Is patient’s health literacy promotion through physician prescribed information effective in outcomes of heart failure patients with functional class III/IV

Vahideh Gavgani1, Ali Gholmohammadi2, Homayoun Sadeghi-Bazargani3, Faranak KazemiMajd 4

1Tabriz University of Medical Sciences, 2Cardiovascular Research Center, 3Road Traffic Injury Research Centre (RTIRC), Department of Statistical and Epidemiology, 4Medical Library and Information Sciences, Tabriz University of Medical Sciences

Abstract

Background and Aims: Patient’s health/medical literacy may affect the healthcare promotion. There are various educational models for patient. The physician prescribed information intervention seems to be effective and demanded way of patient information delivery. We presented physician prescribed, medical librarian provided information after the physician confirmation to HF patients classified in functional class III or IV. The purpose of this study was to determine whether physician prescribed information intervention would decrease the rate of hospital re-admission in heart failure patients with functional class III or IV. The secondary outcomes were the cost of re-admission and change in number and type of medication prescription (Rx).

Methods: We performed a 12-month randomized controlled trial from December 2013 to December 2014. 120 Patients were randomly allocated into two groups of intervention (n=60) and control (n=60). The control group received routine information given by nurse or physician and the intervention group received routine information plus Information Prescription (IP) prescribed by physician and presented to patient by librarian who explain patient how to use the prescription and describe it orally. Data were collected by telephone interviews with the follow up interval of 3, 6 and 12 months after discharge. Analysis of data was performed continually. Primary outcome was re-admission and or death in HF patients.

Result: Patients were included with mean age 71.05±11.3. Patients in the intervention group had a lower rate of hospital re-admission or death upon adjusting a Cox survival model, the patients in the intervention group compared to control group [RR: 0.57 CI: 0.4-0.81] NNT: 3.3, CI NNT: 7.7-2.13. Fewer patients died during one year in intervention group compared to the control group (7vs15) [P=0.059, RR=0.47, CI: 0.20 -1.06] NNT: 7.69 CI NNT: 3.7-333. There was no significant difference in medication changes in intervention group compared to control group [RR=5; 95%CI: 2.6-9.8] NNT: 1.87 CI NNT: -1.47--2.76. Financial study demonstrated nearly triple difference in intervention and control per patient re-admission cost.

Conclusion: Findings of this pilot study have shown that physician prescribed information intervention is clinically effective in reduction of death and re-admission rate in HF patients classified in functional class of III or IV. However to achieve the level of certainty based on statistical significance more evidence are still needed. Physician prescribed information intervention is a low cost, safe and risk free intervention comparing to other complementary intervention specially other educational programs for chronic conditions such as HF.

Keywords: Randomized Controlled Trial, Heart Failure, Information Prescription, Patient Education, Hospital re-admission,