

‘Effectiveness Of Multimedia Education Programme On Knowledge Regarding Early Identification And Management Of Depression Among Adolescents Of Selected Pu, College Bangalore’

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Abstract:

Background: Depression is a fast-growing major health issue which is thought to be disproportionately affecting young people worldwide. It is a condition characterized by a marked and persistent feeling of sadness, loss of interest, self isolation, feeling of worthlessness. Depression among adolescence is associated with considerable impairment that persists through out the adulthood. Both physical and psychological parameters are affected including impairment in social life and activities There are clear potential benefits of delivering effective interventions during adolescence to identify and manage depression at the earliest. Educational programmes helps adolescents to gain knowledge and insight into this serious problem, change their behavior, learn coping skills, develop problem-solving skills, and early identification and management .

Materials and Methods: In this one group pre test post test quasi experimental design study, 60 students of PU1st year and 2nd year belonging to age group of 16-19years .Pre-test level of knowledge on identification and management of depression was assessed using a self structured questionnaire followed by an implementation of multimedia education programme highlighting the aspects of early identification and management of depression. The effectiveness of multimedia education programme was assessed on knowledge regarding early identification and management of depression in post test.

Results:There was a significant difference between the pre test level of knowledge with the selected demographic variables($p < 0.05$).There was a significant difference between the pre test and post level of knowledge after the implementation of multimedia education programme.

Conclusion:There was an increase in level of knowledge from pre test to post test among the participants after the multimedia education programme..

Key Word: Depression; adolescents; multimedia education programme.

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I. Introduction

Adolescence is a crucial and unique period of development which lays the foundation for further emotional, physical and cognitive development of an individual. Multiple factors determine both the physical and mental health outcomes at this stage of development. The common factors contributing to stress, anxiety, depression, other emotional problems, include a desire for more autonomy, peer pressure, increase access to technology, exploration of sexual identity, family condition, peer relation, an urge to explore¹. The WHO defines adolescents as individuals in the age group of 10-19 years. India has the largest population of adolescents in the world of 253 million that means that every fifth person in India is in the age group of 10-19 years, constituting of 21% of Indian population.² Emotional instability resulting from transition to adulthood makes them more vulnerable to depression.³Adolescents comprise 1-2 billion of population worldwide. Nearly 35% of the global burden of disease starts in adolescent half of the mental disorders starts by the age of 14 years and in most cases remains undetected. Depression is one of the under recognized health problems due to inability to disclose their feeling.⁴

II. Material And Methods

This quasi experimental study was carried out on adolescents of PU 1st year and 2nd year studying at Sehsadripuram independent PU college,Bangalore.. A total Of 60 subjects (both male and females) of aged 16-19, years were included in this study.

Study Design: Quasi experimental study.

Study Location: This was a independent PU,college with science,commerce and arts stream located in Upanagara,Bangalore.

Study Duration: March 2022 to April 2022.

Sample size: 60 adolescents

Sample size calculation:The sample size was estimated on the basis of a single proportion . The target population from which we randomly selected our sample was considered 120.The sample size actually obtained for this study was 60 adolescents . We planned to include 120 adolescents (40 students in each stream) fulfilling inclusion criteria.

Subjects & selection method: The study population was drawn from students in PU 1st and 2nd year who were present during the day of data collection at Surana independent PU college fulfilling the inclusion criteria in April 2022. Adolescents were included into one group (40 students from each stream). Group (N=120 adolescents) - 40 students from science;commerce and arts stream.

Inclusion criteria:

This study includes:

1. Both male and female within the age group of 16-19 years.
2. Who can read and write English.
3. Who are willing to participate in the study.

Exclusion criteria:

1. This study excludes Who have been sensitized with similar educational session previously.
2. Students who are not available at the time data collection.

Procedure methodology

After obtaining official permission from the concerned authority, the investigator introduced self, explained the purpose of the study and the informed consent was obtained from the subjects. A self design questionnaire was used to collect the data of the participants . The questionnaire included two sections that is section-I socio-demographic characteristics such as age, gender, current educational status, parents educational level and occupation ,type of family, area of residence and section II- knowledge based questionnaires emphasizing on aspects of early identification,management ,prevention of depression..

Pre test level on the knowledge on identification and management of depression was taken from the participants followed by implementation of multimedia education programs emphasizing on knowledge aspects of identification,management,preventive strategies of depression.Post test was conducted after 7 days of intervention using the same tool

The tool consisted of the following aspects to assess knowledge as follows:

General information
Cause and risk factors
Signs, symptoms and diagnosis
Prevention and management

Statistical analysis

Data was analyzed using SPSS version 20 (SPSS Inc., Chicago, IL). . Frequency and percentage distribution was used to describe the demographic variables. Range, Mean and Standard Deviation was used to assess the pre-test and post-test level of knowledge regarding early identification and management of depression among adolescents.The paired't' test was used to compare the pre-test and post-test level of knowledge among adolescents.The Chi square (χ^2) test was used to find out the association between the pre-test level of knowledge among adolescents with their selected demographic variables at selected schools, Bangalore.The software MS WORD and MS EXCEL was used to generate the tables and graphs.. The level $P < 0.05$ was considered as the cutoff value or significance.

III. Result

After 1 week of intervention it was found that ,there was a difference in pre test and post test level of knowledge by –mean score of 38.1 to 74.1 in post test.

There was a significant association between pre test level of knowledge with the selected demographic variables-

The Chi-square test was carried out and knowledge was found to be remain significantly associated with demographic variables age (Chi-square value =26.716, df=3), father’s educational status (Chi-square value=8.924, df=4), mother’s educational status =13.176, df=4) father’s occupation (Chi-square value=22.884, df=3) mother’s occupation status(Chi-square value =8.982, df=3) and family monthly income (Chi-square value=22.766, df=3) at p<0.05 level.

Table 1 : Shows Frequency and percentage distribution of demographic variables of adolescents according to their age in years, gender, standard of class, religion, types of family, father’s educational status, mother’s educational status, father’s occupation, mother’s occupation, residential area, parent’s living status.

Table no 1: Description of demographic variables of adolescents at selected school.

S.N	Demographic variables	Categories	N=(60)	%
1	Age	16 years	18	30.0
		17 years	12	20.0
		18 years	18	30.0
		19 years	12	20.0
.2.	Gender	Male	28	46.7
		Female	32	53.3
3	Religion	Hindu	29	48.3
		Muslim	19	31.7
		Christian	12	20.0
		Others	-	-
4	Standard of class	PUC 1 st year	32	53.3
		PUC 2 nd year	28	46.7
5	Type of family	Nuclear family	43	71.7
		Joint family	17	28.3
		Extended family	-	-
6	Father’s educational status	No formal education	7	11.7
		Primary education	18	30.0
		Secondary education	12	20.0
		Hr. secondary education	15	25.0
		Graduate and above	8	13.3
7	Mother’s educational status	No formal education	7	11.7
		Primary education	18	30.0
		Secondary education	23	38.3
		Hr. secondary education	6	10.0
		Graduate and above	6	10.0
8	Father’s occupation	Self employee	17	28.3
		Private employee	12	20.0
		Govt. employee	12	20.0
		Daily wages	19	31.7
		Others		
9	Mother’s occupation	Self employee	12	20.0
		Private employee	7	11.7
		Govt. employee	28	46.7
		Home makers	13	21.7
		Others		
10	Family income per month	≤15,000	11	18.3
		15,000,20,000	13	21.7
		20,001-25,000	18	30.0
		Above 25,000	18	30.0
11	Residential area	Urban	31	51.7
		Rural	29	48.3
12	Parents living status	Staying together	35	58.3
		Single parent	12	20.0
		Divorced	13	21.7

Table 2 shows that in pre test 53(88.3%) participants had inadequate knowledge and 7(11.7%) had moderately adequate knowledge while in post test 31(51.7%) has moderately adequate knowledge and

29(48.3%) had adequate knowledge and none of them had inadequate knowledge. Hence, it shows that multimedia education programme was effective in increasing adolescents knowledge on early identification and management of depression.

Table no2a: Percentage distribution of adolescents according to pre test and post test level of knowledge.

Sno	Level of knowledge	Pre test		Post test	
		No. (60)	%	No. (60)	%
1	Inadequate knowledge(<50.0%)	53	88.3	-	-
2	Moderately adequate knowledge(50-75%	7	11.7	31	51.7
3	Adequate knowledge(75%)	-	-	29	48.3
Over all		60	100	60	100

Table no2b. shows mean, SD and range of pre and post test knowledge on early identification and management of depression among adolescents. The pre test range is 7-16,mean score is 11.44,standard deviation is 2.63 and mean percentage is 38.1% and post test range is 18-26,mean score is 22.40,standard deviation is 2.30 and mean percentage is 74.7%. Therefore ,it evidences that there is a significant difference in the pre test and post test level of knowledge among adolescents regarding early identification and management of depression.

Table no.2b Mean, SD and range of pre and post test knowledge on early identification and management of depression among adolescents

S.N	Aspect of pre test knowledge	MaxScore	Rang	Mean	SD	Mean %	Range	Mean	SD	Mean %
1	General information	3	0-2	1.08	0.69	36.0	1-3	2.42	0.53	80.7
2.	Cause and risk factors	7	0-4	2.52	1.30	36.0	4-7	5.68	1.09	81.1
3.	Signs, symptoms and diagno	16	4-8	6.42	1.22	40.1	8-14	10.82	1.54	67.6
4.	Prevention and management	4	0-2	1.42	0.67	35.5	2-4	3.48	0.65	87.0
Over all		30	7-16	11.44	2.63	38.1	18-26	22.40	2.30	74.7

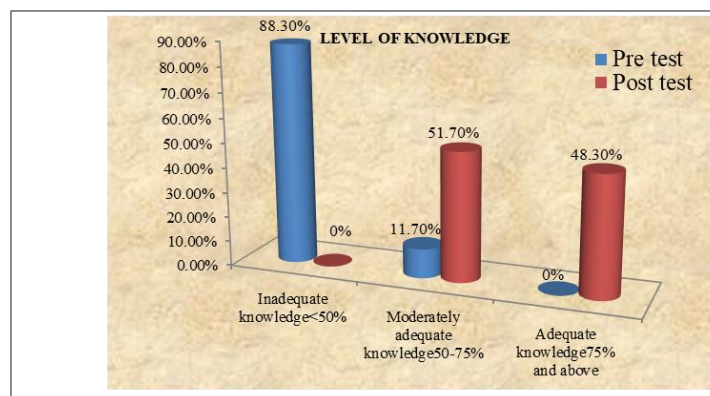


Table no3: shows that the outcome of paired t-test level of knowledge and statistical is based on paired t-test.

. The paired t-test was carried out and it was found to be remain significant for overall scores of knowledge at p<0.05 level.The maximum score is 30,mean difference is 10.96,standard deviation difference is 3.400,mean percentage is 36.5% and paired t test value is 24.986,hence there exists a significant increase on the level of knowledge before and after administration of the multimedia education programme.

Table no 3 : Outcomes of paired t-test analysis on significance of pre and post test knowledge among adolescents.10)

Sno	Variable	Max. Score	mean difference	SD difference	mean difference	Paired t test value	p-value
1	General information	3	1.33	1.02	44.3	10.130*	p<0.05
2.	Cause and risk factors	7	3.16	1.67	45.1	14.609*	p<0.05
3.	Signs, symptoms and diagnosis	16	4.40	1.97	27.5	17.247*	p<0.05
4.	Prevention and management	4	2.06	0.88	51.5	18.183*	p<0.05
Over all		30	10.96	3.400	36.5	24.986*	p<0.05

Table no4 shows the association between pre test knowledge on early identification and management of depression among adolescents with their selected demographic variables . The Chi-square test was carried out and knowledge was found to be remain significantly associated with demographic variables age (Chi-square value =26.716, df=3), father’s educational status (Chi-square value=8.924, df=4), mother’s educational status =13.176, df=4) father’s occupation (Chi-square value=22.884, df=3) mother’s occupation status(Chi-square value =8.982, df=3) and family monthly income (Chi-square value=22.766, df=3) at p<0.05 level. Hence the null hypothesis (H₀₁) was rejected and the research hypothesis (H₁) was accepted. It provides the evidence that the pre test knowledge was significantly associated with selected demographic variables of adolescents.

Table no4: Shows association between pre test knowledge on early identification and management of depression with selected demographic variables of adolescents
n=60

S.No.	Demographic variables	Categories	Sample (n=60)		Pre test knowledge				Chi-square value	p-value
			F	%	≤Median		>Median			
					F	%	F	%		
1	Age	16 years	18	30.0	11	36.7	7	23.3	26.776, df=3, S	P<0.05
		17 years	12	20.0	12	40.0	0	0		
		18 years	18	30.0	7	36.7	11	36.7		
		19 years	12	20.0	0	0	12	40.0		
2	Gender	Male	28	46.7	13	43.3	16	50.0	0.268, df=1, NS	P<0.05
		Female	32	53.3	17	56.7	16	50.0		
3	Religion	Hindu	29	48.3	17	56.7	12	40.0	1.669, df=2, NS	P<0.05
		Muslim	19	31.7	8	26.7	11	36.7		
		Christian	12	20.0	6	16.7	7	23.3		
		Others	-	-	-	-	-	-		
4	Standard of class	PUC 1 st year	32	53.3	16	53.3	16	53.3	0,df=1,NS	P<0.05
		PUC 2 nd year	28	46.7	14	46.7	14	46.7		
5	Type of family	Nuclear family	43	71.7	23	76.7	20	66.7	0.739, df=1, NS	P<0.05
		Joint family	17	28.3	7	23.3	10	33.3		
		Extended family	-	-	-	-	-	-		
6	Father’s educational status	No formal education	7	11.7	6	20.0	1	3.3	8.924, df=4, S	p<0.05
		Primary education	18	30.0	11	36.7	7	23.3		
		Secondary education	12	20.0	5	16.7	7	23.3		
		Hr. secondary education	15	25.0	6	20.0	7	23.3		
		Graduate and above	8	13.3	2	6.7	5	16.7		
7	Mother’s educational status	No formal education	7	11.7	6	20.0	1	3.3	13.176, df=4, S	P<0.05
		Primary education	18	30.0	11	36.7	7	23.3		
		Secondary education	23	38.3	12	40.0	11	36.7		
		Hr. secondary education	6	10.0	0	0	6	10.0		
		Graduate and above	6	10.0	1	3.3	6	16.7		
8	Father’s occupation	Self employee	17	28.3	1	3.3	16	53.3	22.884, df=3,S	P<0.05
		Private employee	12	20.0	11	36.7	1	3.3		
		Govt employee	12	20.0	6	20.0	6	20.0		
		Daily wages	19	31.7	12	40.0	7	23.3		
		Others								
9	Mother’s occupation	Self employee	12	20.0	8	26.7	4	13.9	8.982, df=3, S	P<0.05
		Private employee	7	11.7	0	0	7	23.3		
		Govt employee	28	46.7	16	53.3	12	40.0		
		Home makers	13	21.7	6	20.0	7	23.3		
		Others								
10	Family income per month	≤15,000	11	18.3	0	0	11	36.7	22.786, df=3, S	p<0.05
		15,000,20,000	13	21.7	11	36.7	2	6.7		
		20,001-25,00	18	30.0	6	20.0	12	40.0		
		Above 25,000	18	30.0	13	43.3	5	16.7		
11	Residential area	Urban	31	51.7	17	56.7	14	46.7	0.690, df=1, NS	P<0.05
		Rural	29	48.3	13	43.3	16	53.3		
12	Parents living status	Staying together	35	58.3	17	56.7	18	60.0	0.439, df=2, NS	P<0.05
		Single parent	12	20.0	7	23.3	5	16.7		
		Divorced	13	21.7	6	20.0	7	23.3		

Note: S-Significant at 5% level (ie., p<0.05), NS-Not significant at 5% level (ie., p>0.05).

IV. Discussion

Depression education in educational institutes showed a greater improvement in knowledge regarding depression among adolescents and is effective in decreasing the morbidity, mortality and stigma associated with depression. The ultimate aim of the multimedia education programme was to increase the adolescents knowledge and create awareness regarding early identification and management of depression so that the further complications can be prevented.

The present study was Quasi Experimental – one group pre-test and posttest design using simple random sampling technique (lottery method) was used to select 60 adolescents as samples at Surana Independent PU college Upanagara, Bangalore. The data was collected using Self structured questionnaire to assess the pre and post test level of knowledge among adolescents. Based on the objectives and hypothesis the data were analyzed by using various statistical tests.

The study, shows that in pre-test, majority of adolescents had inadequate knowledge regarding early identification and management of depression 53(88.3%), 7(11.7%) had moderately adequate knowledge and none of them had adequate knowledge regarding identification and management of depression. Whereas in the post-test the majority of the adolescents had moderately adequate knowledge 31(51.7%), 29(48.3%) had adequate knowledge and none of them had inadequate knowledge. The Post-test mean (22.40) was higher than the pre-test mean (11.44), pre-test SD was (2.63) and post test SD was (2.30) and post-test mean percentage (74.7%) was higher than the pre-test mean percentage (38.1%). Hence, it shows the increase in the post test level of knowledge among adolescents after the intervention.

The paired t-test was carried out to test the significance of pre and post test scores of knowledge among adolescents and it was found to be statistically significant 24.986 at (i.e., $p < 0.05$). It was evident that the multimedia education programme was significantly effective in increasing the level of knowledge regarding depression among adolescents.

The analysis of Chi-square values revealed that there was an association found in the pre-test level of knowledge among adolescents was found significantly associated with their selected demographic variables such as age in years ($\chi^2=26.776$, $df=3$), father's educational status ($\chi^2=8.924$, $df=4$), father's occupation (22.884, $df=3$), mother's educational level (13.176, $df=4$), mother's occupation ($\chi^2=8.982$, $df=3$), family income per month ($\chi^2=22.786$, $df=3$) and rest of other demographic variables were not significant with the pre test level of knowledge among adolescents.

These findings are similar to the majority of studies in the literature, which have shown a higher effectiveness of education program on creating awareness on depression among adolescents at various educational institutes. Dr. Jayedh Patidar et al reported the effectiveness of planned teaching programme in increasing the knowledge and attitude regarding depression among adolescents in a study conducted in Mehsana district among adolescents of PU college. The post test knowledge mean score was higher than the mean pre test knowledge score and the post test attitude mean score was higher than the knowledge pre test mean attitude. The calculated 't' value 29.80 knowledge and attitude 32.69. 't' value of attitude was greater than the knowledge 't' value the table value 1.98 at 0.05 level of significance. The results highlighted the effectiveness of planned teaching programme in increasing the knowledge and attitude regarding depression among adolescents.⁶⁶

V. Conclusion

The multimedia education programme was significantly important in increasing the level of knowledge among the adolescents regarding depression. It can help in providing a multifaceted participatory care and education in reducing depression and problems related to depression so multimedia education programme can be an important option to assist in early diagnosing and management of depression among adolescents in educational settings.

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