

Original Article

A Study To Assess The Effect On Mini Anapana Meditation Technique On Mild Depression And Cognitive Dysfunctions Among Patients With Cardio Vascular Disorder On Their Family Wellbeing After Discharge To Home Of Mumbai, Maharashtra

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ABSTRACT:

The Prevalence of mental health problems i.e. Mild depression and cognitive Dysfunction in patient with cardiac diseases due to high Medical and Surgical interventional demand and acclimatization difficulty faced by patient during their stay in ICU , is the current challenge in the field of survival. Mini Anapana is meditation technique i.e Observation of breathing that means to simply observe Inhalation and Exhalation with natural flow without controlling it. Is Taught by Lord Gautama the Buddha around 2500 years ago. It promotes positive qualities like self control, self-confidence, hopefulness and positive thinking which automatically helps in improving health. Also improves immune system, decreases heart rate, controls blood pressure, improves pulmonary circulation and enhances the smooth functioning of all vital organs of body. The Aim of the study is to assess the effectiveness on Mini Anapana meditation technique on laboratory parameter and personal wellbeing of patients suffering from mild depression and cognitive dysfunctions of ICU After discharge to home. Another aim is to compare the family responses with demographic variables. The bibliographic search was carried out by using web of science specially CINHAL, Indian and international psychitric and cardiac journals, major referances from Vipassana research academy Igatpuri about scientific effect of Mini Anapana on human body (specially on cardiac system). A quasi experimental study among 100 participants were enrolled for Mini Anapana technique, where by Mini Anapana tool for before and after score was derived from Laboratory parameters after 30 day continue practice of Mini Anapana at home. Interview technique was used to collect data regarding personal Responses of individual after practicing Mini Anapana. Whereas the demographic variable were also assessed pre-post Mini Anapana meditation technique. Data was stored in MS-Excel, statistical analysis was done in In-Stat Software, For comparison of pre and post data we had applied chi square test $p < 0.05$ was considered as statically significance. The pre and post comparisons among all

laboratory parameters of Mini Anapana technique was carried out, only ECG, Cardiac Enzymes and on Blood sugar level shown the positive impact of Mini Anapana meditation technique and was found significant hence we could state that this technique really helps to cognitive dysfunction and mild depressive patients. Total five common responses were marked by investigator Response no- 1 – Practicing Mini Anapana daily Benefits in improving my mental health by reducing Anxiety, anger, stress, tension Intolerance and my irritation. Response no -2 - Practicing Mini Anapana daily Improves my efficiency in my work and productivity. Response no -3 - Practicing Mini Anapana daily beneficial in improving my family life as well as my inter personal relationship. Response no -4 - Practicing Mini Anapana daily improves self awareness. Response no -5 - Practicing Mini Anapana daily benefits in maintaining mental equilibrium and optimise in adverse situation. Based on these Responses demographic variables were compared and analysed by using chi-square test. The demographic variables such as Age, Domicile, Education, Religion has positive correlation in reducing depression and cognitive dysfunction among selected cardiac patients Thus Mini Anapana meditation technique plays important role in cardiac patient of mild depression and cognitive dysfunction, and society gets benefited to save life and money at early stage of risk.

Keywords: Mini Anapana meditation, Meditation, Cognitive Dysfunction, depression, ICCU.

INTRODUCTION:

Intensive Cardiac Care Unit an stressful environment leads to deprivation of stimulus and Poor social network. The Patients admitted in Intensive cardiac care unit are attached to many electro-medical equipment for close monitoring. Also hemodynamic stability achieved through mechanical or assisted ventilation and liberal use of drugs with Central Nervous System with lots side effects. If the patient is not adequately sedated all these measures would be felt quite stressful. These two factors ICU environment and decompensated status of disease makes cardiac patients vulnerable to develop symptoms of anxiety, depression and cognitive deficits. This unhealthy state may lead to Hyperactivity, irritation, tachycardia and hypertension. Leads to increase cardiac preload and after load, thus increase the incidence of cardiac morbidity and mortality.

Mild depressive patient normally shows symptoms such as dysphoric mood and fatigue these are associated with other medical illnesses. To overcome with this psychological loss client need to practice a meditation to get rid of mild depression. Meditation technique should be spiritually accepted by all religion. Observing the natural breath is a universal practice. Breath is breath, not a Hindu breath, a Muslim breath or a Christian breath. Thus, Mini Anapana becomes universal.

Need of This Study:

It has always observed that seriously ill cardiac patient will always show depressive symptoms like Depressed mood, loss of self-esteem and other depressive symptoms that shows deterioration in the mental health of the patient thus Fear of disability and loss of

potency arise as the psychological defense of denial. A majority of patients feel that their Myocardial Infarction has threatened them a death blow and they feel shattered. Their sense of self has been damaged and they require intensive psychiatric intervention. (Stern)¹

Mild depression is implicated in the pathophysiologic progression of cardiovascular disease as an independent risk factor, rather than simply as an emotional response to cardiovascular illness. Among patients hospitalized with MI, a psychiatric diagnosis of major depression has been shown to be associated with a 2 to 4 fold increased risk for cardiac mortality. Depression is found to be an independent predictor of increased mortality after Acute Myocardial Infarction (AMI). After MI, 35 to 45% of patients show some degree of depression. Similar rates have been reported with other manifestations of Coronary Artery Disease (CAD).

Mini Anapana help people to understand themselves better and gives them an insight into the workings of their own minds. Mini Anapana provides a tool to deal with the fears, anxieties and pressures across all age groups. Besides helping to calm and concentrate the mind, Because of its simplicity, the technique is easy to understand and practice. There have been numerous studies looking at depression and cognitive dysfunctions. Currently, in this context, this work is one group pre-test and post -test study, attempting to compare depression, cognitive dysfunction and other socio-demographic characteristics of ICCU patients further transferred in acute medical ward by using audio of Mini Anapana meditation technique.

S Mini Anapana:

Mini Anapana, i. e. Awareness of respiration. This involves continuous "Observation" of the Natural flow of incoming and outgoing breath. Gradually the mind gets concentrated on this natural activity and the person can exercise greater control over his mind. It promotes awareness of the present moment, equanimity and tranquility of mind, since the act of breathing is free from any craving or aversion.

Objectives of the Study:

1. To compare mild depression, cognitive dysfunctions and socio-demographic data of the patients admitted in ICCU , matched for age, sex, education and Religion.
2. To assess the effectiveness of Mini Anapana on laboratory parameter and on personal life of patients with mild depression, cognitive dysfunctions in patient after discharge to home.

Methodology:

Subjects for the study were selected from the in-patient of Department ICCU Gokuldas tejpal hospital Mumbai, SIR J J hospital Byculla Mumbai, with total bed strength of 1500, catering to the needs for patients mainly from central and new Mumbai. It has emergency, in-patient facilities for more than 120 patients, as well as out-patient and community services in psychiatry department.

Method of Collection of Data:

1. Sampling Technique

100 subjects who were diagnosed as having cardiac disease admitted in ICCU were chosen by Non -Probability purposive sampling.

2. Sampling Procedure:

Initial contact was made in ICCU and the patients having cardiac disease were identified. An informed consent was obtained from those who were willing to participate in the study.

Investigations (After 30 days of experiment): like Liver Function Tests (LFT) to rule out any liver disease, Renal Function Tests (RFT) to rule out any renal disease, Random Blood Sugar (RBS) for diabetic status, Serum Electrolytes, ECG and Cardiac Enzymes – CPK, CKMB; were one to rule out any systemic disorder which may be causative of depression or cognitive dysfunctions before and after Mini Anapana meditation technique.

After 30 days of continuous practice of Mini Anapana two times in days Patient were interviewed telephonically and their opinion were recorded and analysed.

Patients satisfying the inclusion and exclusion criteria were assessed for depression on Beck's Depression Inventory (BDI) and cognitive functions were assessed on Standardized Mini-Mental State Examination (SMMSE) and Brief Cognitive Rating Scale (BCRS) .Before and after administering A Mini Anapana meditation technique (one group pre-test and post-test)

The socio-demographic data was collected on a semi – structured pro-forma.

Inclusion criteria for cases:

- Patient admitted in ICCU with heart disease.
- Age : 18-64 years
- Patients who stay in ICCU for at least 3 days.
- Patients who are willing to participate.

Exclusion criteria for cases:

- Patients < 18yrs and >64 years.
- History of substance use within one week prior to admission except tobacco and social use of alcohol.
- Any psychiatric consultation in last one month.

- Patient with known history of any chronic organic mental illness.
- Patients with multiple chronic diseases causing cognitive impairment like neuro-degenerative disease, thyroid and adrenal disorders, renal disorders, cancers and stroke.
- Patients who are critically ill and who cannot participate in the study like patients on respiratory or Ventilator support.

Type of the Study:

It was a Quasi experimental (One group Pre-test and Post-test) study that was conducted during the study period of August 2016 to December 2018.

Instruments of Assessment:

- Mini Anapana meditation technique (Audio)
- Standardized Mini-Mental State Examination (SMMSE) ³
- Brief Cognitive Rating Scale (BCRS) ⁴
- Beck's Depression Inventory (BDI) ⁴

Mini Anapana Meditation Technique:

Mini Anapana is awareness of respiration. This involves continuous "observation" of the natural flow of incoming and outgoing breath. Gradually the mind gets concentrated on this natural activity and the person can exercise greater control over his mind. It promotes awareness of the present moment, equanimity and tranquillity of mind, since the act of breathing is free from any craving or aversion.

In this study audio in researcher voice is used for 10minutes in sitting position

Technique:

Now let us practice Mini Anapana meditation for few minutes-2 times

1. Sit comfortably, comfortably in any posture that suits you
2. Keep your back and neck straight ,
3. keep your eyes gently closed
4. Those who have spectacles should take off their spectacles during meditation period
5. keep your mouth gently closed and focus your entire attention –(2times) on the area at the entrance of the nostrils–(2times)
6. Remain aware – (2times) of every breath–(2times) coming in going out, natural breathe normal breath as it is.
7. If it is long –it is long , If it is short –it is short
8. Passing through left nostrils (2 times), passing through right nostrils-(2times) passing through both nostrils-(2times)
9. Just remain aware do nothing , remain aware(2minutes gap)
10. Alert -attentive –vigilant remain Alert -attentive –vigilant.
11. Constantly aware of breath the incoming breath outgoing breath – (2times)

12. Keep your attention fix on this area at the entrance of nostril like a gate keeper like a watchmen
13. Aware of every breath, aware of entering nostrils, aware of moving out of nostrils.
14. Alert -attentive –vigilant remain Alert -attentive –vigilant.
15. Of incoming breath outgoing breath ,natural breath pure breath nothing but breath
16. Bhavatu Sabb Mangalam- (3times)

Table 1 : Effect of Mini Anapana Meditation Technique on laboratory parameters

SR NO	NAME	ON ZERO DAY	AFTER 7 TH DAY	AFTER 30 TH DAY
1.	ECG	0(Normal)	56 (normal)	95 (normal)
2.	Cardiac Enzymes –CPK CKMB	0(Normal)	88 (normal)	100(normal)
3	FBS: PPBS:	10(Normal)	44(Normal)	89 (normal)
4	(LFT):			
	1.PROTEIN:	70(Normal)	75(Normal)	80 (normal)
	2. .ALBUMIN	60(Normal)	65(Normal)	85 (normal)
	3A G RATIO:	70(Normal)	74(Normal)	89 (normal)
	4.T. BILIRUBIN:	90(Normal)	94(Normal)	94 (normal)
	5. SGOT:SGPT:	10(Normal)	44(Normal)	89 (normal)
5	(RFT):			
	1.BLOOD UREA:	90(Normal)	92(Normal)	94 (normal)
	2.SERUM CREATININE:	90(Normal)	92(Normal)	94 (normal)

In the laboratory parameter maximum patient have shown significant difference in ECG CKMB and in Blood sugar on 7th and 30th days of practicing Mini Anapana meditation technique at home twice a day ,were as their no significant change found in LFT and RFT respectively.

Comparison of Personal Response of patients with Demographic Data**Table-2 : Age Wise Distribution**

Sr. No	Res No.	Age			Chi-Square Value	p-value
		40-50	50-60	60-70		
N		12	58	20	1.317	0.99
1	1	11	58	16		
2	2	10	46	18		
3	3	10	50	16		
4	4	12	52	16		
5	5	10	44	12		

Table 2 : There is significant relation in between personal responses of family members with their Age

Table-3 Religion Wise Distribution

Sr. No	Res. No.	Religion			Chi-Square Value	p-value
		Hindu	Muslim	Christian		
N		43	29	28	5.52	0.70
1	1	24	25	26		
2	2	30	20	24		
3	3	38	24	22		
4	4	40	26	24		
5	5	42	24	22		

Table-3 : There is significant relation in between personal responses of family members with their Religion

Table-4: Domicile Wise Distribution

<i>Sr. No</i>	<i>Res. No.</i>	<i>Domicile</i>		Chi-Square Value	p-value
		RURAL	URBAN		
N		25	75	3.27	0.51
1	1	15	66		
2	2	12	70		
3	3	18	64		
4	4	22	68		
5	5	20	66		

Table 4 :There is significant relation in between personal responses of family members with their Domicile

Table 5: Gender Wise Distribution

Sr. No	Response No.	Gender		Chi-Square Value	p-value
		M	F		
N		N=70	N=30		
1	1	65	22	11.79	0.019*
2	2	50	12		
3	3	65	28		
4	4	65	28		
5	5	36	30		

Table 5 :There is No Significant relation in between personal responses of family members with their Gender

Table -6 Employment Wise Distribution

Sr. No.	Response No.	Employment				Chi-Square Value	p-value
		Unemployed / Retired	Farmer	House wife	Non Agricultural		
N		54	22	12	12	17.29	0.14
1	1	36	18	12	12		
2	2	15	20	10	10		
3	3	30	20	10	12		
4	4	52	20	10	12		
5	5	44	18	05	10		

Table 6 : There is No Significant relation in between personal responses of family members with their Employment**Table -7: Education Wise Distribution**

Sr. No.	Response No.	Education				Chi-Square Value	p-value
		Primary	Secondary	HSC	Graduate		
N		54	22	12	12	2.41	0.99
1	1	50	18	10	12		
2	2	52	16	08	08		
3	3	48	20	10	11		
4	4	44	20	10	10		
5	5	48	20	10	12		

Table 7 : There is Significant relation in between personal responses of family members with their Education.

1. Reponse no- 1 – Practicing Mini Anapana daily Benefits in improving my mental health by reducing Anxiety ,anger ,stress , tension Intolerance and my irritation.
2. Response no -2 - Practicing Mini Anapana daily Improves my efficiency in my work and productivity.
3. Response no -2 - Practicing Mini Anapana daily beneficial in improving my family life as well as my inter personal relationship.
4. Response no -2 - Practicing Mini Anapana daily improves self awareness.
5. Response no -2 - Practicing Mini Anapana daily benefits in maintaining mental equilibrium and optimise in adverse situation.

Discussion:

This study shows that there is significant difference in mild depression and cognitive deficits in patients admitted to ICCU after practising Mini Anapana meditation for 30 days after discharge from hospital. After discharge data were collected either telephonically or with personal interview while monthly follow up in OPD with same instruments. Technique was highly appreciated by clients and after observing changes in laboratory parameters and promised for continuity in practicing the technique.

In this study effect of Mini Anapana technique studied on depression and cognitive dysfunctions the age, sex, educational status and socio-economic status and other demographic data after practicing Mini Anapana meditation technique Twice a day regularly for a month.

The laboratory parameter values recorded for all patients participate in the study on zero day , 7th day and 30th day respectively out of All only few values been changed on 7th and 30th day as effect of Mini Anapana meditation Technique.

On the day of admission 100% patients ECG was recorded with abnormal changes , where as some changes 56% noted on 7th day and 92% was noted on 30th day. Thus ECG reporting shows that improvement in cardiac activity after practicing Mini Anapana for 30 day for 10 min regularly. The study conducted by Deepak et al ⁹³ have reported that meditation improves in electro-cardiac activity

Same with Cardiac Enzymes 100% patient shows raised value of on 0th day same Enzymes were evaluated on 7th day and 30th day significant changes noted 88% and 100% respectively after practicing Mini Anapana for one month regularly.

Similar analysis found with blood sugar levels , FF/PP 90% patient shows raised value blood sugar of on 0th day. Changes observed on 7th day 49% and 30th day significant changes noted 89% patients blood Glucose level were normal after practicing Mini Anapana for one month regularly. The study conducted by Deepak et al ⁹³ have reported that meditation improves effect on ECG due meditation

The mean age in the present study was 51.3 years which was similar to the mean age in the studies done by Ladwig et al⁵ and Ziegelstein et al⁶, but was not comparable to various other studies which assessed depression in patients with heart disease (Schleifer et al⁷, Frasura-Smith et al⁸, Lesperance et al⁹, Pennix et al¹⁰) and effect of Mini Anapana meditation technique is positively noted in this study. Effectiveness is not comparable to other studies which assessed cognitive dysfunctions in patients with heart disease. (Barclay et al¹¹ and Zuccala et al¹²)

In this study, 73.3% of patients admitted to ICCU had their primary education only. This is similar to the results in the previous study done by Frasura – Smith et al⁸ and Lesperance et al⁹ which showed < 8 years of education in their sample. In this study the independent

variable Mini Anapana meditation technique is used to evaluate the mild depression and cognitive dysfunction in ICCU patients by using SMMSE, BDI and BCRS before and after Mini Anapana meditation-technique.

A main focus of this An Mini Anapana is non religious here author proved that out of 100 - 43% Hindu, 29% Muslim and 28% Christian population have participated in the study have practiced Mini Anapana meditation for a month on regular basis and showed significant difference in their depressive mood and cognitive dysfunction as well.

Both Male and Female have participate in the study 30% Female and 70% male , they have reported to have significant changes in their family life along with their responses as well as on their depression and cognitive-dysfunction.

The participant in the study were from both urban 75% and rural community 25% both have noted equal changes in their family responses so p-value shows no significant difference in the responses.

In this study out of 100 participant 54% were unemployed / Retired ,farmer were 22%,house wives are 12% and Non agricultural members were 12%.this group of population have practiced Mini Anapana regularly and responded to family response as their personal experience so all Responses were not applicable In their life so there is no significant differences in responses noted in Employment group of demographic data.

Majority 54% participant taken Priamary education 22% were studied up to SSC ,HSS and Graduates were 12% respectively this group of population have practiced Mini Anapana regularly and responded to family response as their personal experience so all responses were applicable In their life so there is significant difference in responses noted in Educational group of demographic data.

Finally, the family Reponses of the participant were found effective and confidence building in their life . Overall total scores in cases showed results which were statistically very highly significant after Continue Mini Anapana meditation practice for 30 day two times a day. This was similar to the results noticed in many of the previous studies of overall cognitive decline.

CONCLUSION:

- The study was done to assess the effectiveness of Mini Anapana meditation technique on the cognitive dysfunctions and mild depression in patients with heart disease admitted to ICCU.
- Laboratory Parameter showed statistically very highly significant number (92%) of in ECG and Cadiac Enzymes(100%) and In Blood sugar levels(89%) of patients .
- All Age groups have practiced and appreciated the Mini Anapana meditation Technique for significant changes in their life .

- Subjects from Hindu ,Muslim and Christian religion have found Mini Anapana meditation very effective and useful for activities of daily living thus the scores which was statistically very highly significant.
- Subjects from rural and Urban population have responded and all family responses equally so the score which was also statistically very highly significant.
- Gender and Employment wise family responses distribution in practicing Mini Anapana meditation technique scores were statistically non significant.because this group found all family response applicable in their day to day life . So statistically no significant difference noted in their responses.
- As per educational group family responses their scores of effect of practicing Mini Anapana meditation daily were statistically very highly significant.
- Over all Mini Anapana meditation technique helps patient to reduce their depression and modify cognitive dysfunction and also to improve productivity and positivity in all respondents life .

Summary:

100 ICU patients with heart disease were included in study to assess effectiveness of Mini Anapana meditation technique on mild depression and cognitive dysfunctions. The results of this study showed that Mini Anapana meditation was effective on the patients admitted to ICU, Also practicing Mini Anapana meditation technique daily.

Recommendation:

The researcher recommends to Apply Mini Anapana meditation technique for cancer patient

1. Same study can be conducted by changing the population i.e. spinal surgery patient and patient with psychiatric disorder like depression and cognitive dysfunction.
2. Mini Anapana meditation technique can be encourage for behavioral modification in school going children's. And also for prisoners.

Implication of the Study:

Nursing Education- Mini Anapana technique can be used for nursing students. It can be considered as an alternative therapy.

1. Nursing Services

- There should be a provision of prayer room in the hospital premises to encourage patient to sit quietly minimum for 10 min to achieve inner peace and to think positive on their disease conditions.

- This Mini Anapana meditation technique will help nursing officers to keep motivated while giving care to patients also helps to focus to achieve outstanding performance in nursing care.

2. Nursing Administration

- Mini Anapana meditation technique should be a part of daily routine for administrative personnel's since they deal with nursing resource planning and managing the patient oriented activity for institutions.

Ethical Clearance: Taken.

Funding: Self.

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I am Chitra Arjun Beldar declares this Study conducted by me during my Phd Nursing course hence no plagiarism has to be appended. This study has been carried out with permission of SIR J J Hospital Byculla Mumbai. I m assuring that my Study is not published anywhere.

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