Implementing Evidence-Based Protocols for the Management of Hypoglycemic and Anaphylactic Emergencies in an Outpatient Primary Care Office Setting

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Purpose

The purpose of the project was to evaluate the need for and implementation of hypoglycemia and anaphylactic emergency management protocols in a primary care office.

Background

- Anaphylaxis is a severe, potentially life-threatening allergic reaction occurring in approximately 1 in 20 adults.
- All offices that administer vaccines, IV medications, and perform at-risk procedures should have adequate preparation and practice at responding to early signs and symptoms of anaphylaxis.
- Currently, there are no standardized protocol manuals for the appropriate recognition and treatment of hypoglycemia and anaphylaxis in an outpatient primary care office and many other similar offices.
- The general practitioner may be the first contact of patients who are experiencing symptoms associated with hypoglycemic and anaphylactic events; therefore, it is paramount that medical office staff have updated knowledge and training to provide the necessary care for the patient until the emergency personnel arrive.

Methods

Design

- This project was conducted to develop and evaluate education and recognition of hypoglycemic and anaphylaxis standardized protocols

Sample

- 10 office staff (MDs, ARNP, MAs, ARNP student, front office staff, and office manager)

Setting

- Primary care medical practice, in affiliation with a large community hospital group in the city of St. Petersburg, Florida.

Results

- Of all office staff surveyed prior to in-service and protocol education, only the medical doctors and nurse practitioner student (n=3, 30%) reported competence in recognizing and treating patients experiencing a hypoglycemic or anaphylactic reaction until emergency personnel arrive.
- The nurse practitioner with a masters degree, four medical assistants with high school diplomas, and two office staff members without medical training and high school diplomas (n=7, 70%) reported they did not feel competent in recognizing or treating patients experiencing hypoglycemic or anaphylactic emergencies prior to in-service and protocol education.
- The majority of office staff (n=9, 90%) reported the office would benefit from hypoglycemia and anaphylactic training and protocol implementation. Following in-service and protocol implementation, office staff (n=10, 100%) reported competence in recognizing and treating patients experiencing an anaphylactic or hypoglycemic reaction until emergency personnel arrive. The office staff (n=10, 100%) also reported that the office would benefit from having hypoglycemia and anaphylactic emergency protocols on site.

Table 1. Comparison of Outcomes in the Pre In-service Survey and Post In-service Survey

Variable	Pre In-service Survey	Post In-service Survey
Anaphylactic Reaction Treatment	10	10
Hypoglycemic Reaction Treatment	7	8
Anaphylactic Reaction Symptoms	2	9
Hypoglycemic Reaction Symptoms	4	6
Prioritization of Emergency Interventions	5	9

Table 2. Comparison of Percent Correct in Pre In-service Survey by Medical Education

Variable	Medical Providers with Masters or Doctorate Degree	MA with Highschool Diploma/GED	No Medical Education with Highschool Diploma/GED	Nurse Practitioner Masters Student
Anaphylactic Reaction Treatment	100.0%	100.0%	100.0%	100.0%
Hypoglycemic Reaction Treatment	66.7%	50.0%	100.0%	100.0%
Anaphylactic Reaction Symptoms	33.3%	25.0%	0.0%	0.0%
Hypoglycemic Reaction Symptoms	100.0%	25.0%	0.0%	0.0%
Prioritization of Emergency Interventions	100.0%	25.0%	50.0%	0.0%

Table 3. Comparison of Percent Correct in Post In-service Survey by Medical Education

Variable	Medical Provider with Masters or Doctorate Degree	MA with Highschool Diploma/GED	No Medical Education with Highschool Diploma/GED	Nurse Practitioner Masters Student
Anaphylactic Reaction Treatment	100.0%	100.0%	100.0%	100.0%
Hypoglycemic Reaction Treatment	100.0%	75.0%	100.0%	0.0%
Anaphylactic Reaction Symptoms	100.0%	75.0%	100.0%	100.0%
Hypoglycemic Reaction Symptoms	100.0%	50.0%	0.0%	100.0%
Prioritization of Emergency Interventions	100.0%	100.0%	100.0%	0.0%

Discussion

Implications for Practice

- Results of the post in-service survey, reveal that the office staff benefited from protocol education and implementation.
- The need for increased learning in the primary care office setting related to emergency protocols for hypoglycemia and anaphylaxis was demonstrated by the pre-implementation survey data and the post-implementation survey data as well as the literature review data.
- The results of this project demonstrate the need for increased learning and resources in the primary care office setting related to emergency protocols for hypoglycemia and anaphylaxis.

Recommendations

- The protocols remain in the office for review and serve as a reference for the staff following the in-service.
- Outpatient primary care offices that implement the use of hypoglycemia and anaphylaxis protocols would need to provide repeat in-services to allow for familiarization and immediate action if a patient has an anaphylactic or hypoglycemic emergency while in the office.

Limitations

- The small sample size may affect the generalizability of the results.
- Difficulty recruiting outpatient clinic participation due to scheduling conflicts and the contact person not perceiving a need for this type of education.
- Variance in education levels of participants.

References

- Available upon request.

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