

HELP: Hydration Evaluation for Loss and/or Prevention

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DEDICATION

I dedicate this project to the geriatric providers and patients who may benefit from the outcome. A special thank you to my husband for his encouragement, love, support, and understanding of the long hours dedicated to try and improve the outcomes of this vulnerable population. He knows the passion I have for geriatrics and never let me forget they were the beneficiaries of our efforts. Dr. Debra Cherubini, who never stopped encouraging and supporting me when times were uncertain and kept me accountable to myself and focused on the reason I was doing this. Most of all to Jordan Russell, looking down on me, never letting me forget that he would be so proud of being able to call me 'Dr. Mom'; I will hear it in the wind son, I love you!

ACKNOWLEDGEMENTS

Without the support and participation of the geriatric clinicians the development of this clinical pathway would not have been possible.

Dr. Sharon Stager, who took a chance on a doctoral transfer student and created policy to allow me to enroll in an exceptional program, the continued guidance was invaluable.

Dr. Aimee Ruzzo and Matt Resigner for accepting the roles of being on my advisory board and providing clinical guidance, constructive criticism and support through this journey.

PREVIEW

LIST OF ABBREVIATIONS

AKI –Acute Kidney Injury

APC- Advanced Practice Clinician

APCs – Advance Practice Clinicians

BUN – Blood Urea Nitrogen

CHF- Congestive Heart Failure

Cr – Creatinine

CVA- Cerebral Vascular Accident

eGFR- estimated Glomerular Filtration Rate

ER- Emergency Room

HC- Hypodermal Clysis, Hypodermoclysis

IV- Intravenous

IVF- Intravenous Fluid

ORT- Oral Rehydration Therapy

PO – Per Os – by mouth

SC – Subcutaneous

URI – Upper Respiratory Infection

UTI- Urinary Tract Infection

ABSTRACT

Problem Statement There is a lack of a clinical definition of dehydration and no research based standard for identification, treatment, and intervention.

Purpose Identify and improve the gap in education and training for APCs (Advanced Practice Clinicians) for identification of dehydration in the elderly.

Method A quantitative analysis was conducted by surveying a group of APC's to determine their self-identified level of clinical competence for assessment and treatment of dehydration and their perceived need for additional training in this area.

Analysis Use of the blind survey removed potential bias and could be used to generalize responses from a larger population response.

Significance A clinical pathway would allow for consistent identification and treatment.

Chapter 1

HELP: Hydration Evaluation for Loss and/or Prevention

Problem Statement:

The purpose of this study is to identify the lack of consistent education for the Advanced Practice Clinicians (APCs) in the geriatric nursing home setting in identifying and initiating treatment of geriatric dehydration. Dehydration has become a generic term water loss depletion or intravascular volume depletion (Hooper et al., 2015; Thomas, Tariq, Makhdomm, Haddad, & Moinuddin, 2003). However evaluation and treatment of dehydration is anything but generic. Dehydration is one of the most common, detrimental and potentially avoidable medical conditions that affect elderly patients in the nursing home (Greene, et al., 2018; Lauriola, et al., 2018; Begum & Johnson, 2010; Thomas, et al., 2003; Bennett, 2000; Greene, Wilson, Tingle, & Loveday, 2019). This study aims to investigate how APCs identify and intervene in dehydration. Assessing how the APC recognizes early dehydration and implements interventions will guide the study in determining if revision in training is warranted and help develop a specific clinical pathway that will direct future practice. A blind survey will be conducted and sent to the APCs that are directly responsible for assessing and treating this vulnerable population. Post survey analysis will identify how and when dehydration is recognized by the APCs and when the treatment is initiated. The objective is to see if there is a gap in the APC education that can be improved through a specific clinical pathway.

Chapter 2

Theoretical Framework:

Theory of Caring

Theoretical frameworks have been developed and serve as the basis for research, education and practice. Looking to identify and treat dehydration in the elderly was examined through the nursing theory of caring. Jean Watson's Theory of caring focuses on promoting health, preventing illness and restoring health, with the focus of practice being on the patient and their outcome rather than on technology (Riegel, Oliveira, & Silveira, 2018; Joseph, 2014; & Ryan, 2005). Investigating what the signs for identification of dehydration and early intervention emphasizes prevention of adverse effects and restoration of health. Applying Watson's caritas factor 6

systematic use of scientific problem-solving method for decision making was the basis of the project, to create a research based clinical pathway for APCs to follow as they cared for their patients (Watson, 2006). Using Watson's caritas as the basis for a clinical pathway for APCs in their practice and their scientific/technical actions allow for mindful, holistic, and genuine caring (Sitzman, 2007).

Application to Research:

Nursing fundamentally is holistic, seeing the person as a whole not the sum of their parts, or their diseases. Using Watson's theory of Caring and the common goal of caring-healing consciousness is the foundation of the desire to create an algorithm for early identification and sequential treatment of dehydration in the elderly (Watson, 2007). A quantitative study was implemented to remove bias and uphold caritas eight,

Provision for a supportive, protective, and/or corrective mental, physical, societal, and spiritual environment.

By allowing the clinicians who participated to freely respond without fear of judgement or professional repercussions it created more honest responses and thus a better assessment.

Creating an evidence based tool from these honest responses will allow for better, holistic treatment of the target population.

PREVIEW

Chapter 3

Review of Literature

Methodology

HELP: Issue

Average obligatory water ingestion whether through fluid ingestion, food consumption and oxidation is 1600ml/day. (Sterns, Emmett, & Forman, 2019). When the average fluid intake is not adequate, then a volume deficit or dehydration occurs. Dehydration is a well-known and recognized medical complication for the geriatric population and even more potentially problematic in the nursing home setting (Greene, et al., 2018; Lauriola, et al., 2018; Begum & Johnson, 2010; Thomas, et al., 2003; Bennett, 2000, & Suhayda & Walton, 2002). There are several factors that affect the hydration status of the geriatric population. These factors include but are not limited to the ability to obtain fluids independently, functional and cognitive impairments, and alteration of fluid textures. Elderly nursing home residents do not regularly consume adequate fluids to support health which is complicated by coexisting health, sensory and functional problems (Cook, Hodgson, Hope, Thompson, & Shaw, 2019). Facilitating early identification of those who are at a deficit is the focus of this project.

In 1995 the American Medical Association council on Scientific Affairs noted there is no absolute definition of dehydration, and in the elderly the signs and symptoms of dehydration may be absent or unreliable (Creelius, 2008; & Weinberg & Minaker, 1995). The diagnosis of dehydration has been used and defined as any depletion in the total water content from diminished intake, pathophysiologic loss or both. But the term dehydration is often used as a generic one for any derangement of fluid composition (Begum & Johnson, 2010). The way

clinicians make this diagnosis is also not uniform. There are clinical diagnosis and physical diagnosis, but clinicians appear to be using the term dehydration synonymously with intravascular volume depletion (Thomas, et al., 2003). Dehydration can lead to an unfortunate patient outcome if not diagnosed and treated promptly. A natural progression of aging is diminished thirst which makes this geriatric population inherently at risk for dehydration (El-Sharkawy, Opinder, Ron, & Dileep, 2016; & Bennett, 2000). Long term residents are especially at risk because most of them have comorbid medical conditions; often times rely on others for access to drinks, and may not feel thirsty. Approximately half of long term care residents do not consume the recommended fluid levels (Namasivayam-MacDonald, et al., 2017; & Wilson, et al., 2019).

There are many physical and cognitive adverse effects, such as a poor conversation, and less comprehension, that arise from even early dehydration. The earlier the intervention is initiated the better the prognosis for the elderly resident. Studies have shown that even mild dehydration affects cognitive function and because of these affects it affects quality of life (Wilson, et al., 2019; Thomas, et al., 2013; Suhayda & Watson, 2002; Shimizu, et al. 2012; & Hooper & Bunn 2014; Hooper et al., 2017). It can increase the risk for pressure ulcers and falls (Merhej, 2019; Hendry & Ogden, 2016; Namasivayam-MacDonald, et al., 2017; Weinberg & Minaker, 1995; & Thomas, et al., 2003). Early identification of dehydration will inherently improve outcomes.

There is literature that supports that the majority of elderly residents do not consume sufficient fluids to maintain adequate levels of hydration (Hendry & Ogden, 2016; Godfrey, Cloete, Dymond, Long, 2016; Goldberg, et-al, 2014; Hooper & Bunn, 2014; Bennett, 2000; Thomas, et al., 2003; Bunn, Jimoh, Karrouze, Wyatte, & Hooper, 2019). Long term care staff