INDIAN ASSOCIATION OF EPIDEMIOLOGISTS

Epidemiology International
Volume 9, Issue 3 - 2024, Pg. No. 13-17
Peer Reviewed & Open Access Journal

Research Article

Teacher's Competence in First-Aid Management of Giddiness in School Children

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DOI: https://doi.org/10.24321/2455.7048.202406

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How to cite this article:
Lakshana R, Prabakaran S, Namasivaya Navin R B, Balaji D, Gowthame K, Rajasekaran S, Muthukumar R, Sarath K B. Teacher's Competence in First-Aid Management of Giddiness in School Children. Epidem Int. 2024;9(3):13-17.

Date of Submission: 2024-05-14
Date of Acceptance: 2024-06-20

A B S T R A C T

Introduction: Giddiness in children might interfere with daily tasks, make it difficult to go to school. Causes of pediatric giddiness are difficult to elucidate and manage. Parents and educators can offer valuable information regarding the symptomology and other signs associated with this condition, like nystagmus, altered consciousness, gait abnormalities, motor skills changes. Teachers are the first responders involved with the safety and well-being of their students.

Objective: To evaluate school personnel's knowledge of handling first aid for giddiness.

Methodology: A pretested semi-structured questionnaire was used to collect data from research participants from 3 randomly selected schools located in the urban area of Chengalpattu district, Tamil Nadu. The difference in mean scores was used to assess the effect of the awareness program, and a paired t test was used for significant differences.

Results: Before the session, only 16% of respondents believed it was appropriate to send the student to the emergency room when giddiness lasted > 10 minutes or was accompanied by loss of consciousness, and only 21% of respondents wanted a child experiencing giddiness to be escorted to a staff nurse or medical team. After the session, about 5.7% teachers felt that there is no need for health education about giddiness among students as they might use the knowledge for self-medication and conceal the problem from the knowledge of parents.

Conclusion: Giddiness among school children can be better managed by providing first aid in emergency rooms by teachers, however more studies with larger populations and raising awareness in schools is required.

Keywords: Giddiness, Children, School Teachers, Awareness, First Aid

Introduction

Giddiness in children is uncommon but is not a rare entity. The most frequent cause of vertigo, which accounts for around 40% of all diagnoses, is vestibular migraine, with a prevalence of 5.7%.[1] Even though it happens frequently in adults, giddiness also happens in children. Childhood vertigo is significant since it can manifest as a symptom of a variety of conditions.[2]

Causes of paediatric giddiness are difficult to elucidate and manage as the presentation is not specific and vestibular tests are not accurate.[3,4] There is a lack of exact data regarding their prevalence, which is influenced by several factors, including the age of the population under investigation. Children's and parent's quality of life is significantly affected by this condition.[5]

The movement and positional sensory receptors continuously assess how the environment is perceived. The integration of receptors located in the vestibular, ocular, and somatosensory systems—all of which are integrated into the central nervous system—maintains bodily equilibrium.

Postural balance control systems may be impacted by physiological alterations brought on by neurological lesions, musculoskeletal conditions, and chronic diseases, among other conditions. The brain coordinates efferent stimuli from the visual, vestibular, and proprioceptive systems, which are then incorporated into the central nervous system to maintain the body's balance.[6] Vestibular disturbances may manifest as symptoms like ringing in the ears, difficulty hearing, dizziness, nausea, or vertigo when moving.

Since children spend the majority of their time at school, educators have to be vigilant about the well-being and safety of their pupils. Teachers must be well informed about the first aid protocols in order to swiftly and effectively resolve emergency situations including giddiness. However, teachers, who tend to be the first to respond to the giddiness of a student, are either unaware of the appropriate first-aid protocols or do not comprehend them sufficiently. Studies demonstrate that the level of educational status, years of experience, and familiarity with the basics of first aid are some of the factors that could influence a teacher's response. There has been limited research that has examined teachers' knowledge with regard to the response to this condition.

Our study's goal was to assess the degree of giddiness awareness and management among teachers in schools in the Chengalpattu district.

Materials and Methods

The study was carried out by the Department of Otorhinolaryngology in Chettinad Hospital and Research Institute, Kelambakkam, Tamilnadu from December 2023 to April 2024 in after getting written ethical approval from the Institutional Ethics Committee and written consent from participants. This cross-sectional study was performed with the help of questionnaires filled by 106 teachers from three randomly selected schools located in the urban area of Chengalpattu district, Tamil Nadu. Inclusion criteria consisted of all teachers of selected primary, middle, high, and higher secondary schools. There are no specific exclusion criteria.

Sample Size

In a study conducted by Adib-Hajbaghery et al., it was found that 59.7% of teachers had good awareness regarding first aid in the school environment.[7] Using the above reference with a 95% confidence interval, 10% desired error, and 10% non-response rate, the sample size was calculated to be 106.

Procedure

A pre-tested semi-structured questionnaire was used to collect responses from 106 teachers.

The questionnaire consisted of three parts:

1. Basic demographic characteristics of the study participants
2. Knowledge regarding the management of giddiness
3. Attitude regarding the management of giddiness

Following the collection of the answers, the teachers received a session regarding giddiness, including its aetiology, clinical manifestations, and the appropriate course of action to follow if a student manifests giddiness. The response was once more recorded for the same questionnaire following the session.

Statistical Analysis

Data management was done using a Microsoft Excel spreadsheet and SPSS software version 21 was used for statistical analysis. Quantitative data were expressed in mean and standard deviation while qualitative data was expressed in frequency and percentage. The difference between the mean values for responses given before and after an awareness session was statistically tested by paired t test. A p value less than 0.05 was considered significant.

Results

Out of the 106 teachers, 91 (85.8%) were female, and only 15 (14.2%) were male. The majority of them (50%, n = 53) were in the age group of 36 to 45 years. Only 12 (11.3%) were aged less than 25 years and 13 (12.3%) were aged above 45 years. Among all participants, 30, 42, and 34 were primary school, middle school, and high school teachers, respectively (Table 1).

Perception about giddiness, their common causes, triggering factors, and knowledge of the management of giddiness is tabulated in Table 2. With regards to certain aspects, the majority had the appropriate answers for the questions, for

ISSN: 2455-7048
DOI: https://doi.org/10.24321/2455.7048.202406

example, 89% felt they had good knowledge of common causes of giddiness, 73% felt information to nursing staff is important, and 70% knew there was a necessity to assist the student to the medical room, but with regards to certain aspects, there was an alarming deficiency; 74% did not know the basic definition, 51% did not have the knowledge of triggering factors for giddiness, and only 16% chose the correct option of taking the student to the emergency room in both, instances of giddiness lasting more than 10 minutes or when accompanied with loss of consciousness, and only 21% wanted a child with giddiness to be escorted to staff nurse or medical team.

The overall knowledge improved after an awareness session, and the difference in means was tested using a paired t test. There was a statistically significant improvement in knowledge pre- and post-test with regards to understanding giddiness, knowledge of common causes of giddiness, knowledge of triggering factors of giddiness, importance of informing the nursing staff, time to take the student to the emergency room, necessity to assist the student to the medical room and action to be taken if a student has giddiness (Table 3).

After the session, about 6 (5.7%) teachers felt that there is no need for health education about giddiness among students as they might use the knowledge for self-medication and conceal the problem from the knowledge of parents or caregivers. Nearly 99 (93.4%) participants felt a need for training among teachers regarding the management of giddiness. The rest of them felt that the presence of nursing or paramedical staff in school would help manage health problems. Before the session, only 16 (15.1%) participants felt that medical care would be required if a student faints but after the session, 98 (92.5%) participants agreed that medical care would be required if a student faints and also admitted that a protocol will be required to manage a student with giddiness. About 68 (64.2%) teachers reported that at least one student complained of giddiness in the past (Table 4).

Table 1.Characteristics of Study Participants

N = 106

S. No.	Characteristics	n	%
1.	**Age (years)**		
	< 25	12	11.3
	25–35	28	26.4
	36–45	53	50.0
	> 45	13	12.3
2.	**Gender**		
	1.Male	15	14.2
	Female	91	85.8
3.	**Teaching grade**		
	Primary school	30	28.3
	Middle school	42	39.2
	High school	34	32.1

Table 2.Knowledge regarding Giddiness in the Study Participants

N = 106

S. No.	Knowledge in Management of Giddiness	Before Session		After Session	
		n	%	n	%
1.	**Giddiness is a feeling of light-headedness.**				
	Yes	27	25.5	96	90.6
	No	79	74.5	10	9.4
2.	**Knowledge of common causes of giddiness**				
	Yes	95	89.6	104	98.1
	No	11	10.4	2	1.9
3.	**Knowledge of triggering factors of giddiness**				
	Yes	51	48.1	97	91.5
	No	55	51.9	9	8.5
4.	**Information to the nursing staff is important.**				
	Yes	78	73.4	98	92.5
	No	28	26.4	8	7.5
5.	**Time to take the student to the emergency room**				
	Giddiness lasting more than 10 min	30	28.3	34	32.0
	Accompanied by loss of consciousness	59	55.7	63	59.4
	Both	17	16.0	9	8.6
6.	**Necessity to assist the student to the medical room**				
	Yes	75	70.8	99	93.4
	No	31	29.2	7	6.6
7.	**Action to be taken if a student has giddiness**				
	Advice rest and observe	43	40.6	5	4.7
	Lay down and offer water	40	37.7	3	2.8
	Escort to school nurse or medical team	23	21.7	98	92.5
8.	**Maintaining student's medical records at school would be beneficial.**				
	Yes	89	84.0	97	91.5
	No	17	16.0	9	8.5

ISSN: 2455-7048
DOI: https://doi.org/ 10.24321/2455.7048.202406

Table 3.Comparison of Knowledge of the Study Population Before and After the Session N = 106

Question	Test	Mean	SD	Mean Difference	SE Difference	Upper Limit	Lower Limit	t Value	p Value
Understanding about giddiness	Pre	1.09	0.29	0.66	0.05	0.55	0.76	12.88	0.001
	Post	1.75	0.43						
Knowledge of common causes of giddiness	Pre	1.02	0.13	0.08	0.03	0.01	0.14	2.45	0.015
	Post	1.10	0.30						
Knowledge of triggering factors of giddiness	Pre	1.08	0.28	0.44	0.05	0.32	0.55	7.88	0.001
	Post	1.52	0.50						
Information to the nursing staff is important	Pre	1.08	0.26	0.18	0.05	0.08	0.27	3.59	0.004
	Post	1.26	0.44						
Time to take the student to the emergency room	Pre	1.08	0.28	0.09	0.04	0.00	0.17	1.97	0.049
	Post	1.17	0.37						
Necessity to assist the student to the medical room	Pre	1.08	0.26	0.30	0.05	0.19	0.40	5.88	0.001
	Post	1.38	0.45						
Action to be taken if a student has giddiness	Pre	1.08	0.26	0.77	0.04	0.68	0.85	17.73	0.001
	Post	1.85	0.36						
Maintaining student's medical records at school would be beneficial	Pre	1.08	0.28	0.08	0.04	0.00	0.16	1.77	0.077
	Post	1.16	0.36						

Table 4.Attitude regarding Giddiness N = 106

S. No	Attitude and Skills	Before Session		After Session	
		n	%	n	%
1.	Need for education about giddiness in students				
	Yes	93	87.7	100	94.3
	No	13	12.3	6	5.7
2.	Medical care is required if a student faints.				
	Yes	16	15.1	98	92.5
	No	90	84.9	8	7.5
3.	Need for training in the management of giddiness?				
	Yes	95	89.6	99	93.4
	No	11	10.4	7	6.6
4.	Need for a protocol to manage giddiness in school students				
	Yes	86	81.1	98	92.5
	No	20	18.9	8	7.5

Discussion

Childhood dizziness is a general complaint that might indicate a variety of medical issues, including anxiety, metabolic abnormalities, and orthostatic hypotension. The examination of the youngster with dizziness is challenging because of this broad differential diagnosis. Causes of giddiness can include migraine, benign paroxysmal positional vertigo, inflammation of the vestibular nerve, and Meniere's disease. There is also a condition called benign paroxysmal vertigo of childhood which classically occurs at an early age and resolves on its own within two to four years.[8] Vertigo is not dependent on the position with no alteration in consciousness are the typical features.

The children spend much time in their schools so the school teachers should be concerned about the health and needs of their students. The school teachers must be aware of correct first-aid protocols in case of any emergencies.[9] However, teachers, who are typically the initial responders to giddiness in schools, have a restricted or insufficient understanding and familiarity with the correct first-aid protocols.

The majority of the participants were females (85.8%) and 50% of them belonged to the age group between 36 and 45 years (Table 1). Even though teachers had the appropriate answers in certain domains, such as knowledge of common causes, communicating information to the nurse, and assisting the student to the treatment room, there was an obvious dearth of understanding regarding the fundamental definition, triggering factors, and identifying situations that required taking the student to the emergency room (Table 2). This was similar to a study by Al-Robaiaay et al.

ISSN: 2455-7048
DOI: https://doi.org/10.24321/2455.7048.202406

regarding the knowledge of teachers in first-aid practices, which showed that the majority of the study participants (77%) had poor knowledge regarding essential principles and techniques.[10]

Nearly every domain examined in the questionnaire showed a statistically significant increase in knowledge (overall understanding of giddiness, knowledge of common causes and triggering factors, conveying information to the nursing staff, time taken, and the necessity to assist the student to the emergency room and the action taken while encountering giddiness in a student) between the pre- and post-tests, indicating the success of this study's efforts to raise awareness (Table 3). This was comparable to the study of Joseph et al. that found teachers who had prior training demonstrated better knowledge in first-aid.[11]

After the session, 93.4% of the participants felt a need for training in the management of giddiness in teachers. Before the awareness session, only 15.1% of the participants felt that medical care would be required if a student faints but after the session, 92.5% of the participants agreed that medical care would be required if a student faints and also admitted that a protocol will be required to manage a student with giddiness (Table 4).

This demonstrates that raising awareness and providing training to teachers on the management of giddiness is crucial for enhancing their ability to effectively respond to such incidents in schools. When teachers are equipped with the necessary knowledge and skills, they can quickly identify the symptoms of giddiness, understand its potential causes, and take appropriate first-aid measures. This preparedness not only ensures the immediate safety and well-being of the affected student but also minimises the risk of further complications. Additionally, informed teachers can play a pivotal role in educating students about the importance of seeking help and adhering to safety protocols, thereby fostering a safer school environment. The significant improvement in teachers' understanding and response after an awareness session, as demonstrated by the study, underscores the value of continuous education and training in empowering educators to handle health emergencies like giddiness more confidently and effectively.

Conclusion

This study highlights the critical need for enhancing teachers' knowledge and preparedness in managing giddiness among students in schools. The significant improvement in their knowledge and response after an educational session emphasises the positive impact of targeted training and awareness programmes. The findings suggest that regular training sessions should be integrated into the professional development of teachers to ensure they are well-equipped to handle health-related emergencies, such as giddiness, effectively. This proactive approach will not only safeguard student health but also contribute to creating a more supportive and responsive school environment.

Source of Funding: None

Conflict of Interests: None

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