Daily Weight Monitoring: An Important Instrumental Activity of Daily Living for Heart Failure Patients

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- Michigan Occupational Therapy Association

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Overview

- Is daily weight monitoring an important instrumental activity of daily living for a person with heart failure?
  - Significance of the problem of heart failure and re-hospitalization
  - Summary of the literature
  - The role of occupational therapy
    - Self-management skills
    - Health management and maintenance
    - Theoretical perspectives
  - OT research
  - Results & the impact on occupational therapy and occupational science

Heart failure - a chronic condition

5.7 million Americans (Centers for Disease Control and Prevention, (CDC) 2016)

Heart failure - costly condition to the nation

$30.7 billion annually (CDC, 2016)

Hospitalized heart failure patients often discharge to skilled nursing facilities (SNF) – significant growth of admissions to SNF

29% growth between 2000 & 2006 (Mor, Intrator, Feng, & Grabowski, 2010)

Heart failure re-hospitalization from SNF is significant

78% of re-hospitalizations for heart failure from SNF (Dharmarajan, et al., 2013)

Background and Significance

Significance to Occupational Therapy

Prevention is possible with self-management (AHRQ, 2013;Britz & Dunn, 2010; Carroll & Nxumalo, 2017)	Medication compliance
	Low-sodium diet
	Fluid restrictions
	Ceasing smoking
	Daily weight monitoring
Occupational therapy (AOTA, 2014; Berger, Esher, Mengle, & Sullivan, 2018)	Self-management = Instrumental Activity of Daily Living
	Daily weight monitoring
	Routines and habits

Theoretical Considerations Person-Environment-Occupation Model

Hierarchically organized model – (Law, Cooper, Strong, Rigby & Letts, 1996; Townsend & Polatajko, 2007)

Dynamic transitive relationship & considers domains – motor & process skills (Cole, 2018; Law et al., 1996)

Clinician established a transactive lens -- interdependence of the person & environment (Law, et al., 1996)

Temporal context & daily weight monitoring

An Occupational Therapy Research Project

- Occupational Therapy needs to demonstrate through research –
  - The capacity of the profession to reduce rehospitalization rates;
  - Our distinct value in addressing occupations beyond BASIC ADL;
  - The value of address the IADL of health management and maintenance with chronic conditions.

A quantitative, prospective, cohort design – two skilled nursing facilities - operational confidence in interventions & cause & effect (Law & MacDermid, 2014; Mann, 2003)

Intervention group participants identified a goal of daily weight monitoring

Daily weight monitoring interventions were provided as part of occupational therapy

Methods, Participants & Procedures

Descriptive Statistics

Participant Characteristics

Descriptive Data	Total No.	Intervention Cohort	Comparison Cohort	%	Intervention Cohort %	Comparison Cohort %
Male	16	8	8	53%	67%	44%
Female	14	4	10	47%	47%	50%
40-49	2	0	2	7%	0%	11%
50-59	4	1	3	13%	8%	16%
60-69	5	2	3	17%	17%	11%
70-79	7	4	3	23%	33%	17%
80+	12	5	7	40%	42%	39%
Primary	6	3	3	20%	25%	17%
Secondary	24	9	15	80%	75%	83%

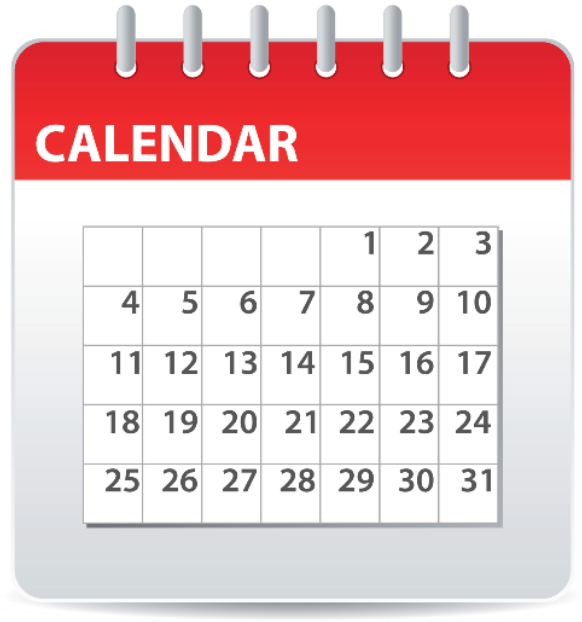
Outcome Measurement

- Incidence of re-hospitalization 30 days post discharge from the SNF
- “All-cause” readmission; any unplanned readmission to a short-stay acute-care hospital within 30 days (Boccuti & Casillas, 2017; CMS, 2017)

Table 2
Re-hospitalization Characteristics

Group	Characteristic of Interest	
	No Re-hospitalization	Re-hospitalization
Intervention	12	0
No Intervention	11	7
Totals	23	7

Note: Re-hospitalization data collected from both cohort groups.



The Chi-square test indicated that a relationship existed between the dependent variable of re-hospitalization and the categorical variable of daily weight monitoring

X^2 (1, N = 30) = 6.08, p = 0.01

Statistical Analysis

Limitations of the Capstone Project

The small number of participants of both cohorts is a limitation as this factor increases the chance of assuming the hypothesis is true falsely (Faber & Fonseca, 2014)

Project did not track whether daily weight monitoring occurred following the SNF stay

All intervention participants – exposed to interview questions & used the Weight Symptom Heart Failure Log

Frequency versus daily – standard frequency for OT 5 days per week

Fidelity of Intervention

From research to feasibility of intervention

Tools needed

Training associated

Weight and Symptom Log for Heart Failure

Weight and Symptom Log for Heart Failure

What to do:

- Weigh yourself every morning, after voiding, before eating, and wearing the same amount of clothing. Check any symptoms you have that day.
- Notify your nurse of doctor if you have more than a 2-pound weight gain in one day or if you have a 3-5-pound weight gain in 5 days.
- Bring this record with you to each visit with the doctor or nurse.

Date	Weight	Comments/Symptoms:

Lessons Learned

- Include only participants with the primary diagnosis of heart failure
- Define daily weight monitoring
- Scale acquisition prior to discharge
- Follow up contact to determine carryover of self-management

Implications for Occupational Therapy

Chronic conditions & Occupational Therapy

(AOTA, 2014)

Self-management of one's health = favorable prognostic indicator

(Albert, 2013; Golden, 2016)

Healthcare organizations seeking solutions

(Hansen, Young, Hinami, Leung & Williams, 2011)

Contribution to Occupational Science & Occupational Therapy

Occupation & Health

Credence to and support of the profession of occupational therapy (Clark, et al., 1991; 1993; Yerxa, 1991)

Overtly make the connection occupational engagement and health – raise public awareness (Price, 2014)

Short course AOTA 2020 submission – Feasibility of intervention focus

MiOTA 2019 Conference

American Journal of Occupational Therapy (AJOT)

Open Journal of Occupational Therapy (OJOT)

OT Practice

Partnership of the project within HCR ManorCare & ProMedica – tactical objective chronic conditions

Apply to the American Occupational Therapy Foundation's (AOTF) Intervention Research Grant

Dissemination, Publication, and Future Research & Grant Funding

Conclusion

- OT and the capacity to influence re-hospitalizations
- Daily weight monitoring for persons with heart failure – preventative, self-management occupation
- Distinct value of the profession with heart failure & other chronic conditions – IADL of Health Management and Maintenance

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Questions