

TO ADOPT A JHNEBP (JOHNS HOPKINS NURSING EVIDENCED-BASED PRACTICE) MODEL INTO PRACTICE – A SUSTAINABLE HYDRATION PRACTICES TO ACUTE STROKE PATIENTS AT ASU.

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Background:

Stroke patients are high risk to develop dehydration due to swallowing difficulty or functional disability. Evidence of meta-analysis showed that dehydration using blood BUN/Creatine ratio (BUN/Cr) <15 were found in stroke patients. Studies on targeting BUN/Cr ratio hydration management were able to reduce rate of stroke-in-evolution (RR 0.8) and had better outcome (RR 0.77) in 3 months. After reviewing current practice in stroke units, a systemic clinical workflow for hydration management has been developed. The workflow includes hydration screening with BUN/Cr, interventions for extra fluid fed round, supplementation by prescribed intra-venous fluid and encouraging patient and caregiver involvement.

Methodology:

The workflow is developed using John Hopkin Nursing Evidence Based Practice Model. Retrospective data retrieved from 1st July to 31st August 2018 for control group, while 1st October to 30th November 2018 for intervention group. Total 217 patients admitted to Tuen Mun Hospital of ASU with their first ischemic or hemorrhagic stroke, both have 2 sets of blood taken for BUN/Cr ratio calculated on day of admission and day 4 – 7 hospitalization. Two groups of patients were retrospective studied for 7 days or ceased if patients transferred or discharged from ASU.

To guide ASU nurses to accomplish clinical decision through the JHNEBP model

- Phase 1: Literature review and set up objectives
- Phase 2: A clinical workflow and an educational pamphlet were designed for rehydration purpose to patients with briefing session to ASU nurses.
- Phase 3: To adopt the workflow for extra fluid fed round, proactive discussion to in-charge neurologist for maintenance of IVF and education to carer.

Results:

Among 154 patients meeting inclusion criteria. Patients with BUN/cr ratio > 15 was decreased from 69.6% to 60.9% as compared. Before program, the mean BUN/cr ratio is increased from 17.05 (on admission) to 19.07 (day 4 to day7) (p-value < 0.02). After program, the mean BUN/cr ratio of patients is decreased from 16.21 (on admission) to 14.57 (day 4 to day 7) (p-value < 0.03).

Conclusion:

Although dehydration is common in the acute stroke population, initiation and maintenance of fluid supplementation is limited and poor oral fluid intakes in many patients were ignored. This EBP project provides a foundation for a system improvement in targeting extra fluid fed round to IVF administration as well as the development of a fluid resuscitation algorithm for future prospective trials as we attempt to improve clinical outcome.

Reminder for special I&O chart

Calculate BUN/ CR ratio on Day 1 and if any, X if no RFT is taken

Circle either one

| | | |
|-----------------------------|---------|---------|
| Ax: | | |
| BUN/ CR ratio: | 16.82x | >15 <15 |
| Clinical s/s of dehydration | Yes | No |
| Oral fluid intake | >1000ml | >1000ml |

Hoist the signage to alert staff/CMO: pt is at risk of dehydration

Risk of dehydration

Please "Risk of dehydration" if this column is chosen

Fu: Encourage fluid intake, aim top up 300ml / day at 10:00 and 16:00

Distribute education pamphlet

Inform CMO to review hydration plan

300ml / day

Educate pt and relative the importance of hydration

Discuss with CMO for the need of IVF/ refer diettian

