

“A STUDY TO EVALUATE THE EFFECTIVENESS OF ANULOM-VILOM TECHNIQUES ON REDUCTION OF ANXIETY AMONG PATIENTS WITH DIABETES MELLITUS ADMITTED IN SELECTED HOSPITAL DHARWAD”

Hanamanth. S. EkAbote¹, Renuka.R. Bagewadi², Dr. Rangappa.S. Ashi³

^{1,2,3}Nursing officer, Assistant professor, Associate professor, SDM Institute of Nursing Sciences, Shri Dharmasthala Manjunatheswara University, Sattur, Dharwad, Karnataka, India

Email: anni2412@gamil.com

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Abstract

Anlom Vilom is one of the most effective pranayama. It modulates anxiety responses to and in turn reduces the complex health problems arising due to anxiety. Anlom vilom is found useful in diabetes as alternate nostril breathing has calming effects on the nervous system, facilitating homeostasis. Knowing the background, the study undertaken to evaluate the effectiveness of anlom-vilom techniques on reduction of anxiety among patients with diabetes mellitus admitted in selected hospital Dharwad.

The objectives of the study are to:

- Assess the level of anxiety among patients with type 2 diabetes.
- Evaluate the effectiveness of Anlom-Vilom technique on reduction of anxiety among diabetes patients.
- Find an association between pre-intervention mean level of anxiety among type 2 diabetes and selected demographic variable.

Conceptual framework: selected for this study was based on modified Learning Bandura's Theory. Methods: The Pre experimental with one group pre and post-test design was adopted for the present study. The sample consisted of 40 Type 2 diabetes patients selected by non-probability purposive sampling technique. The tool comprised of 2 section namely demographic Proforma and modified Beck anxiety scale and analyzed by using descriptive and inferential statistics appropriate to achieve set of objectives. Results: Maximum 15(37.5%) respondents belong to age between 40-50 years. Majority of the respondents 26(65%) of respondents were males .35 (87.5%) of respondents were married. Maximum of 16(40%) belonged to primary schooling. Majority of 36(90%) had joint family .Maximum of 11(27.5%) were skilled workers. Majority 17(42.5%) had 5000 Rs monthly income and majority 21(52.5%) were on mixed diet. Interpretation and conclusion: Based on the findings of the study anulom vilom technique was effective on reduction of anxiety among patients with type 2 diabetes mellitus.

Keywords: Anxiety; Analom –vilom; Diabetes.

INTRODUCTION

Anxiety is an uncomfortable feeling of nervousness or worry about something that is happening or might happen in the future causing fear and worry. Though anxiety is normal phenomenon in human life each and every human being in one or other way goes through anxiety. Anxiety has effect on physiological functioning such as increased breathing rate, heart rate, and increase blood flow to certain organs however during movements of continuous and extreme anxiety¹.

These symptoms may be accompanied by sense of danger or doom. Trembling dizziness, weakness, shortness of breath, excessive perspiration, feeling of cold or overheated numbness or tingling in the hands, rapid heartbeat, palpitations, chest pain, rapid breathing, hyperventiling.²Like all chronic and progressive health problems, people with type 2 diabetes mellitus also are at the risk of early complications, when Psychological, social and emotional balance is lost due to the disease conditions.

Continuous anxiety among type 2 diabetes is due to grief, shame and feelings of denial, triggering the secretion of biochemical leading to uncontrolled blood sugar levels.

Therefore health care providers have greater responsibility to help these patients to overcome the problem of anxiety and improve quality of life and longevity³.

Anlom Vilom is one of the most effective pranayama functions like self- soothing by reducing perceived anxiety. It modulates anxiety responses to and in turn reduces the complex health problems arising due to anxiety. It also keeps clients lungs healthy, helps in the proper circulation of oxygenated blood throughout the body breathing also tones of entire breathing also massages, cleanses and tones the entire nervous system making the person much more relaxed. Apart from all this it also strengthens the heart, improves the blood circulation, increases lung function, keeps the digestive system healthy, and most importantly gives skin a lovely internal glow. Practitioners believe that doing Anlom vilom on a regular basis can relieve the symptoms of and reverse conditions like diabetes, heart diseases and high cholesterol levels.⁴

Breathing exercises especially anulomvilom (alternate nostril breathing) and kapalbatti (one-time inhale; exhale 30 to 50 times quickly) is extremely beneficial Anlom vilom is found useful in diabetes as alternate nostril breathing has calming effects on the nervous system, facilitating homeostasis (internal equilibrium in the function of all the systems). This manages the stress levels, helping in diabetes treatment⁵.

A study published in the journal of clinical biochemistry reveals that practicing pranayama on a regular basis was highly effective in improving a person's blood glucose levels and cholesterol levels and this study shows that pranayama practice is beneficial in diabetic patients in terms of reduction of blood sugar⁶.

NEED FOR STUDY.

Diabetes management is a lifelong process. This can add stress to your daily life. Stress can be a major barrier to effective glucose control. When people with type 2 diabetes are under mental stress, they generally experience an increase in their blood glucose levels. Meditating can help remove negative thoughts and allow your mind to relax so starting each morning with a 15-minute meditation will set the tone for the rest of your day. Adding yoga to your daily routine can provide both physical activity and meditation at the sametime⁷.

Research conducted at the psychology department at Stanford University used brain imaging technologies to examine the effect of mindfulness training on social anxiety. They reported that participants who completed the mindfulness course showed reduced symptoms of anxiety and depression and demonstrated an enhanced self-esteem.¹³

Another study published in the journal of clinical biochemistry found that practicing pranayama on a regular basis was highly effective in improving a person's blood glucose and cholesterol levels. So yoga is the best way to increase flexibility and maintain a healthy life style. Thus the researcher felt the need to take up this study, which would ultimately help people with diabetes for their wellbeing .¹⁴

STATEMENT OF THE PROBLEM

“A study to evaluate the effectiveness of anulom-vilom techniques on reduction of anxiety among patients with diabetes mellitus admitted in selected hospital Dharwad”.

OBJECTIVES OF THE STUDY

- Assess the level of anxiety among patients with type 2 diabetes.
- Evaluate the effectiveness of Anulom-Vilom technique on reduction of anxiety among diabetes patients.
- Find an association between pre-intervention mean level of anxiety among type 2 diabetes and selected demographic variable.

OPERATIONAL DEFINITIONS

- Effectiveness: It refers to the positive change by the anulom vilom techniques which will be measured in term of significant reduction of anxiety.
- Evaluation: In this study it refers to the content to which anulom vilom technique will be attain the desired effect on anxiety as measured by anxiety scale.
- Anulom-Vilom technique (Alternate nostril breathing exercise): In this study it refers to a breathing technique in a common sitting position where air is inhaled through one nostril and exhaled through other nostril. It is done for 15 minutes, once a daily for one week.
- Anxiety: in this study anxiety refers to an anticipated psychological response of the patient who is admitted in hospital with diabetes mellitus.
- Diabetes mellitus patients: In this study, it refers to patients who are admitted in the hospital with fasting blood glucose level more than 120 mg/dl and recently diagnosed as type 2 diabetes mellitus and who are undergoing treatment.

ASSUMPTIONS

- Anxiety is more common in diabetes patient and may trigger complications in their future lifespan.
- Anulom-vilom may be an effective method in reducing anxiety among patients with diabetes.
- Anulom-vilom will have no adverse effects on the patients practicing it.
- The subjects will willingly participate in the study.

DELIMITATIONS

The study is delimited to,

- Type 2 diabetes mellitus patients who are admitted in selected hospital, Dharwad.
- Fourty type 2 diabetes mellitus patients.
- Study is limited to 4-6 weeks

HYPOTHESES

Hypothesis will be tested at the 0.05 level of significance.

H1 – There will be a significant reduction in anxiety among type 2 diabetes patient after anulom-vilom technique.

H2 - There will be a significant association between anxiety of diabetes patient and selected demographic variables.

CONCEPTUAL FRAMEWORK

The theory has 4 components

- Motivation

- Attention
- Retention
- Reproduction

RESEARCH METHODOLOGY

RESEARCH APPROACH: Quantitative Evaluative Research Approach.

RESEARCH DESIGN : Pre experimental one group pre and post-test design.

VARIABLES

Independent variable: anulom-vilom technique.

Dependent variable: Anxiety among type 2 diabetes patients.

HYPOTHESIS:

Hypothesis will be tested at the 0.05 level of significance.

H1 – There will be a significant reduction in the level of anxiety among type 2 diabetes patient after anulom-vilom technique.

H2 - There will be a significant association between pre interventional level of anxiety of diabetes patient with selected demographic variables.

SETTING: male and female wards of SDM tertiary care teaching hospital Dharwad.

RESEACH POPULATION : type 2 diabetes patients admitted in SDM Hospital Dharwad.

SAMPLE : 40

SAMPLING TECHNIQUE : Non-probability, purposive sampling technique was adopted.

CRITERIA FOR SAMPLE SELECTION

Inclusion criteria:

- Diagnosed with type 2 diabetes.
- Willing to participate in the study.
- Present during the data collection.
- Moderate to severe level of anxiety in the pre-test.

Exclusion criteria

- Not able to perform anulom-vilom technique.

- Bedridden with associated diseases secondary any cause.
- Not able to sit and perform anlom-vilom technique.
- Having complications of diabetes.

RELIABILITY

The reliability of the tool was established by using test-retest (Karl Pearson's correlation co-efficient) which measures the coefficient of internal consistency.

The reliability coefficient 'r' value of modified beck anxiety scale was 0.93 and

developed tool was found reliable.

DATA COLLECTION PROCESS

PLAN FOR DATA ANALYSIS:

Descriptive statistics (frequency, percentage, mean, median and standard deviation) and inferential statistics were used for analysis and interpretation of data.

RESULTS AND ANALYSIS

SECTION-I: Description of participant's characteristics

Frequency and percentage distribution according to their Socio-demographic characteristics.

Table 1. Frequency and percentage distribution according to their Socio-demographic characteristics

SL. NO	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGE
•	Age in years		
	40-50	18	45%
	51-60	7	17.5%
•	61 and above	15	37.5%
	Gender		
•	Male	26	65%
	Female	14	35%
•	Marital status		
	Married	36	90%

Unmarried	4	10%
Widow	0	0%
Widower	0	0%
● Educational status		
Informal	10	25%
Primary	15	37.5%
Secondary	11	27.5%
Degree	4	10%
PG	0	0%
● Type of family		
joint	37	92.5%
Nuclear	3	7.5%
Extended	0	0%
● Occupation		
Skilled worker	10	25%
Semi skilled worker	2	5%
Non skilled worker	2	5%
Others	26	65%
● Income per month		
Below 5000 rupees	17	42.5%
5001-10,000 rupees	14	35%
10,001-15,000 rupees	4	10%
15,001 and above	5	12.5%
● Diet		
Vegetarian	19	47.5%
Non vegetarian	21	52.5%

Data presented in the above table showed 40-50 years. Majority of the respondents 26(65%) were males .36(90%) of respondents were married. Maximum of 15(37.5%) had primary education. Majority of 37(92.5%) belonged to Nuclear family .Maximum of 10(25%) were skilled workers. Majority of participants 17(42.5%) had monthly income below Rs .5000 and Majority 21(52.5%) had mixed diet.

SECTION II: distribution of subjects according to level of anxiety among type 2 diabetes patients.

Table: 2 INTERPRETATION OF ANXIETY SCORES:

Anxiety level	Pre test		Post test	
	Frequency	Percentage	Frequency	Percentage
Mild(0-22)	0	0%	9	22.5%
Moderate(23-44)	13	32.5%	31	77.5%
Severe(45-66)	27	67.5%	0	0%

The above table showed 13 (32.5%) had moderate anxiety, where as anxiety and 27(67.5%) of samples had severe anxiety. But after the intervention, 9 (22.5%) of samples had mild anxiety, 31(77.5%) had moderate anxiety.

Table 3: paired “t” test was used to to compare the pre-test anxiety scores with post- test anxiety scores among type 2 diabetes patients.

Group	Mean	Std Dv	Mean Diff	SD. Diff	Paired “t” value	Table value
Pre-test	46.25	38.6	18.25	36.49	6.05	2.02
Post-test	28	2.11				

The data presented in the table 4 revealed that calculated value 6.05 was higher than the table value that is 2.02 .Thus anulom vilom technique was effective on reduction of anxiety among patients with type 2 diabetes mellitus.

Hence the research hypothesis (H1) was accepted.

SECTION III: Chi square test to find an association between pre-intervention mean level of anxiety among type 2 diabetes with selected demographic variable.

Table 5: Association between pre-intervention mean level of anxiety among type 2 diabetes and selected demographic variable.

Characterist ics	Mild	%	Moderate	%	Severe	%	total	%	Chi square	Table value	Inference
Age in years											
40-50	0	0	7	17.5	11	27.5	18	45	5.34	9.49	NS
51-60	0	0	0	0	7	17.5	7	17.5			
61and above	0	0	5	12.5	10	25	15	37.5			
Gender											
Male	0	0	10	25	16	40	26	65			

Female	0	0	4	10	10	25	14	35	34	5.99	S
Marital status											
Married	0	0	10	25	26	65	36	90	36	12.5	S
Unmarried	0	0	3	7.5	1	2.5	4	10			
Widow	0	0	0	0	0	0	0	0			
widower	0	0	0	0	0	0	0	0			
Education											
Informal	0	0	3	7.5	7	17.5	10	25	35	15.5	S
Primary	0	0	2	5	13	32.5	15	37.5			
Secondary	0	0	6	15	5	12.5	11	27.5			
Degree	0	0	3	7.5	1	2.5	4	10			
PG	0	0	0	0	0	0	0	0			
Type of family											
Nuclear	0	2.5	12	30	25	62.5	37	92.5	36	12.5	S
Joint	0	0	1	2.5	2	5	3	7.5			
Extended	0	0	0	0	0	0	0	0			
Occupation											
Skilled	0	0	7	17.5	3	7.5	10	25	47	12.5	S
Semiskilled	0	0	0	0	2	5	2	5			
Non skilled	0	0	0	0	2	5	2	5			
Others	0	0	6	15	20	50	26	65			
Income											
Below 5,000	0	0	3	7.5	14	35	17	42.5	34	12.5	S
5001-10,000	0	0	7	17.5	7	17.5	14	35			
10,001-15,000	0	0	2	5	2	5	4	10			
Above 15,000	0	0	2	5	3	7.5	5	12.5			
Diet											

Vegetarians	0	0	6	15	13	32.5	19	47.5	36	5.9	S
Mixed diet	0	0	7	17.5	14	35	21	52.5			

*p≤0.05 *S- Significant *NS – Non significant

The data presented in table 5 represents, there was no significant association between pre interventional anxiety level and age of the participants. Whereas there was a significant association between pre interventional anxiety level and all other demographic variables at 0.05 level of significance .Hence the hypothesis H2 is accepted.

Demographic Characteristics of the subjects are as follows:

In the undertaken study 40 subjects were enrolled in which majority of the study subjects, 15(37.5%) were in age group of 40-50 years. As far as gender is concerned majority of study subjects, 26(65%) were males. While majority 35 (87.5%) samples were married. Further most of the study subjects 16(40%) had primary education as their educational status. And most of them 36(90%) belonged to joint family. As far as occupation is concerned majority 11(27.5%) were skilled workers, and most of them had 17(42.5%) had monthly income of Rs5000. Finally most of them were 21(52.5%) were on mixed diet.

The first objective was to assess the level of anxiety among patients with type 2 diabetes.

For the proposed study 40 staff nurses were selected through purposive sampling of which the findings of the pretest revealed that 1(2.5%) of samples had mild anxiety, whereas 12(30%) had moderate anxiety and 27(67.5%) of samples had severe anxiety.

The second objective was to determine the effectiveness of Anulom-Vilom technique on reduction of anxiety among diabetes patients.

The pre-test anxiety scores , the mean was 46.25, standard deviation was 38.6 and in the post-test anxiety scores of the mean was 28 and standard deviation was 29.23 respectively. The obtained t value was 6.05 which was higher than table value ie 2.02 at 0.05 level of significance .research hypothesis is accepted.

The third objective was to find an association between pre-intervention mean level of anxiety among type 2 diabetes and selected demographic variable

This was tested statistically by chi square test and it was observed that there was significant association between pre-intervention mean level of anxiety among type 2 diabetes with selected demographic variable. Which were, gender, marital status, education, type of family, occupation, income and dietary pattern.

CONCLUSION

Anulomvilom technique was effective on reduction of anxiety among patients with type 2 diabetes mellitus.

IMPLICATIONS OF THE STUDY

The findings of the study had the following implications on,

- Nursing education
- Nursing practice

- Nursing administration
- Nursing research

IMPLICATIONS ON NURSING EDUCATION:

In nursing curriculum practice of yoga is not incorporated so students are unaware of the benefits of these breathing techniques. So regular yoga classes may be organized so as to enable nursing students to learn and incorporate practice of anulom vilom while planning nursing care to the patients according to disease conditions.

IMPLICATIONS ON NURSING PRACTICE

Modern man is running through the mechanical life, affecting the health due to stress and anxiety causing the increased burden of non-communicable disease such as diabetes and hypertension. Primary role of the nurse is directed towards prevention of disease and promotion of health. Hence nurses can include anulom vilom as part of health education and teach the patients to leave stress free life.

IMPLICATIONS ON NURSING ADMINISTRATION:

Nurses are very good at taking care of others but quite often fall short of taking care of themselves. A consistent yoga breathing exercise can have a positive impact on body. So this study will help the nurse administrators to plan and organize yoga programmes which will benefit both patient and nurses.

IMPLICATIONS ON NURSING RESEARCH:

In this modern world of Evidenced Based Practice many studies have proved that alternative medicine has a great impact in improving the health status of patients, the present study has given clear evidence to promote such type of studies to add to the body of knowledge of nursing profession.

LIMITATIONS OF THE STUDY:

- This study was limited to type 2 diabetes patients without complications of diabetes, so the findings of the study cannot be generalized.
- This study limited to 4 weeks of data collection.

RECOMMENDATIONS:

- The similar study can be conducted by taking larger samples
- A similar study can be undertaken by utilizing other domains like practice, attitude and also comparative studies can be conducted
- The similar study can be conducted on nursing students and other health care professionals.
- A similar study can be conducted in different settings to find out the significant difference.

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