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RESEARCH ARTICLE

EFFECTIVENESS OF AN INDIAN MINDFULNESS BASED INTERVENTION (MINDFUL LIFE MANAGEMENT - MLM) IN ENHANCING BODY AWARENESS

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Abstract

Body awareness (BA) has long been associated with different psychopathologies like depressive disorders and anxiety disorders in varying amount. Improving BA has been suggested as an approach for treating patients with conditions such as chronic pain, obesity and post-traumatic stress disorder. Mindfulness-based Interventions (MBIs) have been found to increase BA resulting in enhanced wellbeing. Mindfulness has a role in enhancing positive outcomes in several important life domains including mental health, physical health, behavioural regulation and interpersonal relationships and in curtailing negative functioning. The current observational study attempts to assess and compare the Body Awareness Questionnaire (BAQ) scores and Mindfulness level among police personnel before and 6 weeks after attending the MLM workshop. The present study showed an increase of BAQ score increased and significant relation to Five Facet Mindfulness Questionnaire (FFMQ) Score. Correlation between the change in Operational Stress and BAQ was statistically significant at $p < .01$. The present study has suggested that MLM can be useful intervention to enhance BA. The significance shown through correlation of change in operational stress and BAQ score shows that enhancing BA can help to reduce stress in individuals through MLM intervention. The present study provides preliminary evidence for MBI in enhancing BA from our part of the country. In spite of the limitations described elsewhere and the limited sample size, the study can be considered as an add on evidence on the effectiveness of MLM in enhancing BA.

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Introduction:-

Body awareness (BA) refers to the attentional focus and awareness of internal body sensations(1). It has long been associated with rumination, catastrophizing, and somatization(2). All these have been associated with different psychopathologies like depressive disorders and anxiety disorders in varying amount. Improving BA has been suggested as an approach for treating patients with conditions such as chronic pain, obesity and post-traumatic stress disorder(1).

Mindfulness refers to the awareness cultivated by attending to the present moment experience nonjudgmentally(3). Mindfulness practice involves deliberately paying attention to the sensory experiences of breathing, individual body parts and the body as a whole, as well as to the sensory experiences arising from emotional states.

BA can take the form of a mindful, non-judgemental awareness of subtle body cues or sensations without unduly reacting to them. While the concept of BA overlaps with that of mindfulness, BA has been defined as either a prerequisite for mindfulness, or a more specific concept which shares parallels with mindfulness but is not commonly assessed by standard mindfulness instruments. Enhancing BA has been described as a key element or a mechanism of action for therapeutic approaches termed as mind-body approaches like mindfulness based therapies(4). For them BA is an inseparable aspect of embodied self-awareness realized in action and interaction with the environment and world. The process that patients undergo in these therapies has been reported as a progression towards greater unity between body and self.

MBIs have been found to increase BA resulting in enhanced wellbeing(5). Mindfulness has a role in enhancing positive outcomes in several important life domains including mental health, physical health, behavioural regulation and interpersonal relationships and in curtailing negative functioning(6). It has been suggested that a potentially detectable relationship between mindfulness and BA accuracy does exist(7).

Hasse et al has suggested that individuals with a diminished perception of incoming bodily signals may be impaired in their ability to use available information to make healthy choices and experience poor adaptation to stressful situations(8).

A number of instruments assessing BA have been developed, with the Body Awareness Questionnaire (BAQ) being the most commonly used(1). Not much has been studied in relation to BA from our part of the country. The present study attempts to compare the BA and mindfulness levels in police officers before and one month after a MBI(MLM).

Review of Literature:-

Studies have shown that mindfulness practice and the Five Facet Mindfulness Questionnaire (FFMQ) factors of Observing and Describing were positive predictors of BA. Describing, Acting with awareness and Non-judging negatively predicted B, and Observing positively predicted BA (9).

Studies have proved that mindfulness meditation benefited therapists in terms of improving their BA and by reducing their level of burnout at workplace(10). A study of one hundred and nineteen participants from the general population who completed relevant self-report scales through an online survey showed that BA had a positive relationship with Subjective Wellbeing. These findings reinforce the argument for more body-based interventions(11) in the therapeutic arena. Various authors have studied the differences in the connection between particular physical activities and positive and negative affect, body awareness or mindfulness(12).

Materials And Methods:-

The current observational study attempts to assess and compare the Body Awareness Questionnaire (BAQ) scores and Mindfulness level among police personnel before and 6 weeks after attending the MLM workshop. The study was conducted with the approval of the institutional ethics committee.

Participants and Trainers:

Police personnel selected by the Police Training College (PTC) from all over Kerala, attended the MLM workshops organized jointly by Government Medical College, Thiruvananthapuram and Police Training College, Thiruvananthapuram (hereafter referred to as Joint Unit, JU). 50 police officers who participated in the 3 day Mindful Life Management workshop were included in the study. Initial selection of 57 police officers was done by police authorities by convenient sampling. 50 people completed the logbook which was considered as a proxy measure of compliance with the intervention. Others were excluded because of failure to pursue with daily practice for the required period of time.

Three trainers were selected based on the criteria which stipulate a minimum experience of 10 years in practice and teaching in Mindfulness workshops. Our trainers had a mean experience of 11.3 years of experience in practice and teaching in Mindfulness workshops.

The major assessment tools were Semi-structured proforma for assessment of sociodemographic data by interview method, Body Awareness Questionnaire (BAQ), and Five facet Mindfulness Questionnaire (FFMQ-15), and Operational Stress Questionnaire (OPQ).

Body Awareness Questionnaire:

The BAQ measures attentiveness to normal, non-emotive internal bodily processes and sensations, specifically sensitivity to bodily cycles and rhythms, small changes in normal functioning, and anticipation of bodily reactions on 18 items scored on a 7-point Likert scale ranging from 1 (not at all true about me) to 7 (very true about me). The BAQ is a self-rated questionnaire (13). Factor analysis revealed four sub-domains not scored separately: 'Note response or changes in body process', 'predict body reactions', 'sleep-wake cycle' and 'prediction of the onset of illness'. Multiple studies by various authors strongly support reliability, convergent and discriminant validity. Here we consider the total score on the BAQ as a measure of BA of the individual.

Five facet Mindfulness Questionnaire (FFMQ-15):

One of the most widely used self-report measures of mindfulness that has been employed in hundreds of studies is the Five Facet Mindfulness Questionnaire (14). The 15 item FFMQ is a short form (15 item version) of the 39-item Five Facet Mindfulness Questionnaire FFMQ. It includes the same five facets as the long form: Observing, Describing, Acting with Awareness, Non-Judging of inner experience, and Non-Reactivity to inner experience. The 15-item FFMQ (FFMQ-15) includes three items for each facet (15). The factor structure of the FFMQ-15 was consistent with that of the FFMQ-39 and there were large correlations between total facet scores of the short and long forms. The factor structure and psychometric properties of the FFMQ-15 were also tested (16,17). Key evidence for the validity of the FFMQ has also been found in the measure's responsiveness to various forms of mindfulness training, and changes in mindfulness (indexed using the FFMQ and similar self-report measures of mindfulness) have been shown to moderate effect sizes on clinical outcomes in meta-analyses of mindfulness-based interventions (18).

Operational Police Stress Questionnaire (PSQ-Op):

The 20-item PSQ-Op was created by Donald R McCreary and Megan Mindfulness Thompson to measure operational stress among police officers. The PSQ-Op is psychometrically sound to measure the operational stressors that policing entails. It has been used in programs investigating the association between physical health, stress, and psychological well-being.

PSQ-Op has been found to have good reliability (alphas $> .09$; corrected item-total correlations between .40 and .60) and positively correlated ($r = .50$ or less) with other general stress measures. (19,20).

MLM Workshops:

Mindful Life Management (MLM), a mindfulness-based stress management program structured and formulated by the Department of Psychiatry, Government Medical College, Thiruvananthapuram based on the principles of Mindfulness. MLM is usually conducted as 8 week session with one 150 minute session every week on a prefixed day (Total 20 hours). The program includes mini lectures, powerpoint presentations and mostly practice sessions and discussions based on that. Practice sessions will include mindfulness meditations, mindful movements, awareness on life-skills and also practice sessions on application of mindfulness in different settings. For the purpose of current workshop, the 8 eight-week program was condensed into 3 days from 10 AM to 6 PM. Excluding lunch and refreshment time, a total of 7 hours will be spend on practice and training (Total 21 hours). The training will be conducted by the qualified professionals who have prior experience in similar trainings. The assessments as a part of this study were done by individuals other than those who conducted the training in the workshop. The pre workshop assessment (Assessment 1) was done before the training and the post workshop assessment (Assessment 2), one month after the end of the workshop, when the participants came for a follow-up training.

Results:-

The results elucidated below are from an initial feasibility assessment of a major study being done by the JU. The sample included 50 police officers selected according to criteria mentioned elsewhere. On an average, these people had practiced Mindfulness techniques (formal and informal) for about 6 weeks (daily for 30-45 minutes). Information shown below are of 50 participants who had been practicing MLM for 6 weeks after the three days introductory workshop.

Data analysis was done using frequencies, and Paired t test. The mean age of the participants was 46.98 years (SD=4.53; Range 39-54). 47 of the police officers were males (94%). Other sociodemographic details are given below in Table 1:

Table 1:- Sociodemographic data (N=50).

Variables	Category	Frequency (Percent)
Age in Years Mean age 46.98 years (SD=4.53; Range (39-54))	30-<40	3(6)
	40-<50	27(54)
	50-<60	20(40)
Gender	Males	47 (94)
	Females	3 (6)
Education	Upto Higher Secondary	12 (24)
	Degree and Above	38(76)
Rank	CPO	15 (30)
	Other higher ranks	35(70)
Marital Status	Married	47 (94)
	Unmarried	3 (6)
Duration of Service in Years Mean = 21.85 (SD=5.63; Range=12.33-29.08)	10-19.99	15 (30)
	20-29.99	35(70)

Table 2 below shows the paired t test administered to the pre and post intervention BAQ and FFMQ

Table 2:- Mean and Standard Deviation of BAQ Score and FFMQ Score before and after the MLM intervention (N=50).

	Mean (SD)	N
BAQ Pre	59.62(7.63)	50
BAQ Post	68.08 (7.37)	50
FFMQ Pre	42.80 (5.88)	50
FFMQ Post	45.34 (7.35)	50
OP Stress Pre	73.44 (16.45)	50
OP Stress Post	63.68 (21.68)	50

Table 3:- Significance assessed by paired test.

	Mean (SD)	t	df	Sig(2 tailed)
BAQ Post-Pre	8.44 (8.06)	7.40	49	.000
FFMQ Post-Pre	2.54(5.59)	3.21	49	.002
Op Stress Pre-Post	9.76 (23.48)	2.94	49	.005

Table 4:- Correlation of change in operational stress to change in BAQ and FFMQ.

		Change in BAQ
Change in Operational Stress	Pearson Correlation	.451
	Significance (2 tailed)	.001

The BAQ score increased from 59.62 to 68.08 (an increase of 8.44). the FFMQ Score increased from 42.8 to 45.34 (an increase of 2.54) (Table 2,3). Analysis showed that the relation between increase in BAQ and mindfulness level is statistically significant (Table 4). The operational Stress Score reduced from 73.44 to 63.68 (a reduction of 9.76). Correlation between the change in Operational Stress and BAQ was statistically significant at $p < .01$

Discussion:-

The present study has suggested that MLM can be useful intervention to enhance BA. As BA has been shown to have a statistically significant relationship with Operational Stress, the authors would like to suggest MLM as an intervention to reduce stress in police officers. Our own previous study has shown effects of MBIs in reducing stress(21) in healthy individuals and ameliorating depressive symptoms in those with depressive symptoms(22). The

significance shown through correlation of change in operational stress and BAQ score shows that enhancing BA can help to reduce stress in individuals through MLM intervention.

Analysis based on gender, age or education was not carried out because of the small sample size and because this is a pilot study report. Multiple other factors could have played a role in enhancing BA and reducing stress which were not included in current study. A study with adequate sample size will help to clarify further in this regard.

To our knowledge, this is the first study of its kind to compare Mindfulness levels and body awareness from our part of the country in the context of MLM. Similar study with adequate sample size are being planned in future with other related variables.

Conclusion:-

The present study provides preliminary evidence for MBI in enhancing BA from our part of the country. In spite of the limitations described elsewhere and the limited sample size, the study can be considered as a stepping stone study to enhance BA and reduce stress among police officers. Further more detailed studies are being planned.

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