

COMMENTARY

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Obligation of home care education for tracheostomy

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Abstract

Background: Patient education facilitates imparting information to the patients and their caregivers by the health professionals and others that alter the patients' health behaviors, improve their health status and upright health safety at home. It strengthens the clinician-patient relationship by demonstrating respect and enhances patients' feelings of self-efficacy resulting in improved health, well-being, safety, and outcomes. It plays a vital role to prevent deadly but easily manageable fatalities that have been occurring at home in patients with various medical devices for permanent disabilities. In this commentary, the obligation of pre-discharge patient education and ensuring standard care at home for the patients with a lifelong tracheostomy is emphasized in particular.

Patients with irreversible airway compromise and bulbar paralysis due to various chronic, systemic and autoimmune diseases often have to continue with a lifelong tracheostomy. These patients require a cautious and meticulous home care of the tracheostomy tube and the stoma. A fatal incident that occurred recently and received in the emergency department is mentioned here. It happened due to the failure of a very simple management of tracheostomy complication at home.

Conclusion: Many centers and hospitals have their integrated pre-discharge patient education program and checklist. This is particularly mandatory and warrants due attention in regard of sending a patient home with a tracheostomy. A brief span hands-on training and comprehensive educational materials are to be ensured sincerely. It is vital to have/organize the support of relatives or a companion. At least one individual ought to learn how to help the patient in case of emergency. That person should join the patient when he/she gets guidelines in the hospital. Medical information and communication technology and digital modules should also be made easily accessible and user-friendly to the mass people. Then only, this kind of shattering occurrences can be reduced at home settings.

Keywords: Trach, Tracheostomy, Home care, Hands-on training, Patient education, Fatality at home

Main text

Obligation of home care education for tracheostomy

Patient education is the process by which the health professionals and others impart information to patients and their caregivers that will alter the patients' health behaviors and improve their wellbeing status [1]. This is a combination of methods including the provision of information, counsel and advice; behavior modification techniques which influence the way the patients experience their illness and/or their knowledge and health

behavior, aimed at improving, enhancing and learning to cope-up with a condition, usually a chronic one.

The potential value of patient education is addressed by many reviews in the medical literature. The U.S. Department of Veterans Affairs & Department of Defense recommends both patient and family education [2], as do other in pain management guidelines [3]. Providing culturally sensitive and linguistically appropriate patient education can improve adherence to and rapport with the healthcare professionals. It eases the patients to comprehend medication responses that are expected and normal and those that are of concern and warrant a phone call. It allays fears about particular treatments or medications as well. It increases satisfaction with treatment by promoting realistic

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expectations and provide an opportunity to discuss any concerns. Thereby, it strengthens the clinician-patient relationship by demonstrating respect and enhancing patient feelings of self-efficacy resulting improved health, well-being, safety and finally the outcomes [4]. In this commentary, the commitment of pre-release patient education and ensuring standard care at home for the patients with a lifelong tracheostomy is emphasized in particular.

Tracheostomy is one of the most frequently performed lifesaving surgical procedures on the critically ill patients [5]. Patients with irreversible airway compromise and bulbar paralysis due to various chronic, systemic and autoimmune diseases often have to continue with a lifelong tracheostomy. These patients require a cautious and meticulous home care of the tracheostomy tube and the stoma [6, 7]. Here, we would like to mention a fatal incident that we encountered recently which occurred due to the failure of a very simple management of tracheostomy complication at home.

An 87-year-old male, a veteran, was received in the emergency department at 2350 h with the loss of consciousness and silent chest. According to his home caregivers, he was a patient with laryngeal keratosis and had a tracheostomy 4 years back. An un-cuffed silicon-made tracheostomy tube was there through the tracheal stoma and he was on follow-up by the department of otolaryngology of the Combined Military Hospital. The patient was generally well before of this calamitous occasion. He could perform his private everyday activities quite easily with little support and supervision. While he was in sitting position, he developed severe respiratory distress suddenly followed by loss of consciousness. The caregivers subsequently got panicked and brought the victim immediately to this nearby tertiary hospital.

On reception in the emergency room, we observed a 7.0 mm tracheostomy tube that was found misplaced and blocked completely. The tube was taken out instantly and the airway was secured immediately with the insertion of a 6.5 mm cuffed endotracheal tube through the tracheal stoma. There was no audible heart sound and the electrocardiogram was revealed no electrical activity of the heart (asystole) in multiple leads, yet the patient was felt quite warm. They needed about 25 min to evacuate the patient to this emergency healthcare facility. Hence, cardiopulmonary resuscitation was started and continued as per the standard management protocol; however, instead of adopting all available resuscitative measures, the patient couldn't be revived. This tragic incident reemphasizes the necessity of providing proper home care education to the caregivers.

According to a national survey, an approximate annual estimate of 1,000 tracheostomy-related catastrophic events and 500 causing death or permanent disability

are reported in the U.S. [8]. Descriptions of some of the fatal events at home were:

- a. "Patient with Guillain-Barre syndrome decannulated accidentally during bed bath and unable to be intubated. The patient expired."
- b. "A completely trach-dependent patient (fully occluding airway stent above) was discharged home. His trach tube became occluded in the car on his way home. The suction equipment was in the trunk of the car. The patient could not be resuscitated and died."
- c. "Home care long-term trach in 8-year-old with subglottic stenosis mucous plug; uncle caring for the child didn't know how to suction – death occurred."
- d. "Patient was being cared for by a nurse in a 'long-term acute care hospital', trach tube was dislodged, patient coded, and died." [9]

So, the following home care educational components are recommended:

- a. Teaching components: Signs of respiratory distress, infection and skin breakdown, checklist of emergency supplies, contacts, health care provider, pertinent health care personnel and equipment supply company.
- b. Hands-on components include: when and how to suction the tracheostomy tube, when and how to clean the tube and the surrounding area, when and how to change the tracheostomy tube, use of home equipment [10–12].

Moreover, the utilization of ICT in home care is an expanding area of interest with a variety of applications used to increase access to home care. They are termed as e-health, telehealth, e-rehabilitation, telemonitoring, telenursing, etc. The ICT in home care is mostly used as a tool for communication between healthcare professionals and patients or family members. Healthcare professionals can base on this result, advantageously use ICT applications in home care as a tool to support people living with chronic illnesses gaining control of their ailment that promotes self-care [13]. In addition, the e-health systems can have a beneficial impact on the process of clinical and home care in low- and middle-income countries [14].

Conclusions

Many centers and hospitals have their integrated pre-discharge patient education program and checklist. This is particularly mandatory and warrants due attention in regard of sending a patient home with a tracheostomy. A brief span hands-on training and

comprehensive educational materials are to be ensured sincerely. It is vital to have/organize the support of relatives or a companion. At least one individual ought to learn how to help the patient in case of emergency. That person should join the patient when he/she gets guidelines in the hospital. Medical information and communication technology and digital modules should also be made easily accessible and user-friendly to the mass people. Then only, this kind of shattering occurrences can be reduced at home settings.

Abbreviations

Trach: Tracheotomy, Tracheostomy; ICT: Information and communication technology

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Authors' contributions

RA performed the clinical emergency management and initiated the concept of the manuscript. MR was a major contributor in finding out the references and writing up the manuscript. AR checked the proof and contributed in grammar and language correction. All authors read and approved the final manuscript.

Competing interests

The authors declare that they have no competing interests.

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