



IMPLEMENTATION OF MULTIDISCIPLINARY NASOGASTRIC TUBE REMOVAL PROGRAM IN HOSPITAL

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Background

Prolonged nasogastric tube (NG tube) use may cause physical and psychological discomfort, and increase the risk of various complications, such as mucosa damage, tube loosening, gastric reflux, etc. These adverse events not only have negative effects on patient’s well-being and life quality, also increase caregiver burden and associated healthcare costs. Our team discovered the low NG tube removal rate in the rehabilitation ward, while there was no clinically available standardized protocol. Hence, the aims of this study were to established a NG tube removal program and assessed the feasibility.

Methods

Nasogastric tube removal program was implemented by a multidisciplinary team, including physiatrists, nurses, speech and language therapists (SLP), Radiology (RT) and nutritionists. The standardized training protocol for removal of nasogastric tube was designed and established by the team (figure 1), and carried out in the rehabilitation ward of Shuang Ho Hospital from January to December in 2022. Lessons were given by experienced team members to ensure the NG tube caring quality provided by clinical staffs and the ability to evaluate for removal of NG tube. The primary outcome was the rate of successful NG tube removal before discharge, which was defined as no complication or any event of reinsertion within 3 months. The secondary outcome was the rate of patients who transferred from tube feeding to oral intake successfully at discharge.

Step 1 : Physicians screened suitable patients

- Establishing Screening Criteria: Physician's initial screening assessed consciousness, willingness to eat, motor function, and language ability, selecting patients eligible for oral intake.

Step 2 : SLP evaluated patients’ swallowing ability and Determined the direction of subsequent treatment

- Is it possible to start oral intake?
- Refer to videofluoscopic swallow study (VFSS)



Normal diet IDDSI 7



Soft diet IDDSI 6

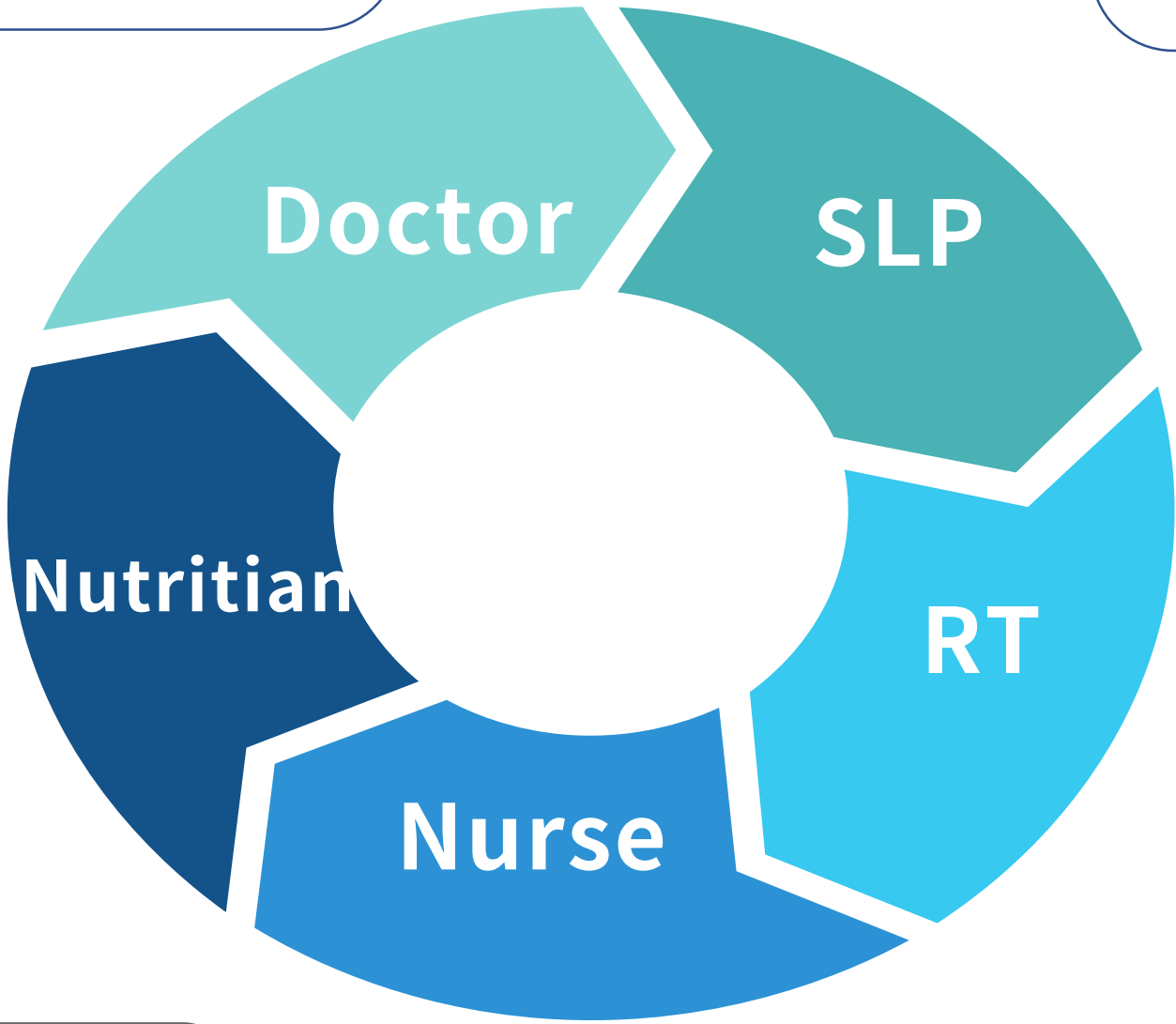


Groud diet IDDSI 5



liquid diet IDDSI 4

Step 4 : The medical team collaboratively selects appropriate food textures for patients with swallowing difficulties.



Step 3 : SLP collaborated with Radiology for videofluoscopic swallow study (VFSS)

- 4 consistency food test
- Speech Therapist provided real-time recommendations during the study.

Step 4 : Nurse implemented high-quality Dysphagia Care in the Ward

- Oral and pharyngeal function training
- Monitoring Patient Feeding Safety in the Ward



Instructional Video
Scan Here !



FIGURE 1. MULTIDISCIPLINARY NASOGASTRIC TUBE REMOVAL PROGRAM

Picture 1. Different consistency food for dysphagic patients

Results

FIGURE 2.

101 patients were recruited, and 60 of them fulfilled the inclusion criteria. Of 60 included patients, 52.3% (n=32) achieved total oral intake and had their NG tube removed before discharge (figure 2). The mean number of days required to achieve total oral intake and NG tube removal was 18.3±14.3. 61.7% (n=37) of patients were able to maintain oral intake three meals a day at discharge. There was no complication within 3 months follow up and none of these patients required NG tube reinsertion. (figure 4)

FIGURE 2. Flow chart of the study

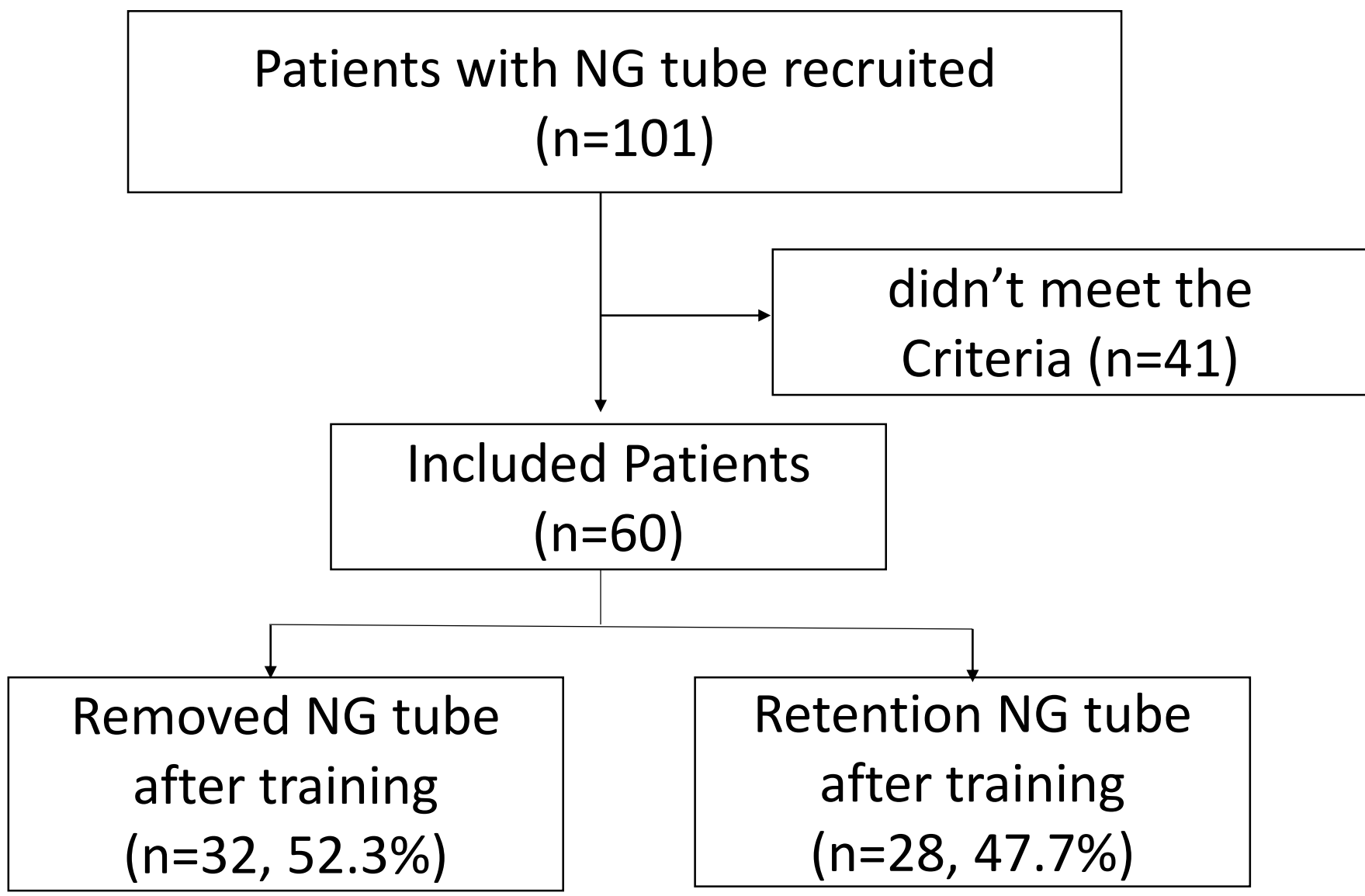


FIGURE 3. NG tube removal rate in 110 and 111 years

	110	111	Total (n)
NG removed (n, %)	35, 27.6%	32, 31.7%	67, 44.3%
NG not-removed (n, %)	92, 72.4%	69, 68.3%	127, 55.7%
Total	127	101	228

FIGURE 4. White blood cell count (WBC) and C-reactive protein (CRP) within 3 months follow up

	110	111
Wbc		
normal	117, 92.1%	91, 94.8%
Abnormal (>10.80 ×10 ³ /μL)	10, 7.9%	5, 5.2%
CRP		
normal	64, 88.9%	67, 94.4%
Abnormal (>5 mg/dL)	8, 11.1%	4, 5.6%

Conclusion

Our nasogastric tube removal program has shown to assist clinical staffs to screen for suitable candidates, while improving the success rate of NG tube removal. Therefore, Establishment of a standardized protocol with practical execution for NG tube removal could improve healthcare quality in patients with prolonged NG tube use.

Key word

nasogastric tube, Quality Improvement Program

Reference

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