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Tindel, Christina, "Patient Controlled Fluid Restriction Monitoring" (2020). *MSN Capstone Projects*. Paper 46.

<http://hdl.handle.net/10950/2648>

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Patient Controlled Fluid Restriction Monitoring

A Paper Submitted in Partial Fulfillment of the Requirements

For NURS 5382.560

In the School of Nursing

The University of Texas at Tyler

by

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August 9, 2020

Executive Summary

Many times, as a part of the plan of care for a patient during their hospital stay, they are given non-pharmacological orders such as maintaining fluid restrictions. These orders can be quite restricting and hard to follow for many patients, and support and education must be provided to the patient to ensure compliance and a better likelihood of them continuing the care plan after discharge. The nonpharmacologic orders such as following fluid restrictions are for a variety of reasons and with differing outcomes depending on patient, however the end goal of these orders are to improve the patients outcomes. The way these patients and the care team go about following them vary greatly but it is vital to educate patients on the purpose of such interventions and to ensure they have the tools available as a part of the care process. Often times the nurses are the ones monitoring fluid intake simply telling the patient that they have reached the limit for the shift. It has been found that including patients actively in their care process is beneficial and having them take a more active role in monitoring their fluid intake should be no different. Although it may not be easy to let go of some of the control by the nurses, a change towards having the patients monitor as well will be beneficial to not only the patients during their acute care hospital stay, but also long term as they will build the skills needed to maintain these restrictions after discharge. The monitoring and compliance of individuals under a fluid restriction led to the PICOT question: In patients placed on fluid restrictions (P), how does including the patient in monitoring fluid intake (I) compared to nursing care only monitoring (C) affect their compliance with the fluid restrictions (O) during their acute care hospital stay (T)?

Rationale

The main ideal behind this intervention is that if patients are able to adequately monitor their fluid intake and maintain the tight restrictions while admitted to the hospital, they are more

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likely to continue to follow the restrictions after discharge. Patients are often unaware of the implications of their orders and education must be provided. If a nurse finds a patient is capable of monitoring and maintaining their fluid intake within the restrictions provided they are given the appropriate tools and education. With appropriate intervention by the nursing staff, the patients will be allowed more autonomy of care and more understanding of where they are sitting for the fluid intake each shift.

Literature Synthesis

As mentioned above and quite frequently throughout the remainder of this paper, patient education is a main point to have a successful change. One study by Howren et. al (2015) studied the behavior and self-monitoring and intervention by staff versus routine control in patients known to be noncompliant with their hemodialysis recommendations. Significant improvement in the intervention group was seen over time showing that educating patients can have a lasting effect.

Fluid restrictions are among the most difficult restrictions placed on dialysis patients and many patients under these restrictions are unaware of why they are placed (Tovazzi and Mazzoni, 2012). Per Tovazzi and Mazzoni (2012), although the patients whom experience weight gain due to too much fluid intake are made aware of the condition, they may not necessarily know how to go about following a strict intake limit. Often factors such as age, mental health, support, polytherapy, and diet play a part in the patient's compliance. Several of the patients that were noncompliant or struggled with the fluid restrictions often did not fully understand why they were in place due to lack of evidence, education, and support. Nurses are a vital part of patients plan of care during the acute care hospital stay and during this time should provide education and promote adherence by encouraging them to take an active role in their

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health. As with the work of Tovazzi and Mazzoni (2012), Yokoyama et al. (2009) also stressed the importance of dialysis patients controlling their fluid intake as it is a predictor for outcome of care. If people anticipate the benefits outweigh the barriers, people are often more compliant therefore the psychological burden must be considered by those providing any interventions for patients (Yokoyama et al., 2009). Van der Wal, Veldhuisen, Veeger, Rutten, and Jaarsma (2010) took a different approach on studying patient compliance with non-pharmacological recommendations. The aim of their study was to investigate if in patients with heart failure, there was an association with non-compliance of non-pharmacological steps such as fluid restriction and adverse outcomes. Van der Wal et al (2010) reported that fewer heart failure readmissions to hospitals were needed in the patients who were compliant with nonpharmacological orders such as fluid and diet restrictions. Patients who understood the self-care activities and had the motivation had decreased numbers of complications and subsequent hospitalizations related to ascites treatment (Jayaraman, Anand, and Hepsy, 2018). Self-reporting may skew results some, however, a statistically significant relationship was found between socio-demographic variables and self-care activities (Jayaraman et al., 2018, p. 132).

Of patients receiving hemodialysis treatments in an inpatient hospital setting, those “younger than 60 were less likely to adhere to fluid allowances” (Smyth, Hartig, Hayes, and Manickam, 2015, p. 113). Quality of life in patients under 60, who have been on dialysis and take multiple medications was found to be the lowest (Pereira and Leite, 2019). This correlates directly with Smyth et al. The results found by Smyth et al (2015) were also found in other studies conducted and that it remains important to stress compliance with recommendations made by physicians to improve mortality and morbidity rates (van der Wal et al, 2010). A positive correlation of knowledge and attitude of dietary compliance by patients was seen with

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educational intervention by nurses (Mersal, El Deen El-Sedaway, and Mersal, 2016). Education needs must be addressed and these needs can be found by using pre- and post-intervention testing which can then be used to directly educate the patients on during the dialysis treatments (Parker, 2019). There are many ways to go about monitoring patient's compliance with nonpharmacological orders but education for the patient and their family and valuing the patient's input are also beneficial. Not only should the level of adherence be monitored, but also the patient's whole health status, support system, and other socio-economic factors. Interventions and education can help improve adherence of dialysis patients, however the long-term benefits to the patients is still unknown (Murali et al., 2019).

As with other studies, Daniels, Robinson and Walker (2018) found that of the non-pharmacologic orders, following fluid restrictions was listed among the most difficult. When discussing age and compliance, being older was associated with higher rates of adherence, "participants' perceptions of adherence to their treatment plan differed greatly from their actual adherence to the plan" (Daniels, Robinson, & Walker, 2018, pp. 556). Although self-reporting is not always the most reliable, it was found that the older patients had a higher likelihood of being compliant which can lead a care team to be sure to provide extra support and education to the younger patients who may not have a full grasp of the impact a small change can have on their quality of life. Just as age was found to be a key difference in compliance and ability to maintain orders placed, to have better outcomes, patients and their families need to be educated as well (Toukhsati, Driscoll, Hare, 2015).

Stakeholders

Those affected by this intervention include obviously the patients and their care team while in the hospital. This however can have long term implications for the patients and their

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provider. This is due to the thought process that if the patient is able to maintain these lifestyle modifications after discharge, they will have less health problems directly related to fluid overload. By limiting the health complications by these patients, their healthcare costs will be reduced leading to a potential for great savings for the individual and their insurance provider. As mentioned above, the care team will obviously be impacted yet in a different way. The nursing staff will need to adjust their plan of care and the management of fluid intake for the patients. The nurses must be willing to relinquish this responsibility to the patients yet maintain an eye on their intake. Additionally, the patients will spend less time in the hospitals overall which will open up more beds for other patients.

Implementation

The proposed plan to have the patients take an active role in monitoring their fluid intake as opposed to nursing only monitoring will most likely meet resistance by the nursing staff, so with that said, their input will be requested throughout to help improve and simplify the process. For the initial implementation, only one or two floors will need to be selected such as an IMC level of care. This level of care was chosen to use as a starting point as large amounts of patients require fluid restrictions while admitted. Once the units have been selected for implementation, nurses that are known to be early adopters will need to be selected. The early adopters will need to be nurses known to be positive and influential on others who will be more likely to recruit others to take an active role in the change. Prior to actually implementing the change, the staff will be introduced to the proposed plan, be provided education and research related to this topic, and they will take part in a quick pre-intervention survey. This survey will cover topics such as their perceptions of the patient's abilities and their own views on having patients monitor.

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During the shift huddle prior to the start of each shift, the nurses will be informed of the new interventions and of the benefits to the patients. This information will be shared over the course of seven to ten days which should allow all staff to hear the information at least three times and give an opportunity to provide feedback and share concerns. During this first week, nurses will be asked to find ways to allow patients the autonomy of their care and to monitor their fluid intake. It would be expected that during this time the nurses become more open to the idea of having the patients take a more active role in the fluid intake monitoring.

Next would be the actual implementation of having the patients be the primary monitor of their fluid intake while ensuring the patients have access to the charts and fully understand them as well as the reasoning behind the restrictions. The nurses will need to continue to keep track of the intake and to chart in the computer system as well as to encourage patients to remain within the limits while intervening as necessary. However, the recognition for work should be occurring throughout the process, as “it is important to acknowledge members of the project team who are instrumental in the planning and implementation process” (Melnyk and Fineout-Overhold, 2015, pp. 215).

After the change being in place for a few weeks, nurses will be asked to report the effects of the self-monitoring of fluid intake by the patients and any benefits they see. Feedback and suggestions will be taken in order to more effectively help the patients during this time. As with most changes to interventions, continued evaluation and praise to the care team will need to occur and adjustments to the new protocols be made as indicated. If this intervention is found to be successful, it will then become a hospital-wide change with continued involvement from the innovators and frequent evaluation of progress.

Timetable/Flowchart

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To fully implement this change, a minimum of 5 weeks will be needed with the ideal timeframe being at least 7 weeks. The pre-intervention stage should take no more than one week, this will be when the units and early adopter nurses are to be selected as well as creation of the surveys for staff and conversion charts for the patients use. Intervention stage one will be 7-10 days this will be when staff is notified of upcoming changes, provided education and reasoning behind intervention, and encouraged to pass more of the responsibility on to the patients.

Stage two of the actual intervention process will be two to four weeks. During stage two, nurses will be encouraged to share tactics to be used and provide feedback. It is expected that during this time the patients will be the primary one monitoring intake. The nurses will continue to observe, chart, and intervene where appropriate. The post-intervention stage will be another week, it is during this time the overall performance of the change on the unit will be evaluated and considered for implementation hospital wide where appropriate. Please see Appendix A for graphic of this timeline.

Data Collection Methods/Planned Evaluation

Evaluation of the intervention of having patients take a more active role in their care during the hospital stay by monitoring their fluid intake will require multiple steps. First, one must consider the way the care team feels about the patient's ability and the staff's perception of the intervention. Secondly, and probably most importantly in this intervention is to determine the patient's perception of their ability to follow the restrictions in place and whether they were able to successfully follow. To effectively evaluate the change, one must consider the effectiveness, learnability, flexibility, and attitude of the users, which in this case would be both the patients and hospital staff (Zhou and Chan, 2017).

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To evaluate the effects seen by the hospital staff involved in the direct patient care of the patients under the restrictions, a post-intervention assessment will be completed via survey. A proposed survey for the nursing staff can be seen in Appendix B. It will be a Likert scale with questions regarding education, materials provided, and if the nurses feel the patients were able to follow the restrictions. On discharge, the patients will also be asked to complete a quick survey as shown in Appendix C which will also be a Likert scale. The survey for the patients will be to evaluate the amount of education provided, the conversion charts give, difficulty with restrictions, and if they will be able to maintain fluid restrictions post-discharge. It would be beneficial to continue to evaluate the patient's long-term outcomes by monitoring their health status in upcoming appointments for dialysis or the heart failure clinic. This however is beyond the initial intervention of the close fluid restrictions placed during the patient's acute hospital stay.

After completion, the surveys will be analyzed to determine if the steps taken were appropriately and enough education was provided. Suggestions from both staff and patients will need to be taken into consideration and the intervention plan adjusted as needed. As this intervention has no harm to the patients and may have a beneficial aspect for them in the long run, the intervention may be continued if found effective.

Cost/Benefit Discussion

The initial cost of this proposed plan will be the amount required for printing the surveys and conversion charts as well as the staff to create and evaluate these. The hospital has their own printing department which can make large numbers of copies relatively cheaply as well as each unit having their own printers, unfortunately due to the hospital's printing request process a true quote was unavailable. As mentioned above, if the patients are successful in effectively

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following the fluid restrictions, they have the potential for shorter hospital stays and better health related quality of life over time. This can reduce their direct patient cost in medications and deductibles as well as the cost to the insurance companies and the hospital. If the patients are not frequenting their provider's offices with health issues that could be prevented by maintaining the fluid restrictions long term, their time in the offices could be reduced or removed altogether allowing those providers to then focus their time on other patients or these same patient's other concerns. In addition to the patients not frequenting their doctor's offices as much, they will also not be getting to the point of hospital admission as often which will then open up more beds for others to use.

Overall Discussion/Results

While doing the research to prepare a proposed plan for this intervention, the thought process of having fluid restrictions on the patients was geared mostly towards the treatment plans for heart failure patients. However, during this time of research it was seen that fluid restrictions and the effects of those on patients has been studied quite a bit more for hemodialysis patients. The patients are successful with their treatment plans if they given the proper tools, education, and most importantly support. To make this a successful intervention, the patients will need encouragement and gentle reminders from the staff, but just as with any intervention the individuals being affected must have an understanding of why and be given appropriate education. Some patients will require much more education and reminders than others but this can help them maintain the restrictions for a longer period of time.

Recommendations

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As discussed above, the recommendations for this project are to start small such as on one unit of the hospital and frequently reevaluate and adjust intervention plan accordingly before moving on to another unit with the change as well. The next steps would be to attempt to track this intervention long-term. This would be done by observation of hospital re-admissions for fluid overload related diagnosis for a patient who has previously been a part of this change and maintained the fluid restrictions during their previous hospital stay. As a future Family Nurse Practitioner, a main goal is going to be continued patient education. Many nurses and those in the healthcare field will say that one of the number one ways to help patients be more successful is to ensure they are provided the education and support. It would be encouraging to see the hospital this author works attempt to implement this change on one unit such as the IMC cardiac floor which has a great potential for patient success as well as encouraging this change for the nurses of other floors as well. Recommendations for others are mainly to encourage the change and patients to have the autonomy to take an active role in their healthcare. Fellow nurses will need to be given proof that this change will help them be more successful in their patients lives. The nursing leaders will need to look towards potentially making this a permanent change on the floors and continue to encourage their staff to maintain. Patients will need continued reinforcement by their providers and care teams but as it is their health in their hands, education and continued support will help them maintain fluid restrictions long term.

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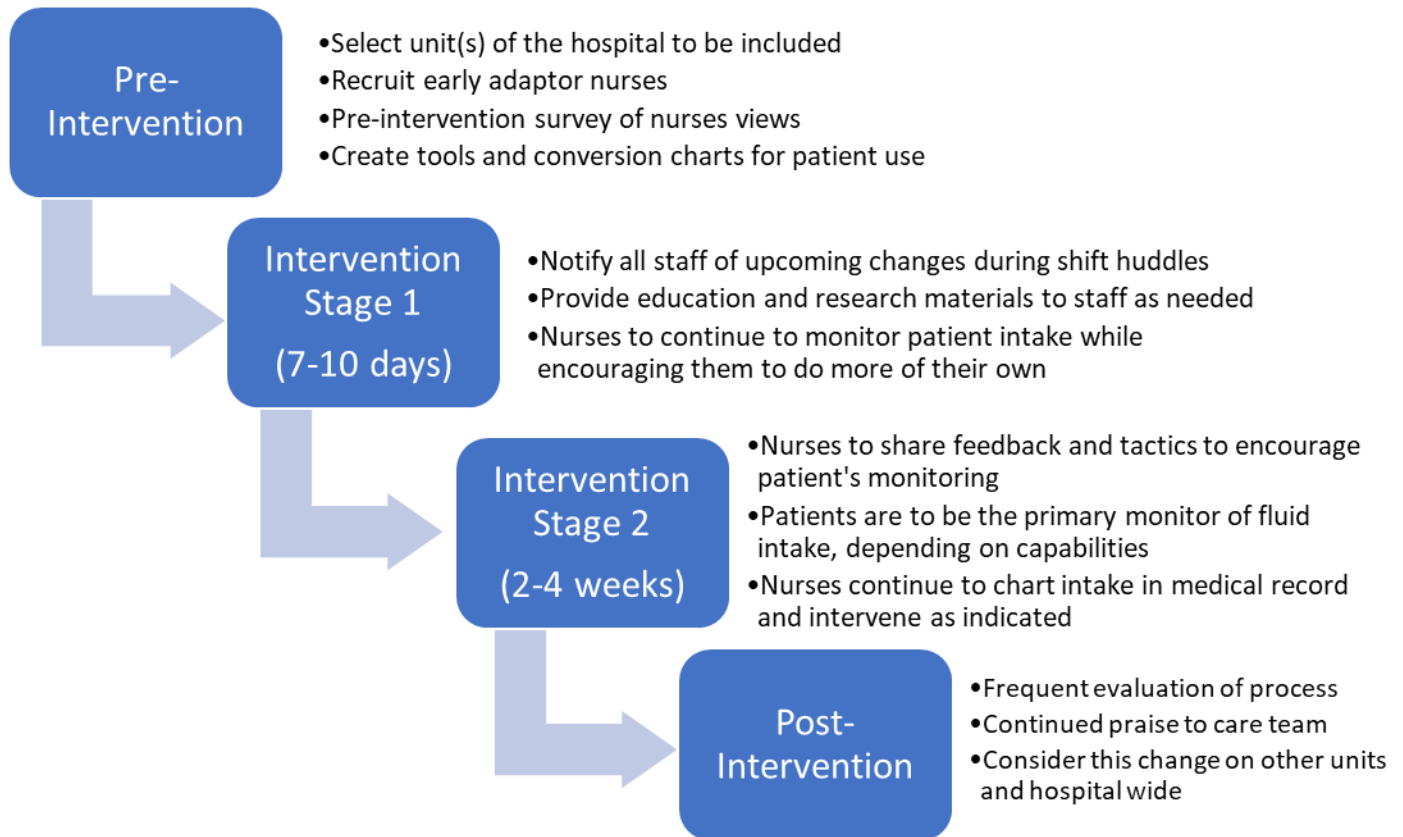
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Appendix A

Timeline



Appendix B**Post-Intervention Survey for Staff**

Evaluation questions for staff	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The staff was provided adequate education.					
The patients were given adequate education.					
The materials provided to patients were easy to use.					
The patients were able to follow the fluid restrictions with limited nursing intervention.					

Appendix C**Post-Intervention Survey for Patients**

Evaluation questions for patients	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I was given enough explanation.					
The conversion charts were easy to use.					
I required little input by nurses to maintain the fluid restrictions.					
I had difficulty following the fluid restrictions.					
I will be able to continue these restrictions after discharging from the hospital					