



“A STUDY TO ASSESS THE EFFECTIVENESS OF DEMONSTRATION ON KNOWLEDGE REGARDING FIRST AID MANAGEMENT OF CHOKING AMONG DEGREE STUDENTS IN SELECTED COLLEGES AT BANGALORE”

Medical Surgical Nursing

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ABSTRACT

Choking is a leading cause of injury and death among children, especially those younger than 4 years of age. The majority of choking-related incidents among children are associated with food, coins and toys. Death due to accidental choking is observed in all agegroup and small children below 4 years of age are the common victims. Choking is commonly seen in children when objects such as small toys, table tennis ball and coins are placed in mouth and inhaled. Food is the most common cause of choking and food which is the life provider can become an asphyxiating agent at times. Hence the focus of this study was to evaluate the effectiveness of Demonstration on first aid management of choking among degree students at selected Colleges, Bangalore.

KEYWORDS

Knowledge; degree students; first aid management of choking, demonstration.

INTRODUCTION

“An ounce of prevention is better than a pound of cure..”

- Brandon Gaille

Choking occurs when a foreign object lodges in the throat or windpipe, blocking the flow of air. In adults, a piece of food often is the culprit. Young children often swallow small objects. Because choking cuts off oxygen to the brain, give first aid as quickly as possible. The universal sign for choking is hands clutched to the throat. If the person doesn't give the signal, look for the indications such as Inability to talk, Difficulty breathing or noisy breathing, Squeaky sounds when trying to breathe, Cough, which may either be weak or forceful, Skin, lips and nails turning blue or dusky, Skin that is flushed, then turns pale or bluish in color, Loss of consciousness. The simple act of swallowing is really a complicated process involving many nerves and 50 pairs of muscles. They work together to help break down food, push it to the back of the throat, close the airway, and open the esophagus, sending food to the stomach. If those muscles aren't moving as well, or if the reflex is mistimed, food or liquids can go down the airway. The food, or bacteria in the food, can cause pneumonia when it gets into your lungs.

Choking occurs when a piece of food, an object, or a liquid blocks the throat. Children often choke as a result of placing foreign objects into their mouths. Adults can choke from breathing in fumes or eating or drinking too rapidly. Most people choke at some point in their lives. It's usually short-lived and doesn't pose any real danger. However, choking can be dangerous and cause life-threatening complications. A person who's choking may cough continuously until they expel the food or liquid from their throat or airway. However, in some cases, the object, food, or liquid gets stuck in the throat and cuts off the air supply.

Immediate treatment of choking consists of measures to increase intrathoracic pressure, thus forcing the obstructing material upwards and outwards. Three such methods described are abdominal thrusts (Heimlich manoeuvre), back blows (or slap) and chest thrusts (similar to chest compressions during CPR, but sharper in nature and delivered at a slower rate). There is no convincing evidence that one technique is better than another, but several reports have suggested that it often takes more than one, in sequence, to achieve the desired result.

The Heimlich manoeuvre is a well-known intervention for the management of choking due to foreign body airway occlusion, but the evidence base for guidance on this topic is limited and guidelines differ. We measured pressures during abdominal thrusts in healthy volunteers. The angle at which thrusts were performed (upthrust vs circumferential) did not affect intrathoracic pressure. Self-administered abdominal thrusts produced similar pressures to those performed by another person. Chair thrusts, where the subject pushed their upper abdomen against a chair back, produced higher pressures than other manoeuvres. Both approaches should be included in basic life support teaching.

A study was conducted to assess the effectiveness of health education in terms of knowledge acquisition on first-aid measures among school students of a rural area of West Bengal. About 105 students of a rural

school of West Bengal were administered with a self-administered questionnaire for assessing their baseline knowledge about selected first-aid skills, followed by on-the-spot demonstration of the skills with the help of a systematically devised teaching module on the same day. Results showed that the baseline knowledge of the study subjects was found to be inadequate, correct responses being provided by less than 50% of the subjects for most of the questions. The lowest percentage of correct response was obtained regarding the management of choking (8.6%). Study concluded that knowledge of school students regarding the management of common illnesses and injuries should be incorporated as a part of school curriculum.

Case Study

INTRODUCTION:

Choking is a physiologic response to sudden airway obstruction. Obstruction could be partial or complete. Foreign body airway obstruction causes asphyxia and is a terrifying condition, occurring very acutely, with victims often unable to explain what is happening to them and with rapid loss of consciousness and death if first aid is not undertaken quickly and successfully. Immediate recognition and response is of the utmost importance.

Etiology:

Several developmental characteristics contribute to foreign body airway obstruction

- Infants and toddlers tending to put everything into their mouth.
- Inability to adequately chew food until molars has erupted.
- Chaotic home environment and neglect.
- Children with known gastro intestinal tract abnormalities or previous

Complications.

- Failure of victim's normal protective mechanism including deep sleep, loss of
- consciousness, epileptic seizures.
- Psychopathic factors

Commonly Aspirated Objects :

- Peanuts , seeds
- Vegetables, fruits eg., carrot, raisins, grapes
- Candy, popcorn, hot dogs
- Buttons, pebbles, toys, pieces of toys, stones, coins.

Classification Of Foreign Bodies:

1. **Exogenous:** Includes substances from outside the body.

- Peanuts
- Beans
- Stone
- Seeds
- Coins

2. **Endogenous:** Includes substances from inside the body.

- Blood clot
- Clot
- Viscid secretion

- Bits of tumors

Signs & Symptoms Of Choking :

- Gagging
- Coughing
- Wheezing (a whistling sound usually made when the child breaths out)

Although initial symptoms may subside following symptoms may

- indicate it is still present.
- Cough that gets worse
- Child is unable to speak
- Pain in throat
- Hoarse voice
- Blueness around lips
- Not breathing
- Wincing sign: person feels a stabbing pain when larynx is moved from side to side.
- A triad of signs like audible slap, palpatory thud, asthmatic wheeze suggests foreign body in trachea.

First Aid Management:

Choking or Foreign body airway obstruction should be suspected in any child who demonstrates the sudden onset of coughing gagging stridor (high pitched noisy sound) or wheezing.

- Recognition of Choking
- Mild obstruction: child is able to speak, cough, breath
- Complete obstruction: child is unable to speak, cough, breath and eventually loss of consciousness.

Aim

- To remove obstruction
- To arrange urgent shift to hospital if necessary

Steps To Be Followed For Successful Removal Of Foreign Body:

Step I: If the child is breathing, encourage him to cough, this may clear obstruction.

Step II: If child cannot speak or stops coughing and breathing, carry out back blows. Bend him well forward and give 5 back blows between his shoulder blades using heel of your hand. Check his mouth.

Step III: If back blows fail, try abdominal thrust, also called as Heimlich maneuver. Put your arms around the child's upper abdomen. Make sure that he is bending well forward. Place your fist thumb inwards, between navel and bottom of breast bone, and grasp it with your other hand. Pull sharply inwards and upwards upto 5 times. Stop if obstruction clears. Check his mouth.

Step IV: If the obstruction still not cleared continue step II and III upto three times.

Step V: If obstruction has not cleared, call and ambulance.

CONCLUSION:

This chapter presents the conclusions drawn, implications, limitations, suggestions and recommendations. The focus of this study was to assess the effectiveness of Demonstration on knowledge level of degree students regarding first aid management of choking at selected Colleges, Bangalore. Pre experimental (one group pre test post test) design and evaluative approach was used in the study. The data was collected from 60 samples through stratified random sampling technique.

The data collected was subjected to analysis using descriptive statistics in terms of frequencies, percentage and inferential statistics like chi square to find the association.

REFERENCES:

1. Mayo Clinic Staff. Choking: First aid. Mayo Clinic. Updated on Oct 2017. Available from: <https://www.mayoclinic.org/first-aid/first-aid-choking/basics/art-20056637>
2. Harvard Health Letter. Choking alert: Strategies for safe swallowing. Harvard Health Publishing: Harvard Medical School. Sept 2016. Available from: <https://www.health.harvard.edu/staying-healthy/choking-alert-strategies-for-safe-swallowing>
3. April Kahn. What You Should Know About Choking. Health Line. Sept 2019. Available from: <https://www.healthline.com/health/choking-adult-or-child-over-year>
4. Dr Anthony Handley. Choking in adults and children. GP Online. Aug 2016; Available from: <https://www.gponline.com/choking-adults-children/emergency-medicine/article/1404312>
5. Pavitt MJ, Swanton LL, Hind M, et al. Choking on a foreign body: a physiological study

- of the effectiveness of abdominal thrust manoeuvres to increase thoracic pressure. Thorax. 2017;72(6):576-578. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5520267>
6. Dasgupta A, Bandyopadhyay L, Das M. Effectiveness of health education in terms of knowledge acquisition on first-aid measures among school students of a rural area of West Bengal. Med. Res. Chron. 2014; 1 (2): 84-91. Available from: www.medrech.com
7. National Safety Council. Choking Prevention and Rescue Tips. Available from: <https://www.nsc.org/home-safety/safety-topics/choking-suffocation>
8. Nationwide Children's Hospital. Choking is a leading cause of injury and death among children. Science Daily, 28 Feb 2010. Available from: www.sciencedaily.com/releases/2010/02/100226212559.htm
9. Nayak SR, Jena MK, Panda BB, Singh P. Sudden Deaths Due to Choking: Case Report. J Indian Acad Forensic Med. Jan-Mar 2015; 37(1):106-8. Available from: <http://medind.nic.in/jal/15/1/jal15i1p106.pdf>
10. Dolkas L, Stanley C, Smith AM, Vilke GM. Deaths associated with choking in San Diego County. J Forensic Sci. 2007 Jan;52(1):176-9. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/17209932/>
11. Kumar A, Varshney S, Tyagi AK, Patro SK, Malhotra M, M, Bhardwaj A. Choking – A Public Health Problem- Are We Prepared?. Indian J Community Health [Internet]. 2019 Jun.30 [cited 2020 Mar.8];31(2):284 -286. Available from: <https://www.ijcmupuk.org/journal/index.php/IJCH/article/1086>
12. Hemsley B, Steel J, Sheppard JJ, Malandraki GA, Bryant L, Balandin S. Dying for a Meal: An Integrative Review of Characteristics of Choking Incidents and Recommendations to Prevent Fatal and Nonfatal Choking Across Populations. American Journal of Speech-Language Pathology. Aug 2019; 28(3): 1283-97. Available from: https://doi.org/10.1044/2018_AJSLP-18-0150
13. Alhejaili AS, Alsubhi SA. Knowledge and Attitude of First Aid Skills among Health Science Students at Taibah University. J Gen Practice. 2016; 4:257. Available from: <https://www.omicsonline.org/open-access/knowledge-and-attitude-of-first-aid-skills-among-health-science-students-attaibah-university-2329-9126-1000257.php?aid=74695>
14. Pollit DF, Hungler BP. Nursing Research Principles and Methods. Philadelphia: JB Lippincott Company; 2001
15. Lippmann J, Taylor DM, Slocombe R, McDonald CF, Walker T, Nolan G. Lateral versus anterior thoracic thrusts in the generation of airway pressure in anaesthetized pigs. Resuscitation. 2013 Apr;84(4):515-9. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/23200993>
16. Abdullah EM, Ader-Rahman HA, Ali RA, Hudaib AA. Choking Among Infants and Young Children. Jordan Journal of Biological Sciences. Sept 2015; 8(3):205-9. Available from <https://pdfs.semanticscholar.org/cbb9/281f13a34e1ed5bd28690b5a964e4c016297.pdf>
17. Sehgal A, Singh V, Chandra J, Mathur NN. Foreign Body Aspiration. Indian Pediatrics 2002; 39: 1006-10. Available from: <https://indianpediatrics.net/nov2002/nov-1006-1010.htm>
18. Mojadam M, Khafae M. A Survey on the Prevalence of Choking in Children under Two Years Old and Awareness of Mothers Referring to Health Centers in Ahvaz City. Journal of Disaster and Emergency Research. 2018; 1: 85-91. Available from: https://www.researchgate.net/publication/327745799_A_Survey_on_the_Prevalence_of_Choking_in_Children_under_Two_Years_Old_and_Awareness_of_Mothers_Referring_to_Health_Centers_in_Ahvaz_City
19. Chiu CY, Wong KS, Lai SH, Hsia SH, Wu CT. Factors predicting early diagnosis of foreign body aspiration in children. Pediatr Emerg Care. 2005 Mar;21(3):161-4. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/15744193>
20. Siddell DR, Kim IA, Coker TR, Moreno C, Shapiro NL. Food choking hazards in children. Int J Pediatr Otorhinolaryngol. 2013 Dec;77(12):1940-6. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/24113156>
21. Hollins S, Thacker A, Anderson C, White S. Indicators of choking risk in adults with learning disabilities: A questionnaire survey and interview study. Disability and Rehabilitation. 2008; 30. Available from: https://www.researchgate.net/publication/278405982_Indicators_of_choking_risk_in_adults_with_learning_disabilities_A_questionnaire_survey_and_interview_study
22. Bamber A, Pryce J, Ashworth M, Sebire N. Fatal Aspiration of Foreign Bodies in Infants and Children. Fetal and pediatric pathology. 2013;33(1):42-8. Available from: https://www.researchgate.net/publication/258062987_Fatal_Aspiration_of_Foreign_Bodies_in_Infants_and_Children
23. Hwang SJ, Tsai SJ, Chen JC, Hsu FC, Li C, Kao KP. Choking Incidents Among Psychiatric Inpatients: A Retrospective Study in Chungting Veterans General Hospital. J Chi Med Asso. 2010; 73(8): 419-24. Available from: <https://www.sciencedirect.com/science/article/pii/S1726490110700903>
24. Manduchi B, Walshe M, Burke E, Carroll R, McCallion P, McCarron M. Prevalence and risk factors of choking in older adults with intellectual disability: Results from a national cross-sectional study. Journal of Intellectual & Developmental Disability. 2021; 46(2):126-37. Available from: <https://www.tandfonline.com/action/showCitFormats?doi=10.3109/2167868250.2020.1763278>
25. Pavitt MJ, Swanton LL, Hind M, et al. Choking on a foreign body: a physiological study of the effectiveness of abdominal thrust manoeuvres to increase thoracic pressure. Thorax. 2017;72(6):576-578. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5520267/>
26. Pavitt MJ, Swanton L, Hind M, Apps M, Polkey MI, Green M, Hopkinson NS. Effectiveness of approaches to choking due to foreign body airway obstruction - a physiological study. European Respiratory Journal. 2017; 50 (61): PA2259; Available from: https://erj.ersjournals.com/content/50/suppl_61/PA2259
27. Hasan S, Saeed A, Mustafa I. Knowledge and attitude of primary school teachers regarding choking & first aid in Erbil city-Kurdistan region -Iraq. The Malaysian Journal of Nursing. 2016 8 https://www.researchgate.net/publication/310127056_KNOWLEDGE_AND_ATTITUDE_OF_PRIMARY_SCHOOL_TEACHERS_REGARDING_CHOKING&39;S_FIRST_AID_IN_ERBIL_CITY-KURDISTAN_REGION-IRAQ_1_2_2
28. Al-Johani AAS, Sabor S, Aldubai SAR. Knowledge and practice of first aid among parents attending Primary Health Care Centers in Madinah City, Saudi Arabia, A CrossSectional Study. J Family Med Prim Care. 2018;7(2):380-388. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6060932/>
29. Alhejaili AS, Alsubhi SA (2016) Knowledge and Attitude of First Aid Skills among Health Science Students at Taibah University. J Gen Practice 4:257. Available from: <https://www.omicsonline.org/open-access/knowledge-and-attitude-of-first-aid-skills-among-health-science-students-attaibah-university-2329-9126-1000257.php?aid=74695>
30. Karys J, Jedrasik M, Karys T, Rebak D. Mothers' knowledge of administration of first aid to preschoolers in choking incidents. Arch Physiother Glob Res 2016; 20 (4): 23-24 Available from: <http://apgr.wssp.edu.pl/wpcontent/uploads/2017/06/23-Karys-Archives-maj-2017.pdf>
31. Megahed MA, Khalil NA, Ibrahim RA, El Disoki RS. Knowledge, attitude and practice of rural mothers towards home injuries among children under 5 years of age in Menouf District- Menoufia Governorate, Egypt. Menoufia Med J [serial online]

- 2016[cited 2020 Mar 10];29:1033-9. Available from: <http://www.mmj.eg.net/text.asp?2016/29/4/1033/202506>
32. Gupta K, Singh S, Xin YY, Joon YW, Ting YH, Seng YT. A comparative evaluation of first aid knowledge and attitude among medical, dental and pharmacy students in AIMST University, Malaysia International Journal of Applied Dental Sciences 2019;5(3): 91-95. Available from: <http://www.oraljournal.com/pdf/2019/vol5issue3/PartB/5-3-20-815.pdf>
 33. El Seifi OS, Mortada EM, Abdo NM. Effect of community-based intervention on knowledge, attitude, and self-efficacy toward home injuries among Egyptian rural mothers having preschool children. PLUS ONE. 2018; Available from: <https://doi.org/10.1371/journal.pone.0198964>
 34. Hasan SS, Saeed AA, Mustafa IH. Knowledge and attitude of primary school teachers regarding choking's first aid in Erbil city-Kurdistan region -Iraq. The Mal J Nsg. 2016;8(2): 36-42. Available from:https://www.researchgate.net/publication/310127056_KNOWLEDGE_AND_ATTITUDE_OF_PRIMARY_SCHOOL_TEACHERS_REGARDING_CHOKING'S_FIRST_AID_IN_ERBIL_CITY-KURDISTAN_REGION_-IRAQ_1_2_2
 35. Bentivegna KC, Borrup KT, Clough ME, Schoem SR. Basic choking education to improve parental knowledge. Int J Pediatr Otorhinolaryngol. 2018 Oct;113:234-239. Available from: <https://pubmed.ncbi.nlm.nih.gov/30173993/>
 36. Karyś J, Jędrasik M, Karyś T, Rębak D. Mothers' knowledge of administration of first aid to preschoolers in choking incidents. Arch Physiother Glob Res 2016; 20 (4): 23-24 Available from: <http://apgr.wssp.edu.pl/wpcontent/uploads/2017/06/23-Karys-Archives-maj-2017.pdf>
 37. Baig A, Thomas H, Britigan D, Finken D, Colombo J. Food Choking Hazards in Toddlers: An Interventional Study. Pediatrics. Oct 2016; 150(4):968A. Available from:<https://doi.org/10.1016/j.chest.2016.08.1071>
 38. Habeeb KA, Alarfaj G. Saudi Parents Awareness Regarding Burn, Choking, and Drowning First Aid in Children. J Family Med Prim Care [serial online] 2020 [cited 2021 Jun 10];9:1370-5. Available from:<https://www.jfmpe.com/text.asp?2020/9/3/1370/281165>
 39. Nichols BG, Visotcky A, Aberger M, et al. Pediatric exposure to choking hazards is associated with parental knowledge of choking hazards.
 40. International Journal of Pediatric Otorhinolaryngology. 2012 Feb;76(2):169-173. Available from:<https://europepmc.org/article/med/2216946440>. Kothari CR. Research Methodology. Delhi: New age international (P) Limited; 2004.p.120-1
 41. Burns N, Grove SK. Nursing research. 2nd ed. New Delhi: Harcourt India Pvt Ltd; 2002
 42. Treece EW, Treece JW. Elements of research in nursing. 4th ed. St Louis: CV Mosbee Company; 1986