238 with p – value < 0.001 (significance Level). i.e., PERSONAL DSS score was significantly decreased after intervention. POST PERCIEVED DSS - PRE PERCIEVED DSS: Negative ranks are 40, there is no positive rank and ties. Test statistic value -5.518 with p – value < 0.001 (significance Level). i.e., PERCIEVED DSS score was significantly decreased after intervention. Correlation coefficient r between DLIT change in % and PERCIEVED DSS Change in % is -0.323 with p – value 0.042 < 0.05 (Significance Level). i.e., there is significant weak negative correlation between DLIT change in % and PERCIEVED DSS Change in %, as DLIT change in % increased PERCIEVED DSS Change in % decreased. Dependent Variable: PERCIEVED DSS Change in % Predicted regression line (equation) PERCIEVED DSS Change in % = 54.232 + -0.049 (DLIT change in %)

Table – 1: Distribution of Students According to Their Demographic Profile.

| | | No. of Students | % |
|--------|--------|-----------------|-------|
| Age | 16 | 11 | 27.5 |
| | 17 | 27 | 67.5 |
| | 18 | 2 | 5.0 |
| | Total | 40 | 100.0 |
| Gender | Female | 21 | 52.5 |

| | | | |
|-----------------------------|---------------|----|-------|
| | Male | 19 | 47.5 |
| | Total | 40 | 100.0 |
| Religion | Hindu | 38 | 95.0 |
| | Muslim | 2 | 5.0 |
| | Total | 40 | 100.0 |
| Class | 12 | 40 | 100.0 |
| FATHER'S OCCUPATION | Government | 2 | 5.0 |
| | Private | 8 | 20.0 |
| | Self employed | 27 | 67.5 |
| | Unemployed | 3 | 7.5 |
| | Total | 40 | 100.0 |
| MOTHER'S OCCUPATION | Government | 1 | 2.5 |
| | Private | 9 | 22.5 |
| | Self employed | 11 | 27.5 |
| | Unemployed | 6 | 15.0 |
| | Housewife | 13 | 32.5 |
| | Total | 40 | 100.0 |
| FAMILY TYPE | Joint | 29 | 72.5 |
| | Nuclear | 11 | 27.5 |
| | Total | 40 | 100.0 |
| FAMILIARITY WITH DEPRESSION | Family | 4 | 10.0 |
| | Friend | 11 | 27.5 |
| | Self | 4 | 10.0 |
| | None | 21 | 52.5 |
| | Total | 40 | 100.0 |

Diagram – 1:

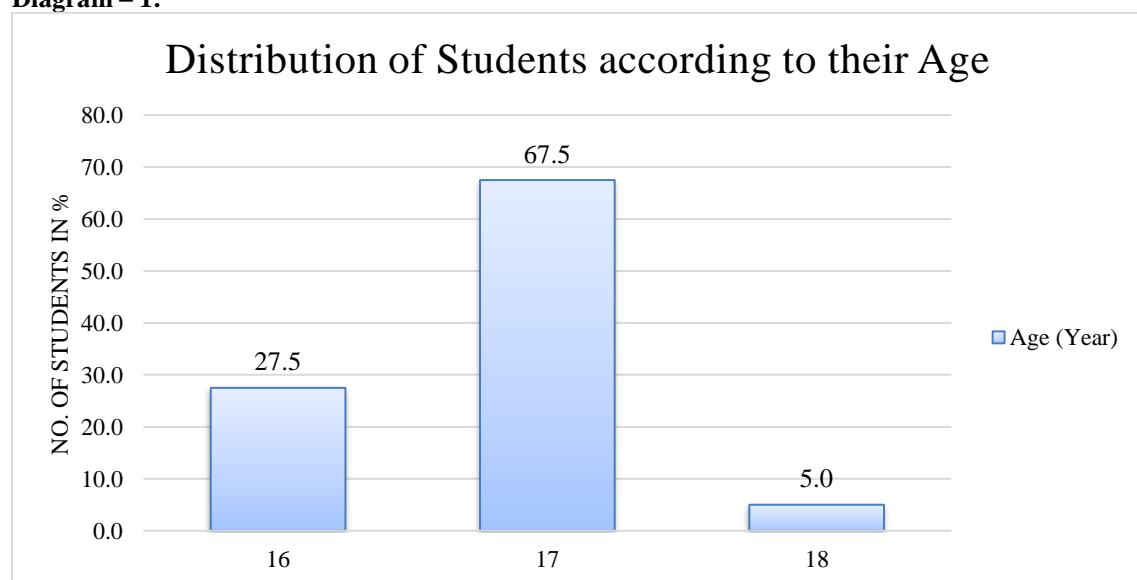


Figure 1: Frequencies for age

Figure -1 illustrates the frequency of participants age out of 40 ,11(27.5%) were 16 year of age, 27(67.5%) were 17 year of age and 2(5.0%) were of 18 year of age.

Diagram – 2:

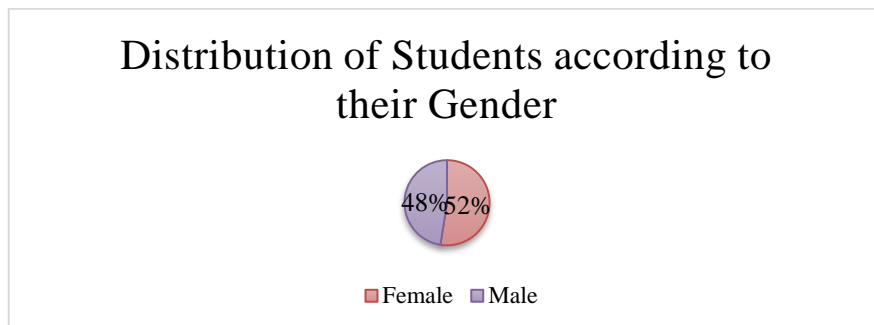


Figure 2: Frequencies for Gender

Figure -2 illustrates the frequency of participants Gender out of 40,21 (52.5%) students were Female and 19 (47.5%) were male

Diagram – 3:

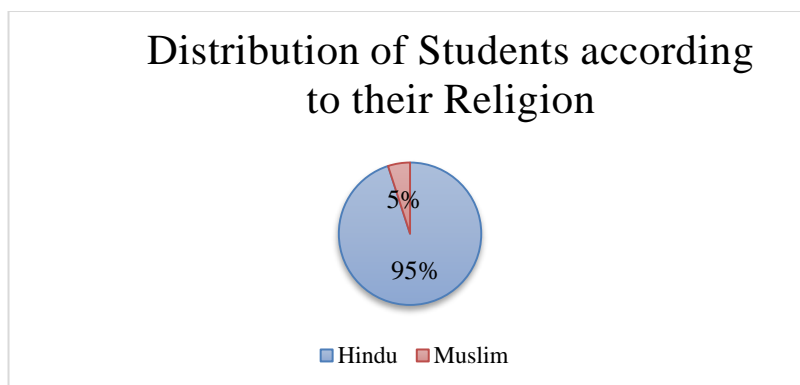


Figure 3: Frequencies for Religion

Figure -3 illustrates the frequency of participants Religion out of 40, 38 (95.05%) were Hindu and 2(5.0%) were Muslim.

Diagram – 4:

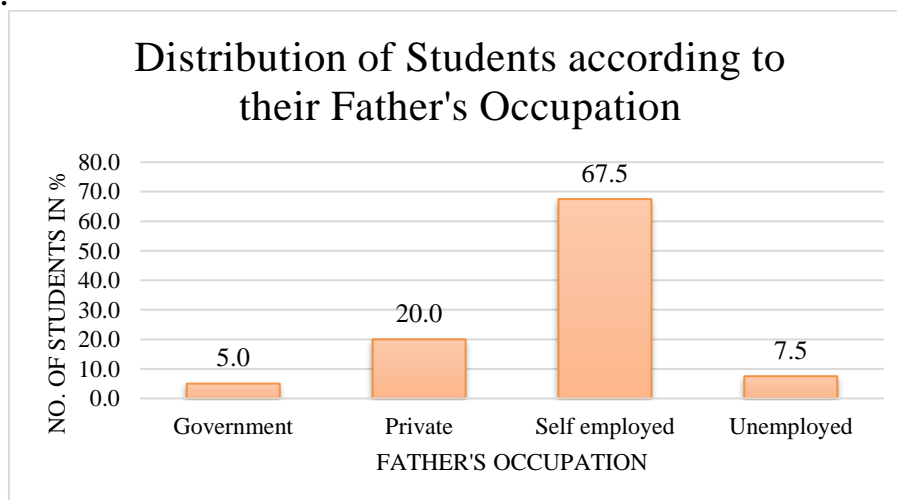


Figure 4: Frequencies for Father's Occupation

Figure -4 illustrates the frequency of participants father's occupation out of 40, 2(5.2%) Students' father had Government Job 8(20.0%) Students' fathers were in Private Sector, 27(67.5%) Students' father were self-employed,3(7.5%) Students' fathers were unemployed. 1(2.5%)

Diagram – 5:

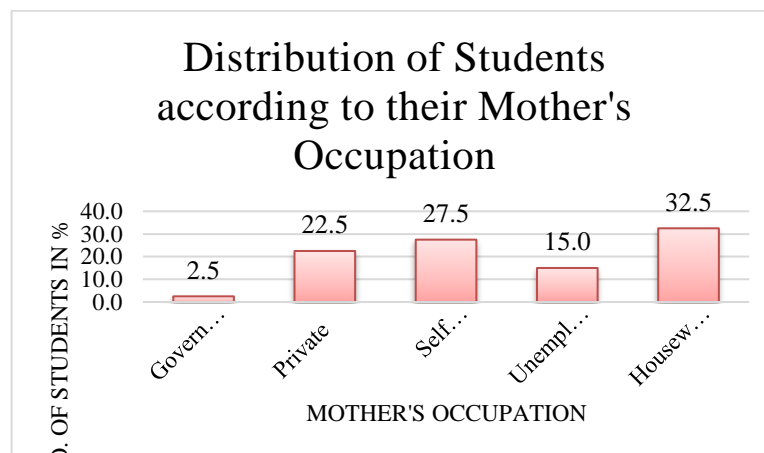


Figure 5: Frequencies for Mother's Occupation

Figure -5 illustrates the frequency of participants Mother's occupation out of 40, Students 'mother had Government Job 9(22.5%) Students' mother were in Private Sector, 11(27.5%) Students' mother were self-employed, 6(15.0%) Students' mother were unemployed.13 (32.5%) students' mother were house wives.

Diagram – 6:

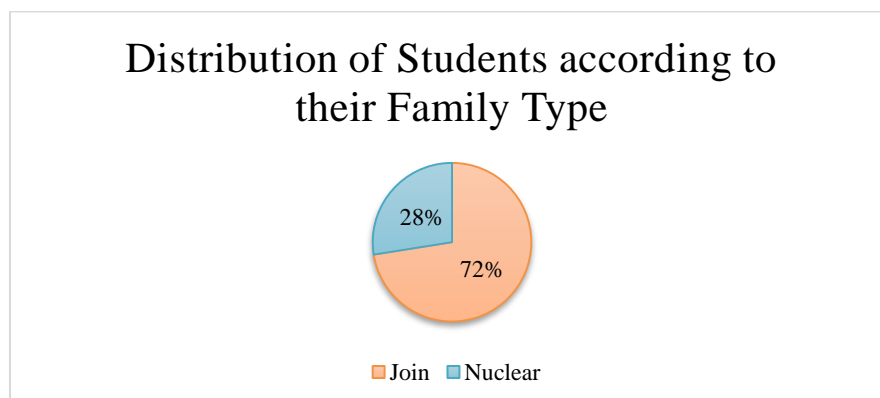


Figure 6: Frequencies for Family type

Figure -6 illustrates the frequency of participants Family type out of 40, 29(72%) students were living in joint family, 11 (28.5%) students 'were living in nuclear Family.

Diagram – 7:

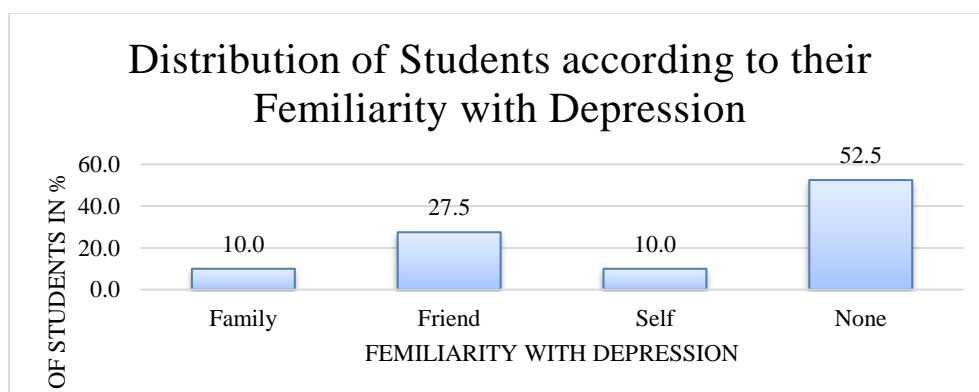


Figure 7: Frequencies for Familiarity with Depression

Figure -7 illustrates the frequency of participants Familiarity with depression out of 40, 4(10%) students had familiarity with depression with family, 11(27.5%) students had familiarity with depression with friends, 4(10%) students had familiarity with depression with self, 4(10%) students had familiarity with depression with self. 23(52.5%) students had familiarity with depression with none.

Table – 2: Wilcoxon Signed Ranks Test.

| | | N | Mean Rank | Sum of Ranks | z - value | p - value | Result |
|--|----------------|----|-----------|--------------|-----------|-----------|--------|
| POST TEST DLIT – PRETEST DLIT | Negative Ranks | 0 | 0.00 | 0.00 | -5.523 | < 0.001 | HS |
| | Positive Ranks | 40 | 20.50 | 820.00 | | | |
| | Ties | 0 | | | | | |
| | Total | 40 | | | | | |
| POST PERSONAL DSS - PRE PERSONAL DSS | Negative Ranks | 36 | 18.50 | 666.00 | -5.238 | <0.001 | HS |
| | Positive Ranks | 0 | 0.00 | 0.00 | | | |
| | Ties | 4 | | | | | |
| | Total | 40 | | | | | |
| POST PERCIEVED DSS - PRE PERCIEVED DSS | Negative Ranks | 40 | 20.50 | 820.00 | -5.518 | <0.001 | HS |
| | Positive Ranks | 0 | 0.00 | 0.00 | | | |
| | Ties | 0 | | | | | |
| | Total | 40 | | | | | |

Conclusion: Kolmogorov-Smirnov test was applied to test normality of data and Wilcoxon Signed Ranks Test applied to compare averages (Median) between pre and post measures.

Post Test Dlit – Pretest Dlit: Negative ranks are zero and all 40 differences has positive ranks. Test statistic value -5.523 with p value < 0.001 (Significance Level). i.e., DLIT score was significantly increased after intervention.

Post Personal Dss - Pre Personal Dss: Negative ranks are 36, there is no positive rank and only 4 ties. Test statistic value -5.238 with p – value < 0.001 (significance Level). i.e., PERSONAL DSS score was significantly decreased after intervention.

Post Percieved Dss - Pre Percieved Dss: Negative ranks are 40, there is no positive rank and ties. Test statistic value -5.518 with p – value < 0.001 (significance Level). i.e., PERCIEVED DSS score was significantly decreased after intervention.

Table – 3: Correlation coefficient r.

| | | PERSONAL DSS Change in % | PERCIEVED DSS Change in % |
|------------------|---------------------|--------------------------|---------------------------|
| DLIT change in % | Pearson Correlation | -0.161 | -0.323* |
| | p - value | 0.321 (NS) | 0.042 (S) |
| | N | 40 | 40 |

Conclusion: Correlation coefficient r between DLIT change in % and PERCIEVED DSS Change in % is -0.323 with p – value 0.042 < 0.05 (Significance Level). i.e., there is significant negative correlation between DLIT change in % and PERCIEVED DSS Change in %, as DLIT change in % increased PERCIEVED DSS Change in % decreased. There is no correlation between DLIT change in % and PERSONAL DSS Change in %.

Regression Table – 4:

| Model Summary | | | | | | | | | |
|---------------|--------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|-----------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
| | | | | | R Square Change | F Change | df1 | df2 | p – value of F Change |
| 1 | 0.323 ^a | 0.105 | 0.081 | 13.4726 | 0.105 | 4.437 | 1 | 38 | 0.042 (S) |

R Square statistic value is 0.105. i.e., 10.5% variation in PERCIEVED DSS Change in % can be explain by DLIT change in %.

Table – 5:

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | p - value |
|-------|------------------|-----------------------------|------------|---------------------------|--------|-----------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 54.232 | 3.332 | | 16.277 | 0.000 (S) |
| | DLIT change in % | -0.049 | 0.023 | -0.323 | -2.106 | 0.042 (S) |

Dependent Variable: PERCIEVED DSS Change in %

Predicted regression line (equation)

PERCIEVED DSS Change in % = 54.232 + -0.049 (DLIT change in %)

5. Discussion

This study was conducted at a school facility aimed to evaluate the effectiveness of an educational intervention on depression literacy and Depression stigma among adolescent students.

The sample size was 40 adolescent students who matched with inclusion criteria sociodemographic variable and standardise tool Depression literacy scale (DLIT) along with DepressionStigma Scale(DSS)was used to collect the data and were analysed which shows **POST TEST DLIT – PRETEST DLIT**: DLIT score was significantly increased after intervention. **POST PERSONAL DSS - PRE PERSONAL DSS**: PERSONAL DSS score was significantly decreased after intervention. **POST PERCIEVED DSS - PRE PERCIEVED DSS**:PERCIEVED DSS score was significantly decreased after intervention. There Was significant correlation between DLIT change in % and **PERCIEVED DSS** Change in %, as DLIT change in % increased **PERCIEVED DSS** Change in % decreased.

Results of this study showed that the majority of the adolescent students has low depression literacy level and high depression stigma level, which improved after providing education intervention. There was a significant correlation between depression literacy and stigma scores

6. Conclusion

Many studies have concluded that educational intervention improves depression literacy and decreases depression stigma, Educational intervention may improve knowledge and may decrease stigma. The evidences suggested the importance of educating adolescents about depression, because this is the period when onset of mental disorders occurs and majority of the people who suffers from mental disorders have first episode before the age of 18 years. Some of the evidence suggests that information received at school level can result in reduction of stigmatize attitudes. The proposed research will allow and assist in improvement of Depression literacy after educational intervention

Ethics Declaration and Consent:

Parul University ethics committee reviewed this study and granted ethical approval. Consent has been obtained from all participants.

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Conflict of Interest: The authors declared no conflict of interest.

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