



## Brief Communication

# A self-completed questionnaire study of attitudes and perceptions of paramedic and prehospital practitioners towards acute seizure care in Northern Ireland

Michael Owen Kinney<sup>a,\*</sup>, Stephen J. Hunt<sup>a</sup>, Ciaran McKenna<sup>b</sup>

<sup>a</sup> Department of Neurosciences, Royal Victoria Hospital (Belfast Health and Social Care Trust), Grosvenor Road, Belfast, Northern Ireland, United Kingdom

<sup>b</sup> Northern Ireland Ambulance Service Trust Headquarters, Knockbracken Healthcare Park, Saintfield Road, Belfast, Northern Ireland, United Kingdom

## ARTICLE INFO

## Article history:

Received 9 January 2018

Revised 30 January 2018

Accepted 1 February 2018

Available online 7 March 2018

## Keywords:

Prehospital

Paramedic

Ambulance

Seizure

Perceptions

## ABSTRACT

**Introduction:** Paramedics are increasingly expected to take on wider roles in the management of epilepsy in the community by making nonconveyance decisions after patients have had seizures. Studies have identified barriers to the successful implementation of this clinical role. We sought to determine levels of confidence, training, perceived barriers, and self-identified learning needs and methods to address these needs regarding seizure management.

**Methods and materials:** A questionnaire was developed by consensus and administered to 63 paramedic and prehospital clinicians at various mandatory training days occurring at the central headquarters of the regional ambulance service in Northern Ireland. Participants had no foreknowledge of the questionnaire, which was self-completed and returned immediately.

**Results:** A 75% return rate was obtained after 63 questionnaires were distributed. Paramedics had a mean of 11.5 years of experiences, and 49% had treated 1–10 seizures in the last year. The Joint Royal Colleges Ambulance Liaison Committee guideline on seizure management is the most commonly utilized clinical guideline (100%). All could recall formal training on seizures in their qualification course. They identified a need to develop their knowledge in certain aspects of drug management and seizure subtype identification, including nonepileptic attack disorder (NEAD). Seventy percent of paramedics had a limited understanding of NEAD.

Overall, paramedics rated their confidence as higher in drug treatment and the process of managing a seizure but rated their confidence lower in recognizing different seizure types as well as making nonconveyance decisions. The two factors which were cited as instilling high confidence included clinical experience and good use of provided protocols. Other barriers identified included lack of access to intramuscular midazolam, poor information availability in the prehospital setting, and a lack of a feedback mechanism to ensure follow-up. The methods by which learning needs would be addressed included tutorials, e-Learning, and simulation, with 30% preferring a combination of these methods.

**Conclusions:** We identified that the paramedic workforce feels a reasonable to high level of confidence in the management of acute seizures. However, there are areas where they experience less confidence including making nonconveyance decisions and the identification of nontonic–clonic seizure subtypes.

© 2017 Elsevier Inc. All rights reserved.

## 1. Introduction

The Northern Ireland Ambulance Service (NIAS) attended 215,710 calls in 2016–2017, with 3.8% of these being due to seizures [NIAS, personal communication]. This is similar to a previously reported experience in England with seizure-related calls making up 3.3% of the total callouts [1].

There has been an evolution in the role of a paramedic, and they are now expected to make decisions regarding not transferring a patient to

the emergency department (nonconveyance) and make a safe discharge at the scene. The clinical decision-making process (risk versus benefit) has not been fully explored, and limited guidelines exist to help paramedics make these difficult decisions [2]. The benefits of nonconveyance are the reduction in unnecessary hospital attendances and admissions, with associated financial savings. It also reduces the intrusion of the seizures into the lives of patients by reducing time spent in a hospital.

In general, the confidence of paramedics assessing patients with seizures has not been studied well, with the exception of two English ambulance trust studies. The first highlighted that 30% of paramedics have low confidence in managing seizures [3]. The second [4] explored through qualitative design why this is the case. The paramedics reported

\* Corresponding author.

E-mail address: [michael.kinney@belfasttrust.hscni.net](mailto:michael.kinney@belfasttrust.hscni.net) (M.O. Kinney).

challenges in assessing and treating postictal patients and a lack of clear guidelines or training as to how they should carry this out [5]. Other factors included poor information availability in the prehospital setting, time challenges, fear of an adverse outcome, and subsequent litigation [4].

Recently, Northern Ireland introduced a nonconveyance pathway (Supplementary file 1), and in this study, we sought to assess paramedic confidence in managing seizures and nonconveyance. We explored training perceptions, barriers faced, areas for further development, and methods to achieve those learning goals.

## 2. Materials and methods

A literature search was carried out using PubMed with the search terms “ambulance”, “prehospital”, “paramedic”, and “seizure” to develop a questionnaire to assess ambulance and paramedic staff perceptions on seizure care (see Supplementary file 2). The questionnaire was designed to be individually self-completed. It contained closed- and open-ended questions. Responses were collected immediately after completion.

The questionnaire was disseminated over a 2-week period in April 2017 at several mandatory regional paramedic postproficiency training sessions (unrelated to seizure management). Paramedics were invited to complete the questionnaire on a voluntary and anonymous basis. Participants were free to not return their questionnaire if they declined participation. The study was preplanned to be stopped after >70–75% of the questionnaires were returned. Paramedics from diverse geographical areas (rural and urban) and various levels of clinical experience attended. Only 25 (5.5%) out of all paramedics in Northern Ireland did not attend the mandatory sessions because either they were ill or they were on long-term leave (e.g., maternity leave).

Verbal consent was obtained. This work was completed under the auspices of quality improvement with the goal of an educational intervention, and ethics was waived by the NIAS. As the numbers were relatively small, a detailed statistical analysis was not attempted; however, for the comparison between the NIAS workforce and the study participants (completers of the questionnaire), Fisher's exact test was used, with a *p* value of <0.05 considered significant.

## 3. Results

### 3.1. Characteristics of respondents

The characteristics of the respondents are shown in Table 1. Out of 63 distributed questionnaires, 47 were returned (75% return rate). Nonrespondent characteristics were not obtained. Almost 50% of participants have treated at least 1 seizure in the last year. There was no age

or gender difference between participants and the wider paramedic workforce. Clinical experience could not be compared between the groups.

### 3.2. Awareness of guidelines

All participants reported that they used the Ambulance Services' Clinical Practice Guidelines of the UK Joint Royal Colleges Ambulance Liaison Committee (JRCALC) related to the management of seizures. Sixty percent stated familiarity with the National Institute of Clinical Excellence guidelines on seizure management. Four percent of the participants preferred a per rectal (PR) route as the first line of drug administration, and all of them used diazepam as their preferred initial drug. Ninety-six percent were aware of the potential option for nonconveyance locally, but only 45% were aware of the local guidance.

### 3.3. Methods of training received

When asked about training in seizure care, almost all of them cited training during their paramedic qualification course. Most could identify methods of continuing professional development including update sessions, JRCALC guideline use, training events, and self-directed reading.

### 3.4. Self-identified learning needs

The most common identified training need was regarding drug management (pharmacokinetics) including guidance on midazolam use (in 19%). The next most commonly mentioned theme was identification of nonconvulsive seizure types, their treatment, and nonepileptic attack disorder (NEAD). Other less commonly identified areas for development included pathophysiology, moving and handling during the postictal phase, nonconveyance pathways, electrocardiogram (ECG) interpretation, and patient care plans. Thirty-six percent identified no additional learning needs.

### 3.5. Preferred method of addressing learning needs

Approximately 50% preferred didactic teaching, with 13% requesting e-Learning and 30% selecting combinations of didactics, e-Learning, and simulation. The remainder made no suggestion for addressing their learning needs. Only 4% of respondents used journal articles.

### 3.6. Confidence in seizure management

The confidence of the staff was, in the majority of cases, at a reasonable or very confident level, yet only 17% stated being “slightly confident” in recognizing seizure types (including nontonic–clonic types) while only

**Table 1**

Characteristics of participants who returned questionnaires compared with those of the general Northern Ireland Ambulance Service workforce.

Characteristics	Participants who returned questionnaires	Northern Ireland Ambulance Service total workforce
Total returned questionnaires	47	Not applicable
Mean age [years]	43.5 [range: 29–60] (51% under 45)	56% of the workforce are under 45 ( <i>p</i> = 0.5, nonsignificant difference in age)
Gender (%)	17 (36%) female, 30 (64%) male	123 (27%) female and 331 (73%) male ( <i>p</i> = 0.23, nonsignificant difference in gender)
Mean length of service [years]	11.5 [range: 2–27]	Not available
Job title	30 paramedics 10 clinical support officers 6 rapid response vehicle paramedics 1 hospital ambulance liaison officer	454 paramedics
Training	41 Institute of Healthcare and Development (traditional course) 6 traditional course and university degree	Not available
Number of seizures treated in the last year	0 seizures 6% 1–10 49% 11–20 26% >20 17% No response 2%	Not available

Download English Version:

<https://daneshyari.com/en/article/8683696>

Download Persian Version:

<https://daneshyari.com/article/8683696>

[Daneshyari.com](https://daneshyari.com)