Creating Healthy Work Environments 2019

CICU PreHeart Transplant 1A Patients Experiences Using Fitbit Activity Tracker in Their Own Words

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This research examines the experiences of pre heart transplant patients with ambulatory intra-aortic balloon pump and swan ganz catheter. Each was provided a fitbit to aid with ambulation and mobilization. Recorded interviews were conducted after 2 weeks with fitbit, transcribed and analyzed for similarities and congruencies using Colaizzi's method.

Content Outline:

Aim:
To explore the experiences of pre-heart transplant patients using Fitbit as an ambulation-measuring device.

Background:

More than 500,000 people are diagnosed as having heart failure (HF) each year (Lloyd-Jones et al., 2010). A chronic, debilitating disease that often progresses to end-stage quickly when severe ventricular dysfunction leads to alterations in organ perfusion even at rest. Heart transplantation is the definitive treatment for these patients. While waiting for transplantation, HF patients are typically medically managed with Guideline Directed Medical Therapy (GDMT) and they are very prone to less than optimal mobility (Hashim, 2015). Prolonged immobility results in severe widespread deconditioning affecting multiple organs and systems. Prolonged immobilization results in profound loss of muscle strength and endurance of every muscle in the body. Immobilized patients may lose up to 15% of their muscle strength each week and almost half of their normal strength in three to five weeks ((Dittmer, & Teasell, 1993). Complete immobilization will significantly increase a patient's morbidity and mortality (H'Doubler et al., 2000). Inactivity and prolonged bed rest have also been shown to result in cardiac deconditioning affecting both the central and peripheral cardiovascular systems. Stroke volume has been shown to be reduced by 30% within the first month of bed rest, with an associated increase in resting heart rate, and signs of orthostatic intolerance can develop within 72 hours of inactivity (Winkleman, 2009; Convertino, Bloomfield, & Greenleaf, 1997; Koo, & Fan 2013). Other secondary consequences include increased risk of thromboembolic events, insulin resistance and development of delirium or cognitive impairments and alterations in sleep patterns (Parry, & Puthucheary, 2015; Winkleman, 2009; Convertino, Bloomfield, & Greenleaf, 1997; Koo, & Fan 2013).

It is imperative that while waiting for a definitive treatment, HF patients need to be mobilized so their muscles will not lose their function. When medical treatment becomes ineffective, invasive pulmonary artery catheter monitoring with concurrent vasopressor support or mechanical support, one which intraaortic balloon pump (IABP), is instituted. These treatments further reduce the patient ability to mobilize and walk since they require monitoring wires and cables. Traditional femoral inserted IABP requires complete bedrest. Cardiologists at our hospital have developed a novel percutaneous left axillary-subclavian artery IABP insertion approach to allow patients to mobilize out of bed while awaiting heart transplantation. Percutaneously placed axillary-subclavian intra-aortic balloon pump (IABP) support the patient’s heart while waiting for heart transplantation enabling them to ambulate. Pre-heart transplant patient with Swan-Ganz catheters and one inotropic drip are the second group in this study; Swan-Ganz
catheters measures pulmonary artery pressures and inserted via the internal jugular route. These patients are usually more mobile than the first classification. An innovative approach using Fitbit to measure accurately the number of steps patient took during their ambulation process was implemented. Experiences of these patients was explored using descriptive phenomenology to uncover the commonalities of the experience these patient have using Fitbit as an ambulation measurement device.

This presentation examines the patient experiences in their own words using excerpts from recorded interviews and corresponding patient-validated interpretations from the researchers.

Title:
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Keywords:
Fitbit activity tracker, Mobilization, patient feelings with an activity tracker, and Pre heart transplant patients

References:


Abstract Summary:
Excerpts from pre heart transplant patients’ interviews about the effects of using Fitbit as an activity/ambulation aid in their pre transplant hospital stay, with corresponding patient-verified analysis and conclusions from researchers/presenters.

Content Outline:
This presentation combines the excerpts from patient interviews for a research study using Fitbit as an ambulation aid for 1A pre heart transplant hospitalized patients, how they felt before being hospitalized for
heart failure, how they felt after being given a fitbit as an ambulation measuring device; what their assessment of how the Fitbit influenced their walking; what their feelings are about the effects of their increased mobility; how they perceive the use of Fitbit could help future preheart transplant patients. It includes analysis and conclusions of their responses by the researchers.

First Primary Presenting Author

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**Professional Experience:** Experience in taking care of heart failure and pre heart transplant ambulatory IABP patients since the procedure was started in 2007. Primary researcher on Fitbit use for pre heart transplant patients. Presented at local, regional, national and international critical care/transplant nursing conferences (oral and poster) Primary researcher/published author on ambulatory Axillary IABP retrospective research study- JNEP, 2018

**Author Summary:** Mr. Macapagal has been a coronary critical care nurse for 20 years. He is the primary researcher on the subject with 3 other co-researchers. He has presented(oral/posters) on this subject matter in local, national, and international critical care/transplant nursing conferences. Published author on the ambulatory IABP research; nursing care of ambulatory IABP patients(accepted pending publication). He is the primary researcher on the use of fitbit by 1A pre heart transplant patients in their CICU.

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**Professional Experience:** Assistant researcher on the Fitbit research project; Unit educator-Coronary Intensive Care Unit; poster presenter at National Teaching Institute 2018 in Boston, TED talk presenter (various topics).

**Author Summary:** Miss Rodriguez had presented several topics on TED talk at the Houston Methodist Hospital: She has extensive experience with talking to people and educating the nursing staff in CICU about new products, new procedures, and does regular lectures with student nurses.