

## Efficacy of Mindful- based Intervention on Reasons for Living among B.Ed. Students with Suicidal Ideation

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### Abstract

**Background:** The objective of the present study is to investigate the effectiveness of mindful-based interventions on reasons for living (RFL) among B.Ed. students with suicidal ideation.

**Material and Methods:** This study employed pre-test post-test control group research design. Students having suicidal ideation were identified by administering Suicidal Ideation Scale and were randomly assigned to experimental and control groups of 40 students each. Linehan Reasons for living Inventory (LRFLI) was administered both in the experimental group and control group as pre-test. After the pre-test the experimental group was given mindfulness based intervention programme of 1 hour, thrice a week lasting for eight weeks. Data obtained from the respondents in the post-test and follow up phases - after 1<sup>st</sup>, 3<sup>rd</sup> and 6<sup>th</sup> months of the completion of the intervention programme by administering LRFLI were analyzed by repeated measures ANOVA.

**Result:** Results revealed that 8-week intervention programme of mindful-based practices elicited an increase in mean score of RFL in the experimental group from base line to post-test and the increase in mean scores were retained over a follow-up period of six months. But the students in the control group retained the same mean score of RFL over the entire period of study.

**Conclusion:** Mindful-based intervention is an effective method in increasing RFL among B.Ed. students with suicidal ideation.

**Keywords:** Mindful- based Intervention, Suicide, Suicidal ideation, Reasons for living.

### Introduction

During the past quarter-century, suicide among the young has emerged as a significant global public health problem. According to World Health Organization's first global report on suicide prevention, every year, more than 800 000 people die by suicide – one person in every 40 seconds.<sup>(1)</sup> The number of suicides in India during the decade (2004–2014) has recorded an increase of 15.8%. It is estimated that, for each suicide, there are likely to have more than 20 suicide attempts.<sup>(2)</sup>

Suicidal behaviour can be viewed as an umbrella term which incorporates varying degrees of self-destructive or self-harming acts, which result from emotional distress.<sup>3</sup> It includes suicidal ideation (frequent thoughts of ending one's life), suicide attempts (the actual event of trying to kill one's self), and completed suicide. Suicidal ideation involves a hierarchy of feelings from the thought that "Life is not worth living" to the more serious articulation of a thought-out plan.<sup>(4)</sup> Research findings have shown that suicide is a multi-faceted phenomenon that includes a wide range of personal, contextual, coping, demographic, and health-related factors.

Treatment of suicidal behaviour is a challenging problem. Many forms of therapy have been developed and evaluated, but results to date are extremely mixed. There is a need for treatment approaches, in particular those that fall somewhere between simple and intensive interventions and hence is applicable to a broad range of suicidal behaviour. Mindful based practices based on Buddhist philosophy can be an effective means for the development of psychological health through the eradication of latent tendencies and habits associated

with destructive behaviour and to the increase of "positive" emotions.<sup>(5)</sup> Baer proposed several mechanisms to explain how mindfulness skills reduce symptoms, including: cognitive change, improved self-management and exposure to painful experiences leading to reduced emotional reactivity.<sup>(6)</sup>

Suicide is a serious preventable public health problem all over the world.<sup>(7)</sup> Suicide rates among young people appear to be rising in both developed and developing countries more quickly than all other age groups.<sup>(1)</sup> It is estimated that between 22% and 38% of adolescents have thought about suicide at some point in their lives and young people experiencing persistent, severe suicidal ideation are at increased risk of attempting suicide.<sup>(8)</sup> The majority of young people who experience suicidal ideation will not go on to take their lives, yet one cannot ignore any report of suicidal ideation. Even when it is mild, and is only reported on one occasion, suicidal ideation has been found to be associated with clinically significant symptoms of depression and hopelessness.<sup>(9)</sup> Evidence suggests that the relationship between suicidal ideation and suicide attempts is mediated by the burden of psychosocial risk factors.<sup>(10)</sup> Young people experiencing suicidal ideation in the absence of other risk factors are at a relatively low-risk, whereas those experiencing suicidal ideation in addition to exposure to multiple risk factors are at high-risk.<sup>(11)</sup>

Cognitive theories suggest that suicidal ideation, and other psychological symptoms, can occur as a result of dysfunctional self-schemas and thus negative self-focused thinking.<sup>(12)</sup> Therefore a dynamic association may exist such that negative self-concept and suicidal

behaviours are mutually reinforcing over time whereas positive self-referential thinking inhibits suicidal thinking/behaviours. Rumination, a style of thinking that has a repetitive and recurrent self-focus in particular around symptoms, their causes and consequences leads to greater negative future thinking which might also contribute to suicidal ideation.<sup>(13)</sup>

Mindfulness approaches are based on the assumption that many people are on automatic pilot mode much of the time. This renders people who are vulnerable to suicidal behavior because they are not aware of the activation of negative thoughts and the catastrophic escalation of emotions by small changes in mood. In addition mindfulness focuses on ways in which people can learn to maintain the focus of their attention and deal with the tendency of the mind constantly to wander. Mindfulness approaches suggest that by learning to step out from automatic pilot mode to the here and now, paying attention to the present experience is fundamental. Thus, mindfulness may mitigate several factors that have been shown to contribute to suicidal behaviour, and, mindfulness approaches, has the potential to help people having suicidal ideation. Greater knowledge of the factors which influence suicidal ideation could lead to more effective treatment and prevention approaches. Hence the investigators intended to study efficacy of mindful-based intervention on reasons for living among B.Ed. students with suicidal ideation

### Operational Definition of Key Terms

**Suicidal Ideation:** Suicidal ideation is defined as thoughts serving the agent of one's own death. It may vary in seriousness depending on the specificity of suicide plans and the degree of suicidal intent.<sup>(14)</sup> This study measures suicidal ideation as the total scores obtained while administering the Suicidal Ideation Scale (SIS-SDBV).<sup>(15)</sup>

**Reasons for Living (RFL):** The RFL is based on a cognitive behavioural view of suicidal behaviour which posits that cognitive patterns, whether they are beliefs, expectations, or capabilities, are significant mediators of suicidal behaviours.<sup>18</sup> This study measures Reasons for Living as the total scores obtained by the administration of the Linehan Reasons for living Inventory (LRFLI).<sup>(16)</sup> RFL consists of 48 reasons not to commit suicide if the thought should occur (e.g., "I believe that I could cope with anything life has to offer"). Each item is rated on a 6-point Likert scale ranging from 1 ("not at all important") to 6 ("extremely important"). The LRFLI consists of six subscales and a total scale. The subscales include: Survival and Coping Beliefs (24 items), Responsibility to Family (7 items), Child-Related Concerns (3 items), Fear of Suicide (7 items), Fear of Social Disapproval (3 items), and Moral Objections (4 items). The first three subscales are positive, addressing reasons to live; the latter three are negative, addressing reasons not to die by suicide.

**Mindfulness:** Mindfulness is "the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experiences moment by moment".<sup>(17)</sup>

### Materials and Methods

The present study is an attempt to explore the efficacy of mindful-based intervention on RFL among B.Ed. students with suicidal ideation. Hence the investigators have applied survey cum experimental method.

The major objectives of study were:

1. To screen B.Ed. students for suicidal ideation
2. To compare the mean scores of suicidal ideation among control and experimental group students before the intervention programme
3. To compare the mean scores of reasons for living of control and experimental group students before the intervention programme
4. To compare the mean scores of RFL of control and experimental group students immediately after the completion of 8 week intervention programme
5. To compare the mean scores of RFL of control and experimental group students during the follow up phases of 1<sup>st</sup>, 3<sup>rd</sup>, and 6<sup>th</sup> months after the completion of 8 week intervention programme

The Hypotheses formulated were:

H<sub>1</sub>: There is no significant difference in the mean scores of suicidal ideation of control and experimental group students before the intervention programme

H<sub>2</sub>: There is no significant difference in the mean scores of such as RFL of control and experimental group students before the intervention programme

H<sub>3</sub>: There is significant difference in the mean scores of RFL of control and experimental group students immediately after the completion of 8 week intervention programme

H<sub>4</sub>: There is significant difference in the mean scores of RFL of control and experimental group students during the follow up phases of 1<sup>st</sup>, 3<sup>rd</sup>, and 6<sup>th</sup> months after the completion of 8 week intervention programme

**Population and Sample:** The B.Ed. Students of Kottayam district constitutes the target population of the study and 80 B.Ed. Students with suicidal ideation form the sample. Simple Random sampling technique is used to select experimental and control group students

**Data Collection:** The study was completed with two phases. In the first phase of the study students with suicidal ideation were identified from a group of 300 B.Ed. students. Eighty students who scored  $\geq 46$  on Suicidal Ideation Scale (SIS-SDBV) were selected for the second phase of the study which is experimental in nature. Pre-test post-test control group design is used to find out the impact of mindfulness-based practices on reasons for living. The students having suicidal ideation are randomly assigned to experimental and control groups of 40 students each. The experimental group was subjected to mindful-based practices including themes

such as initial orientation to mindful-based practices, introduction to the body scan attention; dealing with obstacles in mindful-based practices; paying attention to details, introduction to sitting meditation, five skilful habits to cultivate for the body; introduction to mindful yoga, mindful awareness of body sensations; five skilful habits to cultivate sensation, emotions and stress reactivity mindful awareness of thoughts; five skilful habits to cultivate thoughts; coping strategies thoughts, triggers and how stress happens; dealing with physical and emotional discomfort, mindful awareness of emotions; five skilful habits to cultivate emotions, mindfulness and communication and dealing with conflict, lifestyle choices and compassion; five skilful habits to cultivate loving kindness mindfulness and compassion; loving kindness meditation, integrating mindfulness in everyday life; events calendar and developing a practice of one's own. Mindfulness-based sessions are practiced for 1 hour for thrice in a week for eight weeks.

The data was collected by administering Linehan Reasons for living Inventory (LRFL) in three phases; pre-test phase -before the intervention formed the baseline, post-test phase - immediately after intervention and follow up phases- after one, three and six months of withdrawal of the intervention. The data obtained from the respondents before and after administration of mindfulness-based intervention program were scored and analyzed using appropriate statistical techniques to draw meaningful inferences on the effect of the intervention. The statistical techniques used in the study are percentage analysis, mean, standard deviation, independent sample t-test, repeated measures of analysis of variance. The statistical analyses are performed with the aid of SPSS 20 version

**Ethical issues**

Institutional ethics committee permitted the investigators to conduct the study. The subjects of the study were volunteered respondents; informed consent

were taken from them. The respondents were assured of confidentiality.

**Results and Discussion**

**Assessment of suicidal ideation among B. Ed. Students**

On the basis of scores obtained in the Suicidal Ideation Scale 66.3% of the students fall in the category of average level, 31.7% in low level, 2% in very low level of suicidal ideation.

**Comparison of Suicidal Ideation among Control and Experimental Group Students before the Intervention Programme**

The results of the independent sample t test clearly indicated there is no significant difference in the mean scores of suicidal ideation of control and experimental group students (t value = .167; P > 0.05).

**Table 1: Comparison of Suicidal Ideation among Control and Experimental Group Students before the Intervention Programme**

Group	N	Mean	SD	t-test for Equality of Means		
				t	df	Sig.
Experimental	40	64.25	6.698	.167	78	.868
Control	40	64.00	6.691			

Hence the Hypothesis H<sub>1</sub> which states that “There is no significant difference in the mean scores of suicidal ideation of control and experimental group students before the intervention programme” is accepted.

**Comparison of Reasons for Living of Control and Experimental Group Students before the Intervention Programme of Mindfulness-Based Practices**

The results of the independent sample t test clearly indicated there is no significant difference in the mean scores of reasons for living (t value = .057; P>0.05) of control and experimental group students.

**Table 2: Comparison of Reasons for Living among Control and Experimental Group Students before the Intervention Programme of Mindfulness-based Practices**

Group	N	Mean	SD	t-test for Equality of Means		
				t	df	Sig.
Experimental	40	2.8775	.36188	.057	78	.955
Control	40	2.8820	.34776			

Hence the Hypothesis H<sub>2</sub> which states that “There is no significant difference in the mean scores of reasons for living of control and experimental group students before the intervention programme” is accepted.

Comparison of RFL of Control and Experimental Group Students Immediately after the Completion of Intervention Programme (Post-test)

**Table 3: Comparison of the Mean Post-test RFL scores among Control and Experimental Group**

Group	N	Mean	SD	t-test for Equality of Means		
				t	df	Sig.
Experimental	40	4.889	.349	25.238	78	.000
Control	40	2.884	.361			

The mean post-test scores showed a significant increase in RFL in the experimental group but not in the control-group ( $t$  value = 25.238;  $P < 0.01$ ). Hence the Hypothesis  $H_3$  which states that “There is significant difference in the mean scores of RFL of control and experimental group students immediately after the completion of 8 week intervention programme” is accepted.

**Comparison of the Mean Scores of RFL of Control and Experimental Group Students during 1<sup>st</sup>, 3<sup>rd</sup> and 6<sup>th</sup> Months Follow Up Phases**

**Table 4: Comparison of the Mean Scores of RFL of Experimental and Control Group Students across the Five Phases of Testing (N=40)**

Time	Mean	
	Experimental	Control
Pre-test	2.8775	2.8820
Post-test	4.8890	2.8840
1 <sup>st</sup> month	4.9170	2.8585
3 <sup>rd</sup> month	4.9315	2.8745
6 <sup>th</sup> month	4.9390	2.8485

**Table 5: Results of Repeated Measures of ANOVA for the Mean RFL Scores of Experimental and Control Group Students after Correcting the Degrees of Freedom Using Greenhouse-Geisser Estimates of Sphericity across the Five Phases of Testing**

Group	Source		df	F	Sig.	Partial Eta Squared
Experimental	time	Greenhouse-Geisser	1.313	6217.51	.000	.994
	Error (time)		51.19			
Control	time	Greenhouse-Geisser	2.498	.676	.543	.017
	Error (time)		97.41			

The repeated measures ANOVA of mean scores of RFL of experimental group with a Greenhouse-Geisser correction determined that mean scores of RFL differed statistically significant between time five level points ( $F(1.313, 51.196) = 6217.513, P < 0.01$ ) with effect size

$\eta^2 = .994$ . In Control Group the repeated measures ANOVA of mean scores of RFL with a Greenhouse-Geisser correction determined that mean scores of RFL is not differed statistically significant between time points ( $F(2.498, 97.417) = .676, P > 0.05$ ).

**Table 6: Post hoc test using Bonferroni correction between the Mean Scores of RFL of Experimental Group Students at the Pre-test (time 1), Posttest (time 2), 1<sup>st</sup> (time 3), 3<sup>rd</sup> (time 4), and 6<sup>th</sup> (time 5) Months Follow up Phases**

		Experimental Group		Control Group	
(I) time	(J) time	(I-J)	Sig.	(I-J)	Sig.
Pre-test	Post-test	-2.012*	.00	-.002	1.100
	1 <sup>st</sup> Month	-2.040*	.00	.023	1.00
	3 <sup>rd</sup> Month	-2.054*	.00	.008	1.00
	6 <sup>th</sup> Month	-2.062*	.00	.034	1.00
Post-test	1 <sup>st</sup> Month	-.028	1.00	.026	1.00
	3 <sup>rd</sup> Month	-.042	.388	.010	1.00
	6 <sup>th</sup> Month	-.050	.183	.036	1.00

\*The mean difference is significant at the .05 level

Post hoc tests using the Bonferroni correction revealed that intervention programme of mindful-based practices elicited an increase in mean scores of RFL from base line (mean = 2.8775) to immediately after intervention programmes (mean = 4.8890) which was statistically significant ( $P < 0.01$ ). The experimental group’s mean scores of RFL at follow-ups such as 1<sup>st</sup> month (mean = 4.9170;  $P > 0.05$ ) 3<sup>rd</sup> month (mean = 4.9315;  $P > 0.05$ ) and 6<sup>th</sup> month (mean = 4.9390;  $P > 0.05$ ) did not significantly differ from scores in the post test. Thus, the findings demonstrate that students in the experimental group retained the increase in mean scores of RFL over a follow-up period of six months. The

control group’s mean scores of RFL at follow-ups such as 1<sup>st</sup> month (mean = 2.8585;  $P > 0.05$ ) 3<sup>rd</sup> month (mean = 2.8745;  $P > 0.05$ ) and 6<sup>th</sup> month (mean = 2.8485;  $P > 0.05$ ) did not significantly differ from scores in the base line (mean = 2.8820;  $P > 0.05$ ) and post-test (mean = 2.8840;  $P > 0.05$ ). Thus, students in the control group retained the mean scores of RFL over the entire period of study. Hence the Hypothesis  $H_4$  which states that “There is significant difference in the mean scores of RFL of control and experimental group students during the follow up phases of 1<sup>st</sup>, 3<sup>rd</sup>, and 6<sup>th</sup> months after the completion of intervention programme” is accepted



**Fig. 1. Comparison of the Mean Scores of RFL of Experimental and Control Group Students across the Five Phases of Testing**

## Discussion

On an average, more than one lakh persons commit suicides every year in India during the decadal period from 2004 to 2014.<sup>(1)</sup> Most suicide attempters are ambivalent, and their attraction to death is usually counterbalanced by a desire to live. Research findings have shown that suicide and suicidal behaviours among youth are influenced by multiple, interacting risk and protective factors. The interaction between risk and protective factors eventually determines whether outcomes are negative or positive. Understanding the interactive relationship between risk and protective factors in suicidal behaviour and how this interaction can be modified are challenges to suicide prevention.<sup>(18)</sup>

Reasons for Living (RFL) are defined as reasons for not committing suicide despite suicidal thoughts or considerations.<sup>(16)</sup> Though the reasons may either be positive or negative but all of them help in avoiding suicidal behaviour. Wang et al, found RFL to be a significant mediator in the relations between stress, coping, and suicidal behaviour in a sample of undergraduate college students.<sup>(19)</sup> previous research suggests that positive survival and coping beliefs, future expectations, and family relations are uniquely associated with less suicidal ideation.<sup>(20)</sup> Evidence suggests that individuals with few reasons for living are at increased risk of suicidal thinking and attempts.<sup>(16)</sup> Luo et al. found that reasons for living and hope may protect against suicidal ideation and attempts in patients with depression.<sup>(21)</sup>

In present study it was found that 8-week intervention programmes of mindful-based practices elicited an increase in mean scores of RFL from base line (mean = 2.8775) to immediately after intervention programmes (mean = 4.8890). The findings are in concurrence with earlier studies. Mindfulness practice helps one to recognise and overcome the different ways

of getting caught in rumination, distraction and resistance. Once mindfulness practices are developed, participants could to integrate mindfulness into their daily lives. The sustained practice of mindfulness help the individual to observe, explore and experience the awareness at various levels and later examine the effect and obstacles encountered during daily life. The combined observations and examination of awareness can often become a catalyst for behaviour and thought modification. Mindfulness equips the individual to maintain a sense of control even during emotionally overwhelming experiences.

## Limitations of the Study

Students with age 21 - 24 years form the sample; hence different age group analysis is not possible in the study. Since 90% population of B. Ed students are females, gender has not been taken into account for statistical analysis.

## Conclusion

The present study regarding the efficacy of the mindful-based intervention on RFL among B.Ed. Students with suicidal ideation has revealed that this intervention programme has increased the RFL through the acceptance and awareness of internal experiences such as thoughts, emotions, images, and physiological sensations. This research support the premise that mindfulness based intervention strategy enhances the subjects' ability to live a meaningful and valued life through increasing reasons for living. If the prospective teachers are equipped with mindfulness training they can promote among students the capacity for sustained moment-to-moment awareness, especially in the midst of emotional turmoil.

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