

# Health Related Quality of Life among Individuals with Left Ventricular Diastolic Dysfunction Post Six Months

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## ABSTRACT

**Aim:** To describe health related quality of life using Minnesota Living with Heart Failure Questionnaire (MLWHFQ) in individuals of LVDD post six months.

**Methods:** Descriptive cross sectional survey on 72 individuals of LVDD post six months was conducted. Sample was calculated by WHO sample size calculator keeping  $\mu$  as 0.49, margin of error as 5% and confidence interval as 95%. Data was collected by MLWHFQ via interview method with Non probability convenience sampling technique from Punjab Institute of Cardiology Lahore and Sheikh Zayed Hospital Lahore during August 2018 to January 2019. Stable individuals both male and female were recruited who aged between 50-71 years old. The baseline characteristic taken in account was NYHA of Heart Failure greater than 2, 50% or more Ejection Fraction, Diastolic Dysfunction (grade  $\geq 1$ ) and at least one of the positive cardiovascular risk factor.

**Results:** Out of a total 72 subjects 41 were males and 31 were females with scores on MLWHFQ showed that out of a total 72 LVDD, HRQOL of 3(4.2%) patients were not affected, 3(4.2%) were very little effected, 7(9.7%) were little effected, 4(5.7%) was moderately effected, 34(47.2%) were much effected and 21(29.2%) were very much effected.

**Conclusion:** The study concluded that health related quality of life using was found out to be much effected in subjects of Left Ventricular diastolic Dysfunction.

**Keywords:** Quality of life, Left Ventricular diastolic dysfunction, Cardiac Disease

## INTRODUCTION

Major cause in older individuals aged above fifty years causing morbidity and mortality is heart failure, amongst which majority of population presents with left ventricular diastolic dysfunction<sup>1</sup>. LVDD is characterized by heart failure with preserved ejection fraction (HFPEF) which comprises of abnormal relaxation and filling of the left ventricle thus categorizing particularly those with ejection fraction (EF) more than 50%<sup>2</sup>. Prevalence of heart failure is estimated about 11.8% while the average prevalence of LVDD turns out to be 4.9% respectively.

Health related Quality of life (HRQOL) is a phenomenon reflecting modifications in life attributes such as physical moral and social environment. HF shows marked disturbances in physical, mental and social health<sup>1</sup>.

Shortness of breath, fatigue, reduction in functional capacity, poor exercise tolerance dyspnea on exertion, anxiety depression, orthopnea all found out to be the symptoms of LVDD<sup>4</sup>. The risk factors for LVDD are diabetes mellitus, smoking, hypertension, renal impairments, other diseases of myocardial infarction, atherosclerosis, peripheral vascular and arterial diseases<sup>5</sup>. These probable symptoms strongly compromise the quality of life and functional capacity of an individual with LVDD. Studies have shown a marked increase in cardiopulmonary endurance and health related quality of life by implication of cardiac rehabilitation<sup>6</sup>.

Very limited studies have been conducted on patients with left ventricular diastolic dysfunction. (HRQOL) has been assessed in healthy subjects and among individuals with chronic heart failure. Whereas exercise capacity of these subjects were assessed using six minute walk test. The study will focus on evaluating the (HRQOL) by increasing the exercise capacity of the population with LVDD<sup>7</sup>.

The rationale of the study is to describe the functional status of left ventricular diastolic dysfunction which improves the functional capacity and HRQOL in these subjects. It will be helpful for practicing therapists for cardiac rehabilitation to reduce the mortality and morbidity rates and symptoms of heart failure by incorporating active lifestyle modifications and to provide guidelines in improving physical functioning thus enhancing the life quality of individuals with HFPEF.

## METHODOLOGY

Descriptive cross sectional study on 72 individuals of LVDD post six months was conducted. Sample was calculated by WHO sample size calculator keeping  $\mu$  as 0.49, margin of error as 5% and confidence interval as 95%. Data was collected by MLWHFQ via interview method with Non probability convenience sampling technique from Punjab Institute of Cardiology Lahore and Sheikh Zayed Hospital Lahore during August 2018 to January 2019. Stable individuals both male and female were recruited who aged between 50-71 years old. The baseline characteristic taken in account was NYHA of Heart Failure greater than 2, 50% or more Ejection

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Fraction, Diastolic Dysfunction (grade  $\geq 1$ ) and at least one of the positive cardiovascular risk factor. Permission was obtained from departmental Ethical Committee.

**RESULTS**

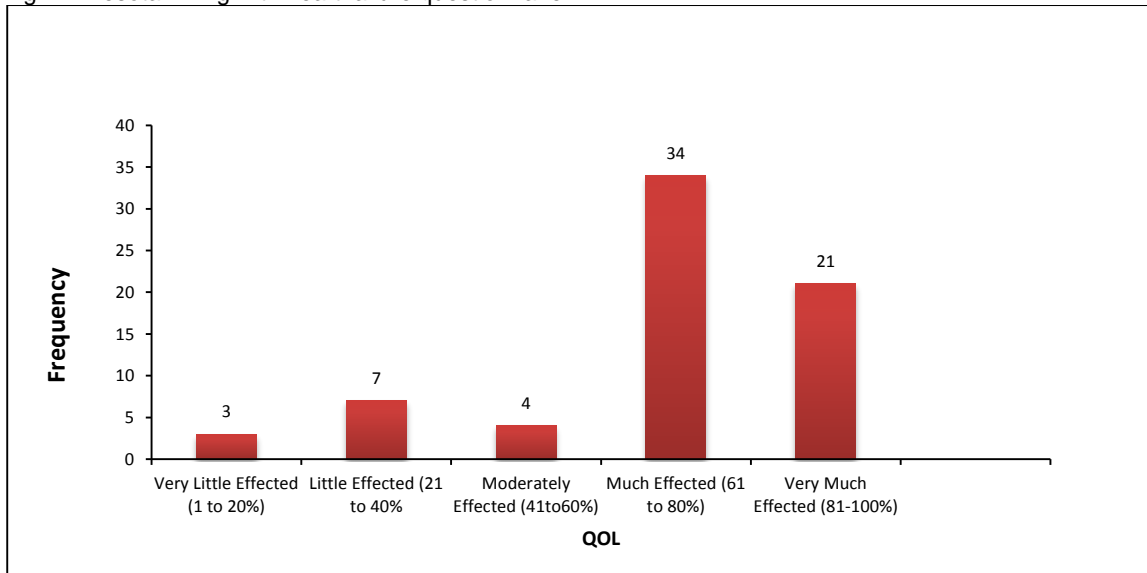
Mean age of 72 patients was 61.25years with standard deviation +8295 and 17 were with active life style while 55 were with sedentary life style. Out of a total 72 subjects 41 were males and 31 were females with scores on MLWHFQ showed that out of a total 72 LVDD, HRQOL of 3(4.2%) patients were not affected, 3(4.2%) were very little effected, 7(9.7%) were little effected, 4(5.7%) was

moderately effected, 34(47.2%) were much effected and 21(29.2%) were very much effected.

Table 1: Demographics

Age of the patients	<b>Mean</b>	<b>Standard Deviation</b>
	61.25 years	0.8295
Gender	<b>Male (Frequency)</b>	<b>Female (Frequency)</b>
	41	31
Life style	<b>Sedentary (Frequency)</b>	<b>Active (Frequency)</b>
	55	17

Fig. Minnesota Living with heart failure questionnaire



**DISCUSSION**

LVDD is a highly prevalent disease with significantly high hospital admission rates, few studies has been done to assess HRQOL, which illustrated an increased frequency of mortality and morbidity rates aged between 50-71 years as in current study. Out of 72 subjects, 41 were males and 31 were females while on contrary to that in a prospective study from 433 subjects, females to males ratio was 173:260<sup>8</sup>.

Previous studies focusses on various aspects of HF-specific MLWHFQ affecting HRQOL, while this study assessed especially physical well-being of individuals showing marked decrease in physical functioning of the subjects. On the other hand, mental health was being assessed which was also remarkably reduced<sup>9</sup>.

There was an association of depressive symptoms and poor QOL with HF stressing over the interventions and modifications to improve the prognosis of individuals comparable to the current study<sup>10</sup>. A cross-sectional study on QOL and medical adherence was carried out resulted very low and poor medical adherence whereas much effected HRQOL was observed as well in the current study<sup>11</sup>. This study administrated that patients with HF had a low QOL which was much effected whereas another

cross-sectional study conducted also showed a decrease in QOL and physical functioning of individuals<sup>12</sup>.

A study conducted on diastolic function, 44 patients aged 55 years old, LVEF <0.5 and NYHA class I-III in a stable condition. Study concluded that Quality of life and Physical capacity are significant predictors associated with diastolic function. The current study also supports the previous literature and concluded that Exercise capacity and Quality of Life are important outcome predictors that are associated with diastolic function<sup>13</sup>.

Margarita conducted a study with 758 Coronary Artery Disease patients, with mild or moderate heart failure with NYHA class III. They concluded that class III patients with stable CAD have greater systolic function with better diastolic functions that is associated with physical and mental health<sup>14</sup>. The current study supports the literature as majority of the patients had compromised quality of life with LVDD.

A cross sectional study was conducted in 2013 to check the quality of life in 120 patients with Heart failure. SF-36 and Minnesota questionnaire were used to analyze the quality in patients with HF. He concluded impaired heart failure associated with quality of life.<sup>15</sup> The current study stated that patients had compromised quality of life with LVDD.

Further studies involving a detailed comparison between HRQOL of LVDD and Left Ventricular Systolic Dysfunction (LVSD) can be performed. Post LVDD-QOL further studies can be done with techniques of cardiac rehab and observing its effects in improving overall functional status of subjects.

## CONCLUSION

Majority of the individuals had compromised quality of life with left ventricular dysfunction post six months.

**Conflict of interest:** Nil

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