Predictors of Re-hospitalization for Patients with Heart Failure in Jordan
By
Ali Suliman Harbi
Supervised by
Prof. Mohannad AbuRuz

ABSTRACT

Background: Heart failure (HF) is a worldwide leading cause of death and readmission. A great part of patients diagnosed with HF will be readmitted at least once. Frequent readmissions result in the depletion of medical resources. It is imperative to identify the most important risk factors leading to these readmissions to control them and decrease their associated economic health burden. Among these risk factors are sociodemographic factors (age, gender, and smoking status), comorbidities (history of hypertension, diabetes mellitus, ischemic heart disease, valvular heart disease, chronic obstructive pulmonary disease, and renal dysfunction), clinical biomarkers (ejection fraction, hemoglobin level, sodium, creatinine, blood urea nitrogen, beta natriuretic peptide, and New York Heart Association function classification).

Purpose: The major purpose of this study was to identify the predictors of readmission for Jordanian patients with HF.

Methods: A retrospective design was used to address these predictors. A total of 189 patients with heart failure were approached in out-patient clinics in four hospitals in Amman, Jordan. The study was explained to them, and if they agreed to participate, they were asked to sign an informed consent including permission to review their medical records. All data were retrieved, including independent variables (age, gender, history of HTN, DM, IHD, VHD, COPD, renal dysfunction, EF, Hb, sodium, creatinine, BUN, BNP, NYHA classification, and smoking status). Predictors for readmission were identified using multiple regression. In addition, differences based on EF (HFpEF and HFrEF), Hb level NYHA, BMI, gender, and renal dysfunction were analyzed using t-test and ANOVA.

Result: The sample included 70.9% (n=134) males and 29.1% (n=55) females. The readmission mean was 2.9, and the standard deviation was 1.8. Age, Hb level and NYHA functional classification were significant predictors for readmission, explaining 53 % of the variance. In addition, the results showed significant differences based on EF and renal dysfunction.

Conclusion: readmission for a patient with heart failure in Jordan can be predicted through a number of predictors. Controlling those patients who are at high risk can help in reducing readmission rates. Identifying these predictors positively impacts clinical, administrative, research, and educational implications and improves patient care, quality of life, and patient satisfaction.

Keywords: predictors, heart failure, readmission and risk factors.