



Research Article

A STUDY TO ASSESS THE EFFECT OF PRE OPERATIVE ORIENTATION PROGRAM ON ANXIETY AMONG POST OPERATIVE CARDIAC SURGERY PATIENTS IN SELECTED HOSPITAL, GUWAHATI, ASSAM

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ABSTRACT

Cardiothoracic surgery (also known as thoracic surgery) is the field of medicine involved in surgical treatment of organs inside the thorax (the chest) – generally treatment of conditions of the heart (heart disease) & lungs (lung disease). In the 21st Century human life has become sophisticated with technology. Even though we enjoy the civilized world is very stressful mechanical life style, which in turns leads to many heart problems like coronary heart diseases (CAD). Healthy heart is vital for healthy living regardless of one's age or gender one can prevent stress leading to anxiety. It prevents major cardiovascular risks, like heart attacks and strokes by choosing a healthy diet, quit smoking reducing anxiety. We must realize that the healing power of the body decreases when anxiety level increases, leading to many complications like hypertension and poor immunity ultimately poor prognosis and mortality and morbidity increases. Today even youngsters are prone to have heart ailments. So it's very important to stay healthy and manage our anxiety level. Valve stenosis, valve regurgitation and valve prolapse is the narrowing of the heart's valve due to abnormal valve it does not open properly, blocking blood flow into the main pumping chamber of the heart and makes the person tired and shortness of breath and other problems.

Objectives: To assess the post operative anxiety level among cardiac surgery patient in experimental group in selected hospitals of Guwahati, Assam. To assess the post operative anxiety level among cardiac surgery patients in control group in selected hospitals of Guwahati, Assam. To compare the anxiety level between experimental and control groups in selected hospitals of Guwahati, Assam. To find out the association between level of anxiety with selected demographic variables among Cardiac Surgery Patients in selected hospitals of Guwahati, Assam.

Methods And Materials: True experimental two group post-test only control group design was used in this study to accomplish the objectives. Study was undertaken on 50 patients of CTVS unit, ICU and general wards of selected private hospitals of Guwahati, Assam. Non probability convenient sampling technique was used for obtaining the adequate sample for the study. Pre operative orientation program was provided to experimental group before surgery. Post test anxiety score was assessed for both experimental and control group by using Modified Hamilton Anxiety Rating Scale. Post test anxiety score were compared between experimental group and control group to find the effect and association of preoperative orientation program on experimental group after administration. **Results:** Out of 50 samples majority eight (32%) were in age group below 21 -30 years in control group and majority nine (36%) were in age group of 41 to 50 years in experimental group. Out of 50 samples majority 15 (60%) were male and ten (40%) were female in control group and majority 21 (84%) were male in experimental group. Out of 50 samples 22 (88%) were married in control group and majority that is 24(96%) were married in experimental group. Out of 50 samples seven (28%) were having secondary education in control group and majority eight (32%) were post graduate in experimental group. Out of 50 samples majority nine (36%) were none, seven (28%) were serviceman in control group and majority nine (36%) were having service, eight (32%) were businessman in experimental group. Out of 50 samples majority ten (40%) were having no income in control group and majority nine (36%) were having income per month above Rs 41,000 in experimental group. Out of 50 samples majority nine (36%) were having family history of heart disease in control group and majority 12 (48%) were having history of heart disease in experimental group. Out of 50 samples majority 21(84%) were not having any history of surgery in control group and majority 21(84%) were not having any history of previous surgery, three (12%) were having heart related surgery in experimental group. Out of 50 samples majority 21 (84%) were not having any history of medical and surgical history in control group and majority 22 (88%) were not having any previous medical and surgical history in experimental group. Out of 25 respondents post test anxiety was 64% were having mild anxiety and 36% were having mild to moderate anxiety in control group and out of 25 respondents post test anxiety was 100% were having only mild anxiety in experimental group after administering pre operative orientation program cardiac surgery patients. As pre operative orientation program provide some valuable information about cardiac surgery patients psychological aspects after surgery along with overall knowledge and health improvement in CABG and valve surgery patients. Pre operative orientation program should be provided to all kind of cardiac surgery patients to improve reduce anxiety and also to improve psychological aspects of post operative cardiac surgery patients after assessing the anxiety level.

Conclusion: In association, the results shows that there was no significant association between the post test anxiety among cardiac surgery patients in control group with age, gender, marital status, educational status, occupational status, family history of heart disease, any previous medical and surgical history and there was significant association between the post test anxiety among cardiac surgery patients in control group with income per month and previous history of heart disease. Thus this study reveals that Pre Operative Orientation Program can be used for post operative cardiac surgery patients to decrease the level of anxiety as effective tool.

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INTRODUCTION

Cardiovascular disease is the major cause of death in the United States including India. An estimated 47 million Indians had Coronary Artery Disease (CAD) in 2010. Presently annual number of CABG Surgeries are about 60,000 is done in India. The mean success rate of CABG or Coronary Bypass Operations is 98 %.⁶ Coronary artery disease (CAD) also called coronary heart disease is a condition in which plaque builds up inside the coronary arteries which supply oxygen rich blood to heart muscle.

Plaque is made up of fat, cholesterol, calcium, and substances found in the blood, narrow the passage way for the movement of blood, which results in a condition called atherosclerosis. Heart muscles will not get adequate blood to meet the tissue demands. That can lead to sudden cardiac death or an acute myocardial infarction, which is the death of a portion of the heart muscle. Cardiac Surgery or Cardiothoracic Surgery (also known as thoracic surgery) is the field of medicine involved in surgical treatment of organs inside the thorax (the chest) generally treatment of conditions of the heart (heart disease) and lungs (lung disease).

Coronary Artery Bypass Graft Surgery (CABG) is done when severe atherosclerotic disease causes ischemia; involves

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anastomosis of a graft or a segment of a vessel (e.g. internal mammary artery, saphenous vein), by passing diseased portion of a coronary artery; one or more vessels may be bypassed.

In the 21st Century human life has become sophisticated with technology. Even though we enjoy the civilized world is very stressful mechanical life style, which in turns leads to many heart problems like coronary heart diseases (CAD). Healthy heart is vital for healthy living regardless of one's age or gender one can prevent stress leading to anxiety. It prevents major cardiovascular risks, like heart attacks and strokes by choosing a healthy diet, quit smoking reducing anxiety. We must realize that the healing power of the body decreases when anxiety level increases, leading to many complications like hypertension and poor immunity ultimately poor prognosis and mortality and morbidity increases. Today even youngsters are prone to have heart ailments. So it's very important to stay healthy and manage our anxiety level.

The coronary artery disease mortality among Indians is greater in women than men. The prevalence of coronary artery disease in New Delhi is 10 % in Kerala 13% in Urban areas and 7% in Rural areas and in Chennai it is about 11 % in 2008. The high risk and wide prevalence of Coronary Atherosclerotic Heart Disease (CASHD) among the Indian population is well established. CASHD remains the highest cause of mortality in India.

Valvular Heart Disease can be congenital or acquired. Congenital abnormalities, fibrosis, calcification or other problems can cause valves to malfunction in two ways. By damaging the valve leaflets can cause Stenosis and Obstruction of blood flow into a vessel or heart chamber. If the damage renders the valve incompetent or unable to close properly blood can be regurgitate backward into a vessel or heart chamber against the normal path of blood flow. The most common types of Valvular Problems include Aortic or Mitral Stenosis and Aortic or Mitral Regurgitation or insufficiency. For Valvular diseases surgical repair or replacement of the valves with biological or mechanical prosthetics is done.

Objectives of the Study

- To assess the post operative anxiety level among cardiac surgery patient in experimental group in selected hospitals of Guwahati, Assam.
- To assess the post operative anxiety level among cardiac surgery patients in control group in selected hospitals of Guwahati, Assam.
- To compare the anxiety level between experimental and control groups in selected hospitals of Guwahati, Assam.
- To find out the association between level of anxiety with selected demographic variables among Cardiac Surgery Patients in selected hospitals of Guwahati, Assam.

REVIEW OF LITERATURE

Section I: literature related to prevalence of pre operative anxiety

Sabo S. D, *et al.* (2018) conducted a descriptive study on prevalence of preoperative anxiety among Northern Nigerian Hausa patients undergoing elective surgery. 30 patients between the ages of 17- 64 years scheduled to undergo elective

surgery and administered a translated Hausa version of the Amsterdam Preoperative Anxiety and Information Scale (APAIS-H). APAIS-H is given to each patient in the evening before and in the morning of their surgery day. Statistical data was analyzed on both the fear of anesthesia and fear of surgery seen 76.6% of the participants presented with low to moderate anxiety in the evening proceeding the day of their surgery and in the morning of the day of their scheduled surgery, 20% of the participants presented with low anxiety, another 20% had moderate anxiety while the remaining 60% had high preoperative anxiety. The findings of the study show that adequate psychological preoperative anxiety reduction interventions be put in place to address patient anxiety to achieve a better surgical outcome.

Section II: Literature related to prevalence of quality of life in cardiac surgery patients

Luc N, *et al.* (2014) conducted a descriptive study on topic is quality of life on post cardiac surgery and include 1675 patients, all of whom were operated between July 1, 2009 and July 1, 2012. Results founded that patients with a low preoperative quality of life, had high operative risk and older age are at higher risk for drop-out, based on the calculated 30 and 70 percentiles of age. There is also a statistically significant ($p=0.0001$) correlation between pre operative and postoperative quality of life with a positive Karl Pearson's r and concluded that quality of life post cardiac surgery is overestimated, certainly for older, high risk patients and patients with a low preoperative quality of life.

Section III: Literature related to anxiety and its relationship to quality of life and functional status in valve surgery patients

Charlotte V. L, *et al.* (2015) conducted a meta analysis study on surgical aortic valve replacement in patients older than 75 years and to evaluate the results of elective isolated surgical aortic valve replacement (SAVR) on quality of life in patients > 75 years. Total 138 patients operated between January 2008 and December 2011 and the Corpus Christi Heart Project criteria to assess physical activity. Fifty patients were classified as sedentary. In the first postoperative year 13 patients died, mostly sedentary patients. The 70 patients with quality of life information showed an increased quality of life. The 57 patients with 2-year quality of life information had an increased. Concluded that quality of life increases after SAVR.

Section IV: Literature related to pre operative orientation program on anxiety among cardiac surgery patients

Antonia K, *et al.* (2018) conducted a randomised controlled study on nurse-led preoperative education reduce anxiety and postoperative complications of patients undergoing cardiac surgery a general hospital and the sample consisted of 395 patients (intervention group: 205, control group: 190). Patients in the intervention group received preoperative standard education by specially trained nurses. Measurements of anxiety were conducted on admission-A, before surgery-B and before discharge-C by the state-trait anxiety inventory. Concluded that Preoperative education delivered by nurses reduced anxiety and postoperative complications of patients undergoing cardiac surgery, but it was not effective in reducing readmissions or length of stay.

Section V: Literature related to Pre Operative Orientation Program on quality of life CABG and valve surgery patients

Elif B E, *et al.* (2018) conducted a quasi-experimental study was conducted on 109 patients in a university hospital between January and October 2014. The study was to determine the effects of preoperative individualized education on postoperative anxiety and pain in patients undergoing open heart surgery. Data were collected 1 day before the operation and 1 day after the operation to identify their sources of anxiety and educational needs and then individualized education was given accordingly. The mean age was 59.62 years, 69.7% were males and 92.7% were married, and 49.5% were graduated. Anxiety was mostly originated from lack of knowledge on surgery (70.6%), leaving the relatives (21.1%), fear of death (16.5%) and pain (15.6%). In conclusion, preoperative anxiety management based on individual patient’s characteristics in combination with individualized patient-centered education may reduce the degree of anxiety and improve post-operative healing.

Section VI: Literature related to Pre operative orientation program on quality of life in valve surgery patients

Tina B H, *et al.* (2017) conducted a qualitative semi structured interview analysis was to gain insight into patients experiences in cardiac rehabilitation in Open Heart Valve Replacement trial. The intervention consisted of a physical training program and a psycho-educational intervention. Participants were interviewed three times: 2–3 weeks, 3–4 months and 8–9 months after surgery. Two overall themes emerged: cardiac rehabilitation played an important role in reducing insecurity and helping participants to take active personal responsibility for their health. Even though the cardiac rehabilitation program reduced insecurity and helped participants take active personal responsibility for their health during recovery.

RESEARCH METHODOLOGY

Research approach: Quantitative Research

Research design: True Experimental Research Design –Post Test Only Control Group Design

Research variables

Dependent variable: Post Operative Anxiety Level

Independent variable: Pre Operative Orientation Program

Demographic variables: Age, gender, marital status, educational status, occupation, income per month, family history of heart disease, any previous surgical history, any previous medical and surgical procedure (minor).

Setting of the study: The study was conducted at North East Health City Hospital

Population of the study: The population in the study comprised of post operative cardiac surgery patients.

Sample: In this study, the sample was post operative cardiac surgery patients in CTVS ICU of selected private hospital who fulfils the inclusion criteria.

Sample size: The sample size consisted of 50 cardiac surgery patients.

Sampling technique: The sampling technique was non probability purposive sampling technique.

Tools and Techniques

Tool: The tools are used was a Pre Orientation Program Orientation Program on anxiety Structured Questionnaire – Modified Hamilton Rating Scale or HAM –A Rating Scale was used to assess the anxiety among cardiac surgery patients including CABG and Valve Surgeries.

Technique: The technique used was interview technique.

Scoring key: This anxiety rating consists of 14 items contains a number of symptoms and each group of symptoms is rated on a scale of zero to four, with four being the most severe and in each questionnaire it has group of some symptoms according to the system wise manner; based on observation of symptoms there are division of score, 0- absent, 1- mild anxiety, 2- moderate anxiety, 3-severe anxiety, 4-very severe anxiety. According to these each system symptoms it has rating score to find out the statistical value. The total score on Anxiety Rating Scale range was 0–56. All of this calculation shows a comprehensive score that indicates a person’s anxiety severity.

Category of anxiety level

Mild Anxiety = < 17
Mild to Moderate Anxiety = 18 – 24
Moderate to Severe = 25 – 30

Validity of the tool: The prepared instrument along with the problem statement and objectives was submitted to seven experts of 3 Medical Surgical Nursing, and 1 Physician of CTVS, 2 Psychiatric Speciality in Nursing, 1 Physician of Psychiatric Department for establishing content validity.

Reliability of the Tool

The Reliability of the Tool was done by the Test Retest Method It was revealed that the Tool was reliable as reliability of the scale was 0.79. The reliability of Modified Hamilton Anxiety Rating Scale was 0.79.

Pilot Study

The pilot study was conducted from 18th to 23th June, 2018 in Gawahati Medical College Hospital, Guwahati, Assam. 16 samples were collected using non probability purposive sampling technique.

Main Study: 2nd to 28th July, 2018

RESULTS

Table 1 Research Design; Schematic diagram of post-test-only control group

Random assignment	Day 1	Day 3
Pre – operation orientation program	Experimental group	Post – test
Random assignment	Day 1	Treatment Day 3
Without pre- operative orientation program	Control group	Post – test

Section – I

Table II Frequency and percentage distribution of the respondents According to age group

n = 50

Age (In years)	Frequency (Control Group)	Percentage (control group)	Frequency (experimental group)	Percentage (experimental group)
A) <20	8	4%	3	4 %
B) 21 – 30	4	32%	7	12%
C) 31 – 40	6	16%	9	28 %

D) 41 – 50	6	24%	5	36%
E) 51 – 60	0	24%	0	20 %
F) > 60	25	0%	25	0 %
Total		100%		100%

The data presented in table II depicts that out of 25 respondents, in control group, majority that is eight (32%) were in age group below 21 to 30 years, six (24%) were in age group of 41 to 40 years, six (24%) were in age group of 51 to 60, four (16%) were in age group of 31 to 40 years, only one (4%) were in age group of below 20 years and zero (0%) were in age group above 60 years and in experimental group out of 25 respondent, majority nine (36%) were in age group of 41 to 50 years, seven (28%) were in age group of 31 to 40 years, five (20%) were in age group of 51 to 60 years, three (12%) were in age group of 21 to 30 years, only one (4%) were age group below 20 years and zero (0%) were in age group above 60 years.

Table III Frequency and percentage distribution of the respondents according to their gender n=50

Age	Frequency (control group)	Percentage (control group)	Frequency (experimental group)	Percentage (experimental group)
Male	15	60 %	21	84 %
Female	10	40 %	4	16 %
Total	25	100%	25	100 %

The data presented in Table III depicts that out of 25 respondents, majority that 15 (60 %) were male and ten (40%) were female in control group and in experimental group out of 25 respondents, majority that. 21(84%) were male and four (16%) were female.

Table IV Frequency and Percentage distribution of the respondents according to their marital status n = 50

Marital status	Frequency (control group)	Percentage (control group)	Frequency (experimental group)	Percentage (experimental group)
Married	22	88 %	24	96 %
Unmarried	2	8 %	1	4 %
Single	0	0 %	0	0 %
Widow	1	4 %	0	0 %
Total	25	100%	25	100%

The data presented in the table IV depicts that out of 25 respondents, majority that is 22(88%) were married, two (8%) were unmarried, one (4%) were widow and zero (0%) were single and zero (0%) were others in control group and in experimental group shows out of 25 respondents, majority that is 24 (96 %) were married, one (4%) were unmarried, zero (0%) were single, zero (0%) were widow and zero (0%) were others.

Table V Frequency and percentage distribution of respondents according to their educational status n=50

Educational status	Frequency (control group)	Percentage (control group)	Frequency (experimental group)	Percentage (experimental group)
Primary	6	24 %	7	28 %
Secondary	7	28 %	6	24 %
Graduate	6	24 %	4	16 %
Post graduate	5	20 %	8	32 %
No formal education	1	4 %	0	0 %
Total	25	100%	25	100%

The data presented in the Table V depicts that out of 25 respondents in control group, majority that is seven (28%) were having secondary education, six (24%) were having primary education, six (24%) were graduate, five (20%) were post graduate, only one (4%) were having no formal education, in experimental group majority that is eight (32%) were post graduate, seven (28%) were having primary education, six (24%) were having secondary education, four (16%) were graduate, zero (0%) were having no formal education.

Table VI Frequency and percentage distribution of the Respondents according to their occupation n = 50

Occupation	Frequency (control group)	Percentage (control group)	Frequency (experimental group)	Percentage (experimental group)
Service	7	28 %	9	36 %
Business	2	8 %	8	32 %
Retired	6	24 %	4	16 %
Farmer	1	4 %	0	0%
Unemployed	9	36 %	4	16 %
Total	25	100 %	25	100 %

The data presented in Table VI depicts that out of 25 respondents in control group, majority that nine (36%) were none, seven (28%) were serviceman, six (24%) were retired, two (8%) were businessman, only one (4%) were others and in experimental group out of 25 respondents majority nine (36%) were having service, eight (32%) were businessman, four (16%) retired, four (16%) were having no occupation.

Table VII Frequency and percentage distribution of the respondents according to their income per month n=50

Income per month	Percentage (control group)	Frequency (control group)	Percentage (experimental group)	Frequency (experimental group)
≤rs 10,000	12 %	3	20 %	5
Rs 10,001 – Rs 20,000	8 %	2	8 %	2
Rs 20,001 – Rs 30,000	16 %	4	12 %	3
Rs 30,001 – Rs 40,000	8 %	2	12 %	3
Rs 40,000 – Rs 41,000	16 %	4	36 %	9
No income	40 %	10	12 %	3
Total	100 %	25	100 %	25

The data is presented in Table VII depicts that out of 25 respondents in control group, majority that ten (40%) were having no income, four (16%) were having income per month Rs 20,001 to Rs 30,000, four (16%) were having income per month above Rs 41,000, three (12%) were having income per month below Rs 10,000, two (8%) were having income per month Rs 10,001 to Rs 20,000, two (8%) were having income per month Rs 30,001 to Rs 40,000 and in experimental group out of 25 respondents majority i.e. nine (36%) were having income per month above Rs 41,000, five (20%) were having income per month below Rs 10,000, three (12%) were having income per month Rs 20,001 to Rs 30,000, three (12%) were having income per month Rs 30,001 to 40,000, three (12%) were having no income per month, two (8%) were having income per month less than Rs 10,001 to Rs 20,000.

Table VIII Frequency and percentage distribution of the respondents according to family history of heart disease
n = 50

Family history of heart disease	Percentage (control group)	Frequency (control group)	Percentage (experimental group)	Percentage (experimental group)
Present	36%	9	48 %	12
Absent	32%	8	16 %	4
No family history	32%	8	36 %	9
Total	100%	25	100%	25

The data presented in Table VIII depicts that out of 25 respondents in control group, majority nine (36%) were having family history of heart disease, eight (32%) were not having any history of heart disease, eight (32%) were not known for any heart disease, and in experimental group out of 25 respondents, majority i.e twelve (48%) were having history of heart disease, nine (36%) were not known for any history of heart disease and four (16%) were not known for history of heart disease.

Table IX Frequency and percentage distribution of the respondents according to their any previous history of heart surgery
n=50

History of any previous surgery	Frequency (control group)	Percentage (control group)	Frequency (experimental group)	Percentage (experimental group)
Heart related	2	8 %	3	12 %
Minor cardiac procedures	2	8 %	1	4 %
No previous surgical history	21	84 %	21	84 %
Total	25	100%	25	100%

The data presented in Table IX depicts that out of 25 respondents in control group, majority that is twenty one (84%) were not having any history of surgery, two (8%) were having history of heart related surgery, two (8%) were having history of other surgery and in experimental group out of 25 respondents, majority that is twenty one (84%) were not having any history of previous surgery, three (12%) were having heart related surgery, and one (4%) were having other surgical history.

Table X Frequency and percentage distribution of the respondents according to their any previous medical and surgical history
n= 50

Any previous medical and surgical history	Percentage (control group)	Frequency (control group)	Percentage (experimental group)	Frequency (experimental group)
Yes	16 %	4	12 %	3
No	84 %	21	88 %	22
Total	100%	25	100%	25

The data presented in Table X depicts that out of 25 respondents in majority in control group that is twenty one (84%) were not having any history of medical and surgical history and four (16%) were having history of medical and surgical history in control group and in experimental group out of 25 respondents majority twenty two (88%) were not having any history of previous medical and surgical and three (12%) were having previous medical and surgical history.

Section II

The data on the table XI depicts that in control group out of 25 respondents post test anxiety frequency 16 and

percentage distribution 64% were having mild anxiety, frequency 9 and 36 % percentage distribution were having mild to moderate anxiety and in experimental group out of 25 patients post test anxiety frequency was seen 25 and percentage was 100 % that is all were having only mild anxiety patient.

Table XI Frequency and percentage distribution of anxiety among cardiac surgery patients
n= 50

	Mild <17		Moderate 18-24		Severe 25-30	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Post test anxiety level of control group	16	64%	9	36%	0	0%
Post test anxiety level of experimental group	25	100%	0	0%	0	0%

The data on the table XI depicts that in control group out of 25 respondents post test anxiety frequency 16 and percentage distribution 64% were having mild anxiety, frequency 9 and 36 % percentage distribution were having mild to moderate anxiety and in experimental group out of 25 patients post test anxiety frequency was seen 25 and percentage was 100 % that is all were having only mild anxiety patient.

Section – III

Table XII Association between the post test anxiety score with the selected demographic variables
n= 50

Variables	MA	MOD A	SA	Frequency	Df	χ^2 Cal value	χ^2 Tab value	Remarks
Age group								
<40 years	6	7	0	13				
>40 years	8	4	0	12	1	1.064	3.841	NS
Total	14	11	0	25				
Gender								
Male	8	7	0	15				
Female	6	4	0	10	1	0.102	3.841	NS
Total	14	11	0	25				
Marital status								
Married	12	10	0	22				
Others	2	1	0	3	1	0.851	3.841	NS
Total	14	11	0	25				
Education al status								
Educated	8	6	0	14				
No formal education	7	4	0	11	1	1.177	3.841	NS
Total	15	10	0	25				
Occupational status								
Service	5	2	0	7				
No service	10	8	0	18	1	0.527	3.841	NS
Total	15	10	0	25				
Income per month								
≤30,000	11	8	0	19				
≥30,000	4	2	0	6	1	5.475	3.841	S
Total	15	10	0	25				
Family history of heart disease								
Present	8	1	0	9				
Absent	6	10	0	16	1	4.171	3.841	S
Total	14	11	0	25				
Any previous history of surgery								

Heart related								
None	4	0	0	4	1	11.609	3.841	S
Total	10	11	0	21				
Any previous medical or surgical history								
Yes								
No	3	1	0	4	1	0.686	3.841	NS
Total	11	10	0	21				
	13	11	0	25				

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