



The Impact of Gender on Depression Rates in Cardiac Rehabilitation Patients



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Background

- A variety of mental health disorders can be prevalent in cardiac rehabilitation (CR) settings, with depression being one of the most predominant of these conditions.
- The American Heart Association (AHA) concluded that after an acute myocardial infarction, patients are three times more likely to suffer with depression than the general population. [1]
- Patients with depression tend to have reduced high-density lipoprotein cholesterol level, lower exercise capacity, higher triglyceride levels, lower energy levels, and a lesser overall quality of life than those of the patients that were not showing signs of depression.[2]
- Elevated depressive symptoms and major depression disorder are both associated with worse prognosis in patients with Chronic Heart Disease (CHD).
- CHD is present in almost 30% of patients with depressive disorders. [3]
- Stress management and behavioral interventions offer additional benefits that surpass usual medical care and are directly associated with reduced ischemia caused by mental stress in CR patients. [4]
- The depression rates of patients can be quantified and compared by using the Patient Health Questionnaire (PHQ-9), an instrument used for screening, diagnosing, monitoring and measuring the severity of depression.[5]
- The question of how gender affects depression rates in CR patients' needs to be further investigated in order to provide the most individualized and beneficial cardiac rehabilitation program to meet the needs of each individual.

Purpose:

The purpose of the present study is to evaluate and compare the scoring of the psychosocial assessment questionnaire, the PHQ-9, between males and females among CR patients as well as detect and examine trends in CR patient depressive symptoms between the genders to gain a better understanding of CR patient's needs for psychosocial services.

Design:

A pretest posttest nonequivalent groups quasi experimental design suited the objectives of a collaborative study between a University and hospital in Connecticut.

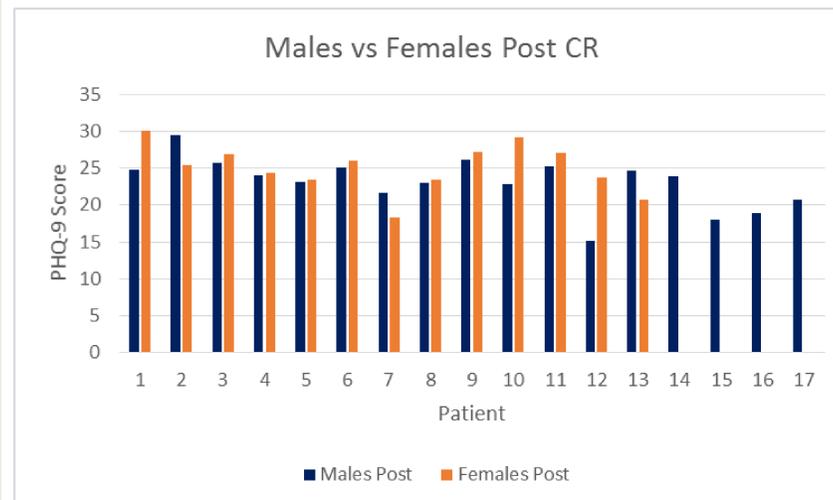
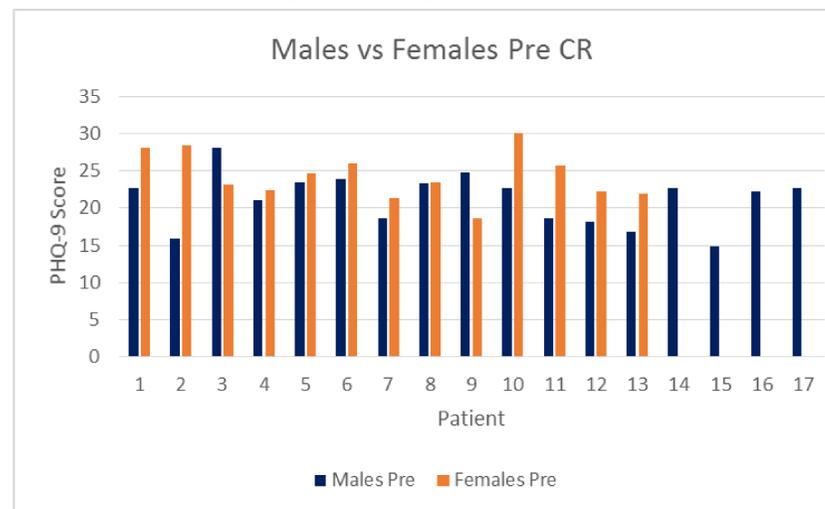
METHODS

The Patient Health Questionnaire-9 was used to assess depression pre and post CR among 30 CR patients between 2016 and 2017. This assessment took place at Griffin Hospital, a hospital based CR center in Connecticut. Monitored exercise, nutrition education and stress management education were all included in the CR sessions. Patients were assessed pre CR sessions and post CR sessions at 12 weeks after completion.

RESULTS

92% of women exhibited scores on the PHQ-9 questionnaire that were indicative of severe depression for both pre and post cardiac rehabilitation intervention, while only 65% of men showed scores indicative of severe depression pre cardiac rehabilitation and 83% showed severe depression scores post cardiac rehabilitation. A two sample t-test showed that females had significantly higher depression scores pre-test ($p = 0.0114$) as well as post-test ($p = .0613$). On average, females scored 1.9 points higher on the PHQ-9 questionnaire pre cardiac rehabilitation and .74 points higher after completing cardiac rehabilitation at Griffin Hospital. Both males and females showed increased depression scores within their gender class when comparing pre and post CR intervention.

The graph to the right depicts the depression scores attained on the PHQ-9 questionnaire between males and females prior to cardiac rehabilitation. Overall, males tended to exhibit lower scores than females on this questionnaire before they participated in a cardiac rehabilitation program.



The graph to the left depicts the depression scores attained on the PHQ-9 questionnaire between males and females following cardiac rehabilitation. Overall, males tended to exhibit lower scores than females on this questionnaire after they participated in a cardiac rehabilitation program.

A Closer Look

Averages

Males pre	Males post	Females pre	Females post
21.22471	23.10706	24.31077	25.05154

Descriptive Statistics

	N	Minimum	Maximum	Mean.	Std. Deviation
Males Pre	17	14.88	28.17	21.22	3.52
Females Pre	13	18.64	30	24.31	3.24
Males Post	17	15.25	29.49	23.83	3.41
Females Post	13	18.33	30	25.05	3.23

Conclusions

Psychosocial variables are among the most important elements in cardiac rehabilitation patient assessment and need to be evaluated. Observations in this study support a closer investigation of the ways in which depression and other psychosocial disorders are assessed and which interventions need to be present to decrease the presence of the symptoms of these disorders. The results of this study proved that the prevalence of major depression is higher in females than in males, but more studies need to be performed because this topic warrants increased attention.

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