

Developing Regional Guidelines of Epilepsy for Multidisciplinary Teams

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Background: Treatment of the northeastern epileptic patients cannot totally follow the Thai Clinical Practice Guidelines (CPG) for Epilepsy due to a number of constraints.

Objective: To create the Regional CPG for Epilepsy for the multi-professionals in the Northeast.

Material and Method: Surveying the facilities of epilepsy services in the northeastern hospitals; brainstorming the opinions of experts, who work with northeastern epilepsy cases, on the 2017 Thai CPG for Epilepsy of Thailand Epilepsy Society in order to compile the limitations of the method and draft the epilepsy treatment guidelines for the multi-disciplinary team in the Northeast context; submitting the draft of the Regional CPG for Epilepsy to the health professional teams in the northeastern hospitals for recommendations; applying the recommendations to create the Regional CPG for Epilepsy for the multidisciplinary team, which correspond to the context of the Northeast.

Results: The Regional CPG for Epilepsy is created for the professional multidisciplinary team. The Regional CPG is composed of guidelines for interviewing a patient's history and performing physical examination for diagnosing and distinguishing seizures and epileptic types, guidelines for providing care to patients with first and recurrence seizures, guidelines for managing antiepileptic drugs, and guidelines for diagnosis and treatment of recurrence seizures. Additional contents include guidelines for managing mental problems of epileptic patients, a model for epilepsy clinic, a system of antiepileptic drugs distribution in the Northeast and a system of blood specimen collection for therapeutic drug monitoring (TDM).

A conference was scheduled to explain the created Regional CPG for Epilepsy to the multidisciplinary medical team. The Regional CPG for Epilepsy was published in a textbook format and a video produced with the same content. Copies of the book were dispatched to all hospitals in the Northeast and all Medical Study Centers. The video has been publicized online at: youtube.com/kku.

Conclusion: The Regional CPG for Epilepsy for multidisciplinary medical teams in the Northeast has been created based on the professional standards. The guidelines are in accordance with the limited resources of personnel, antiepileptic drugs, and treatment equipment and tools. It is expected that the Regional CPG for Epilepsy will be of optimal benefits in service provision to patients with epilepsy.

Keywords: Treatment guidelines, Epilepsy, Regional guideline, Multidisciplinary teams

J Med Assoc Thai 2017; 100 (Suppl. 6): S218-S226

Full text. e-Journal: <http://www.jmatonline.com>

Epilepsy is a prevalent chronic neurological disease and is one of the most important health problems. Presently, the total epileptic patients worldwide amount to approximately 50 million. Out of this number, 85% live in developing countries ⁽¹⁾. In

2000, a study was conducted on the prevalence of epilepsy in Thai population in Nakhon Ratchasima on a sample group of 2,069 patients. Prevalence of the patients with recurring seizures was found at 5.9-7.2 per 1,000 people⁽²⁾. The 2015 information of the Governing Department, Ministry of the Interior⁽³⁾ showed that out of a 65,729,098 Thai population, 473,249 could possibly develop seizures.

Nowadays, Thailand's health service system provides 95% coverage of the population. This includes

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the universal health coverage, official rights, and social security rights. Epilepsy is also covered under any of the three rights, notwithstanding whether it is examination of CT, MRI-brain, EEG, or standard/new antiepileptic drugs (though not all types). Inpatient treatments are also covered by these rights. It can be said that health service in this respect is relatively better than many countries in Southeast Asia. However, a constraint still exists in accessibility of patients to neurological physicians, especially neurologists and pediatric neurologists. These specialists often are working in big hospitals, making it very difficult for patients to be treated by them⁽⁴⁾. The problem of shortage of specialized physicians is a major problem in provision of medical service to epileptic patients in many countries, especially developing countries. A study of medical service given to patients with epilepsy in Southeast Asia revealed the ratio of 1 neurologist per 420,000 people in Thailand⁽⁵⁾. When considering only the Northeast, with a population of 21,916,034⁽³⁾, it was found that 22 neurologists were working with 22 million people or an average of 1 neurologist per one million people⁽⁶⁾. Another survey of facilities to provide medical care service to epilepsy patients in the hospitals under the National Health Security Office (NHSO) Area 7 disclosed limitations of medical professionals, antiepileptic drugs, equipment for diagnosis and referral of patients, resulting in their inability to have access to treatment and poor quality of life⁽⁷⁻⁹⁾.

Prescription of antiepileptic drugs (AEDs) is the major epilepsy treatment method. The patients must take AEDs for a period of 2 to 5 years, and the chance of complete recovery is roughly 50-70%⁽¹⁰⁾. Epileptic patients, in general, receive their first medical care at a community hospital from a general practitioner. If a patient cannot be controlled, or epilepsy cannot be diagnosed, the general practitioner will refer the patient to a more potential hospital for further diagnosis, for example, by CT scan, MRI, and EEG and for treatment by a neurologist. Thailand Epilepsy Society has produced the Thai Clinical Practice Guidelines (CPG) for epilepsy, which has been used up to now as a tool for enhancing health service qualities. However, treatment of epileptic patients in the Northeast still cannot follow the Thai CPG for Epilepsy due to the constraints mentioned above. The Integrated Epilepsy Research Group, Khon Kaen University, therefore, attempted to develop a regional CPG for epilepsy to be applied by the medical professional multidisciplinary teams in the Northeast. It was expected that the CPG created would suit the conditions of limited resources

and correspond to the national clinical practice guidelines for epilepsy. The expected outcomes would be more efficient services for patients with epilepsy, more accessibility of the patients to the services provided, and better quality of life of the patients.

Objectives

- 1) To create the Regional Clinical Practice Guideline (CPG) for epilepsy for the medical multi-professionals in the Northeast.
- 2) For epileptic patients to receive standard treatment and more access to the treatment.
- 3) To disseminate epilepsy knowledge among the health professional teams in the northeastern hospitals.

Material and Method

This study was conducted using the operational research method, the procedures of which can be illustrated as follows:

Research instruments

- 1) A survey form on facilities of epilepsy medical services of hospitals in the Northeast⁽⁸⁾.
- 2) A survey form for opinions towards the Regional CPG for Epilepsy for general practitioners and multi-professional teams, which comprised 2 parts:

Part 1: Quantitative data – a questionnaire for rating the degree of opinions towards the Regional CPG for Epilepsy for general practitioners and multi-professional teams, consisting of 11 questions.

Score	Degrees of opinion
5	Strongly agree
4	Mostly agree
3	Moderately agree
2	Somewhat agree
1	Slightly agree

Criteria of interpretation⁽¹²⁾

Average score	Meaning
4.50-5.00	Strong agreement
3.50-4.49	High agreement
2.50-3.49	Moderate agreement
1.50-2.49	Low agreement
1.00-1.49	Slight agreement

Part 2: Qualitative data-four open-ended questions for the sample group to give their opinions towards the Regional CPG for Epilepsy for general practitioners and multi-professional teams.

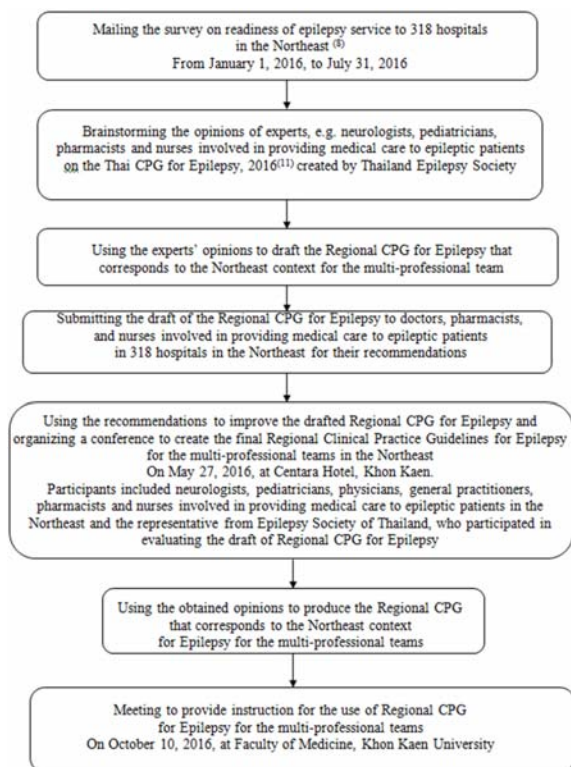


Fig. 1 The process of developing regional guidelines of epilepsy.

Ethical consideration

Study was approved by the Ethic committees on human rights of Khon Kaen University (HE601135).

Data analysis

The data were analyzed by SPSS software program; the statistics included means and percentages.

Results

The questionnaire to survey the facilities for epilepsy medical services was sent to 318 hospitals in the Northeast. 277 hospitals (87.10%) completed the questionnaire and returned. Of the 277 returned questionnaire forms, 17 were from general hospitals out of 33 (51.52%) and 260 community hospitals out of 285 hospitals (91.23%).

The results indicated that carbamazepine was the AED mostly available in the northeastern hospitals (89.53%), followed by phenobarbital, sodium valproate, and phenytoin (79.06, 69.68, and 59.57%, respectively). The available original drugs in the standard AEDs consisted of carbamazepine, phenytoin, and sodium

valproate (3.61, 36.46, and 38.63%, respectively). General hospitals were found to have the 4 main AEDs in the standard group, e.g., carbamazepine, phenobarbital, phenytoin, and sodium valproate (100, 88.24, 88.24, 82.35%, respectively). Community hospitals had these 4 drugs at 91.54, 78.85, 84.23, and 38.0%, respectively. The hospitals were found to have at least one type of the new AED group (40.07%). The most commonly used AEDs in the new AED group at general hospitals were gabapentin (100%), pregabalin (64.71%), levetiracetam (52.94%), topiramate (35.29%), and lamotrigine (29.41%). The mostly used AEDs in the new AED group at community hospitals were gabapentin (35.38%), pregabalin (3.08%), levetiracetam (1.54%), lamotrigine (1.15%), and topiramate (0.77%). Overall, 73.65% of the hospitals had intravenous (IV)-form antiepileptic drugs, which are injected intravenously and used for status epilepticus; the mostly used drug in provincial hospitals was phenytoin (82.35%), followed by sodium valproate and phenobarbital, at 76.47 and 58.82%, respectively. Community hospitals were found to use the following intravenous drugs to treat status epilepticus: phenytoin, phenobarbital, and sodium valproate at 58.08, 22.69, and 9.23%, respectively, though not in all of the responding hospitals. For the equipment used in epilepsy diagnosis, general hospitals were found to use CT scan mostly (66.7%), followed by EEG (21.2%), and MRI (18.2%), whereas community hospitals used CT scan only (12.3%) since they did not have equipment for EEG or MRI examinations, as shown in Table 1.

The researcher dispatched the Regional CPG for Epilepsy to neurologists, pediatricians, internal medicine, general practitioners, pharmacists, and nurses involved in providing care to epileptic patients in 318 hospitals. 31 hospitals returned the responses (9.75%). The study found that overall, the relevant medical professional teams agreed with the Regional CPG for Epilepsy at a high level, as shown in Table 2.

Opinions towards the regional CPG for epilepsy (from the questionnaire)

Is the regional CPG for epilepsy truly practicable and how?

The health professional team consisting of doctors, pharmacists, and nurses who have the roles to provide health care to epileptic patients in northeastern hospitals agreed with the practicability of the Regional CPG for Epilepsy. The CPG clarifies all approaches for each profession. Seizures can be distinguished and hence referral of patients is more

Table 1. Percentage of facilities of epilepsy service in North-East classified by hospital level

Facility of epilepsy service	General hospital n = 17 (%)	Community hospital n = 260 (%)
Standard AEDs		
Phenobarbital	88.24	78.85
Phenytoin	88.24	84.23
Carbamazepine	100.00	91.54
Valproic acid	82.35	38.00
New AEDs		
Topiramate	35.29	0.77
Gabapentin	100.00	35.38
Lamotrigine	29.41	1.15
Levetiracetam	52.94	1.54
Pregabalin	64.71	3.08
Intravenous AEDs		
Phenobarbital	58.82	22.69
Phenytoin	82.35	58.08
Sodium valproate	76.47	9.23
Epilepsy diagnostic devices		
EEG	21.20	0
CT Scan	66.70	12.30
MRI	18.20	0

Table 2. Means and percentages of the opinions of the multi-disciplinary professionals related to the Regional CPG for Epilepsy in the Northeast

Potential of Regional CPG for Epilepsy	Level of opinions					Means	Meaning
	Strong 5 n (%)	High 4 n (%)	Moderate 3 n (%)	Low 2 n (%)	Slight 1 n (%)		
Diagnosis of seizures: Interviewing for history and physical examination	16 (51.6)	14 (45.2)	1 (3.2)			4.48	High
Classifying seizures and epilepsy	20 (64.5)	10 (32.3)	1 (3.2)			4.61	Strong
Distinguishing of seizures and epilepsy from other conditions	16 (51.6)	13 (41.9)	2 (6.5)			4.45	High
Diagnosis and investigation	19 (61.2)	10 (32.3)	2 (6.5)			4.54	Strong
Provision of care to patients with first and recurring seizures	20 (64.5)	10 (32.3)	1 (3.2)			4.61	Strong
Administering antiepileptic drugs	18 (58.0)	9 (29.0)	4 (13)			4.45	High
Management of epilepsy patients not responding to treatment and use of new antiepileptic drugs	18 (58.0)	12 (38.8)	1 (3.2)			4.54	Strong
Diagnosing and treating of recurring seizures	19 (61.2)	10 (32.3)	2 (6.5)			4.54	Strong
Model for managing an epilepsy clinic	13 (41.9)	16 (51.6)	2 (6.5)			4.35	High
Distribution system of antiepileptic drugs in Northeast	11 (35.5)	15 (48.5)	4 (13)			4.09	High
Submission of specimens for therapeutic drug monitoring	12 (38.8)	14 (45.2)	5 (16)			4.22	High
Total	182	133	25			4.45	High

efficient than in the past. The professional team has clearer knowledge and understanding of epilepsy. It has been suggested that the professional team should be trained, and co-ordination of work should be

continuous with an emphasis on creating networks in the northeast so that approaches would be on the same basis. However, some remote hospitals may still face problems such as submitting specimens for therapeutic drug monitoring and a shortage of personnel.

Strengths of the regional CPG for epilepsy

The Regional CPG for epilepsy contains charts that are simple to read and understand. It provides guidelines for diagnosis, treatment, prescription of medication, and clarified patient transfer. The details cover approaches for each hospital with different contexts by hospital categorization. The information, contextual and areal conditions have been taken into account before designing treatment approaches, which include patient transfer, drug distribution, or specimen submitting for therapeutic drug monitoring. Therefore, the regional CPG can be adjusted and used appropriately in each level of hospitals that may differ in terms of personnel and diagnostic equipment. The Regional CPG does not emphasize theoretical contents and so is useful for the work including assessment, screening, and provision of care to the patients. The Regional CPG comes in attractive cover and binding, with easy-to-use content page and clear epilepsy clinic guidelines.

Weaknesses of the regional CPG for epilepsy

The regional CPG for epilepsy lacks conciseness and simplicity for operations at community hospitals. Management details for complicated cases of epilepsy are still not clear.

Recommendations and other opinions

The regional CPG for Epilepsy is very good. It assists in epilepsy diagnosis. Guidelines should be classified according to hospital levels. There should be useable CPG at all levels of hospitals, with similar general guidelines and sub-guidelines based on the context of each hospital. A pocket CPG manual is recommended.

Opinions towards the regional CPG for epilepsy (from the conference)

Following are the opinions towards and recommendations for the regional CPG for Epilepsy gathered from a meeting of 38 experts including neurologists, pediatricians, internal medicine, general practitioners, pharmacists, and nurses who work with epileptic patients and the representative from Thailand epilepsy society. This conference was held

on May 27, 2016.

Drug distribution

1) Database of AEDs should be available at all community hospitals as information for referring patients for continuing treatment.

2) All community hospitals in the Northeast should have the same 4 standard AEDs and at least one intravenous AED.

3) New AEDs should be available at tertiary hospitals, whereas at community hospitals, these drugs should be bought for necessary cases based only on the specific drug purchase system such as Dan Sai Hospital where the drug is bought specifically for certain patients.

Patient referral for diagnosis and treatment

1) Transfer for EEG should be done with uncertain cases of initial diagnosis. The hospital referring a patient for EEG should have the patient sent to a neurologist first for pre-evaluation and analysis, or to a higher level of specialist, for instance: general practitioner, doctor of internal medicine, neurologist.

However, if a general practitioner (GP) is able to diagnose epilepsy such as an evident symptom of generalized tonic-clonic seizure (GTC), seizures for which GP is confident, then treatment can be started.

For patient requiring EEG, a mobile EEG with a technician of Srinagarind Hospital (or a center hospital or a tertiary hospital where EEG equipment is available) is sent to community hospitals instead of transferring patients to Srinagarind Hospital.

2) Most of the referral cases for MRI should be restricted to intractable seizure and should be done after the patient has already consulted a doctor of internal medicine or neurologist.

3) GP should treat patients with controlled seizures, while those with uncontrolled seizures should be sent for consultation.

4) Similar media showing symptoms of different types of seizures should be used in all hospitals in Northeast.

5) The seizure screening form can be used for GTC seizures only. Screening nurses can interview the patient based on this form, which is very useful and assists in diagnosis.

Strengths of the regional CPG epilepsy

1) Classification of seizures based on antiepileptic drug administration is simple and easy to remember.

2) The availability of the simple GTC seizure screening form for a nurse to interview a patient's history and evaluate the results assists diagnosis; the form is useful for community and general hospitals.

3) Guideline for referring a patient for EEG and enables a patient to have access to treatment since a number of patients are appointed on the same day and transported by a van to a center hospital or a tertiary hospital, where EEG facility is available center hospital or tertiary hospital can also send a technician to examine patients at a network hospital where a number of patients have been appointed on the same day.

4) The guideline for referral of a patient for further treatment is clear.

Weaknesses of the regional CPG epilepsy

1) Classification of seizures according to antiepileptic drug administration should contain a remark saying: Precaution for the special condition group: children <2 years and women at reproductive ages.

2) The management of epilepsy clinic should include clarified details for management.

Discussion

Creation of this regional CPG for epilepsy was carried out by using the Thai CPG for epilepsy⁽¹¹⁾ produced by Thailand epilepsy society as the model from which the guidelines were modified to fit the constraints in the surveyed northeastern hospitals. The regional CPG for epilepsy differs from Thai CPG for epilepsy, 2016⁽¹¹⁾ in classification of the types of seizures. The classification of Thai CPG for epilepsy, 2016⁽¹¹⁾ is based on ILAE, 2010, which, although famous and complicated, is not familiar among most doctors and health professionals with inadequate experience. Therefore, diagnosis of different seizures cannot be done, and decision on treatment can be difficult. The frequently found seizures are in fact absence seizures, which must be treated only with sodium valproate. Seizure classification which is simple and convenient for application is differentiation between absence seizures and other seizures. Thus, the regional CPG for epilepsy identifies the use of AEDs first, to see if sodium valproate is prescribed for the patient. This is because absence seizures respond well to sodium valproate only. Myoclonic, tonic or atonic seizures that also respond well to sodium valproate are scarcely found and hence are not included in the classification for ease and convenience of application by general practitioners and health professional teams in

community hospitals or sub-district health promotion hospitals.

With limitations of equipment for diagnosis of epilepsy in northeastern hospitals especially in the case of the EEG and MRI, the researchers have devised a radiological examination for new cases of epileptic patients with indications for MRI. Only the patients who have been considered by a physician or neurologist to require MRI should be included. Thus, the patient may be sent for CT-brain scan first, except for the case who does not respond to treatment, which does not occur from compliance and truly intractable seizures. This is because of a high chance of hippocampal sclerosis or cortical dysplasia causes. For the case where the diagnosis was still ambiguous, the patient can be sent for EEG examination after consultation with an internist or neurologist. Two methods are suggested: 1) making appointment with many patients to receive EEG on the same day and arranging for transportation to take them to a center hospital or a tertiary hospital where EEG equipment is available; 2) a center hospital or tertiary hospital where EEG equipment is available sends a technician to conduct EEG at a network hospital where many patients have been asked to come. These are the ways to increase accessibility to diagnosis and treatment.

The Regional CPG for Epilepsy differs from the Thai CPG for Epilepsy⁽¹¹⁾ in terms of the guidelines for management of mental problems in epileptic patients. Medical care for patients with epilepsy should cover their mental conditions because the patients who are not able to adjust themselves usually develop mental rather than emotional problems. These problems affect their working capacity, their social and family relationships until their deficiency becomes obvious⁽¹³⁾. Besides, there is the guideline for submitting specimens for therapeutic drug monitoring (TDM), covering both urgent and non-urgent TDM requirements. Faculty of Pharmaceutical Sciences, Khon Kaen University analyses TDM examinations very quickly and efficiently with additional instructions for patient care provided. Therefore, adjustment of individual cases can be done. Moreover, the Regional CPG for Epilepsy contains more details than the Thai CPG for Epilepsy⁽¹¹⁾, i.e., guidelines for service provision in epilepsy clinic in each level of hospitals. Therefore, any hospitals interested in opening an epilepsy clinic can use the guideline. More health professional teams will understand and can follow the instructions in the Regional CPG with ease since it is appropriate for the context of the Northeast hospitals.

The survey of facilities for providing medical services for epilepsy cases in the Northeast showed shortages of AEDs. Information from the survey and recommendations from the conference on May 27, 2016, were compiled to design distribution of AEDs based on the levels of hospitals. The primary or community hospitals should have the 4 standard AEDs: phenytoin, phenobarbital, carbamazepine, and sodium valproate, with at least one type of standard IV-form AED (phenytoin or sodium valproate). The secondary hospitals (general hospital) which include community hospitals or provincial hospitals with pediatricians or internal medicine should have the following standard AEDs: phenytoin, phenobarbital, carbamazepine, sodium valproate with one standard IV-form AED (sodium valproate or phenytoin) and some new AEDs. For the tertiary level hospitals including provincial and center hospitals with pediatricians, neurosurgeons or neurologists or pediatric neurologists, these drugs should be available: standard AEDs (phenytoin, phenobarbital, carbamazepine, sodium valproate), at least 2 types of standard IV-form AEDs, levetiracetam injection, and new AEDs.

The survey of facilities in provision of medical services for epilepsy cases in the Northeast shows that gabapentin (GBP) is among the new AEDs mostly used in community and provincial hospitals, at 35.38 and 100%, respectively. In most cases, GBP is used for treating neuropathic pain more than epilepsy even though GBP was approved in January 1994 as adjunctive treatment in patients 12 years or older with partial seizures, with or devoid of secondary generalization. GBP, was formerly known as an anticonvulsant γ -aminobutyric acid (GABA) mimetic, and is considered as a safe and well-tolerated antiepileptic drug with promising pharmacokinetic properties and a wide therapeutic index. GBP is useful for the therapy of mixed seizure disorders and refractory partial seizures in children, but it must be regarded as the first treatment for older patients with recently diagnosed seizures. GBP has a well-recognized clinical efficacy in those types of focal epilepsy which were resistant to the traditional AEDs⁽¹⁴⁾ and GBP (at lower doses than therapeutic dose) despite its anti-epileptic properties also possesses protective effects against long-term consequences of psychological stress⁽¹⁵⁾. Thus, doctors should be acknowledged of the use of GBP to treat epilepsy so that they have more understanding and confidence in drug prescription.

The results of the Regional CPG for Epilepsy

evaluation by questionnaire completion of the health professional teams show that the professional teams including doctors, pharmacists, and nurses who are involved in caring epileptic patients in northeastern hospitals agree with the Regional CPG for Epilepsy at a high level ($\bar{x} = 4.45$). They believe that the Regional CPG for Epilepsy contains easy-to-read and understandable charts, diagnostic, treatment and drug prescription guidelines as well as a clear referral system. There are details and guidelines that have been divided according to hospital levels. The information related to areas and contexts that have been taken into consideration for epilepsy treatment including referral system, drug distribution, therapeutic drug monitoring can be adjusted and used appropriately in each type of hospital levels that are different in terms of personnel and diagnostic facilities. The content in the Regional CPG for Epilepsy is not too theoretical and is, therefore, useful for the work, evaluation, screening, and epileptic patients' care. This leads to efficient epilepsy clinic services with patients having greater access to treatment and better quality of life.

Evaluation of the Regional CPG for Epilepsy by participants in the conference shows their belief in the usefulness of the Regional CPG for diagnosis, treatment, and referral of epileptic patients to further treatment, enabling more accessibility of the patients to treatment.

Conclusion

The Regional CPG for Epilepsy is a tool for enhancing health service qualities, which is suitable to the resources and conditions of hospitals in the Northeast where there is a shortage of personnel, diagnostic and treatment equipment, antiepileptic drugs, and referral guidelines for cases requiring additional treatment or examination. The Regional CPG for Epilepsy has been constructed with the hope of providing efficient health care services to patients with epilepsy so that patients to have greater access to treatment resulting better quality of life.

Limitations

Since the number of returned questionnaires was relatively low, details and recommendations might not be completed.

What is already known on this topic?

Epileptic patient treatment in the Northeast cannot follow the Thai CPG for Epilepsy due to resources constraints.

What this study adds?

Creation of the Regional CPG for Epilepsy to suit the context of the Northeast based on professional standards and the standards of epilepsy treatment results in the suitable guidelines that match the existing limited resources, namely: personnel, AEDs, facilities for diagnosis and treatment for utmost benefits of epileptic patient care.

Acknowledgements

This study was granted by Faculty of Medicine, Khon Kaen University, Thailand (Grant Number RU59101). The researchers are grateful to the Research Affairs, Faculty of Medicine, Khon Kaen University for the research support and The Center of Cleft Lip-Cleft palate and Craniofacial Deformities, Khon Kaen University under Tawanchai Royal Grant Project. Thanks are extended to Provincial Health Offices in the Northeast for data collection.

Potential conflicts of interest

None.

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การสร้างแนวทางการรักษาโรคลมชักสำหรับทีมสหสาขาวิชาชีพภาคตะวันออกเฉียงเหนือ

สมศักดิ์ เทียมเก่า, สนิทนาฏ พรานบุญ, สุณี เลิศสินอุดม, นันทพรพรณ์ ชัยนิรันดร์, สุภิญญา ต้นตาปกุล, ศิริพร เทียมเก่า, คัชรินทร์ ภูนิคม

ภูมิหลัง: การรักษาผู้ป่วยโรคลมชักในภาคตะวันออกเฉียงเหนือไม่สามารถปฏิบัติตามแนวทางการรักษาโรคลมชักของประเทศไทยได้เนื่องจากมีข้อจำกัดหลายด้าน

วัตถุประสงค์: เพื่อสร้างแนวทางการรักษาโรคลมชักสำหรับทีมสหสาขาวิชาชีพภาคตะวันออกเฉียงเหนือ

วัสดุและวิธีการ: สำรวจความพร้อมด้านการบริการโรคลมชักของโรงพยาบาลในภาคตะวันออกเฉียงเหนือ และนำแนวทางการรักษาโรคลมชักปี พ.ศ. 2560 ซึ่งจัดทำโดยสมาคมโรคลมชักแห่งประเทศไทยให้ผู้เชี่ยวชาญที่ปฏิบัติงานด้านการดูแลผู้ป่วยโรคลมชักในภาคตะวันออกเฉียงเหนือ ระดมความคิดเห็นอภิปรายถึงข้อจำกัดของแนวทางดังกล่าว นำข้อคิดเห็นได้มาจัดทำร่างแนวทางการรักษาโรคลมชักสำหรับทีมสหสาขาวิชาชีพ ในบริบทของภาคตะวันออกเฉียงเหนือ สร้างแนวทางการรักษาโรคลมชักให้แก่บุคลากรทีมสุขภาพที่มีบทบาทดูแลผู้ป่วยโรคลมชักของโรงพยาบาล ในภาคตะวันออกเฉียงเหนือเพื่อให้ความคิดเห็น นำข้อคิดเห็นมาปรับปรุงแนวทางฯ และจัดทำแนวทางการรักษาโรคลมชักสำหรับทีมสหสาขาวิชาชีพ เพื่อให้มีความสอดคล้องกับบริบทของภาคตะวันออกเฉียงเหนือ

ผลการศึกษา: ได้แนวทางการรักษาโรคลมชักสำหรับทีมสหสาขาวิชาชีพภาคตะวันออกเฉียงเหนือประกอบด้วยแนวทางการซักประวัติ และการตรวจร่างกายเพื่อการวินิจฉัย การจำแนกประเภทของอาการชักและโรคลมชัก แนวทางการดูแลผู้ป่วยที่มีอาการชักครั้งแรกและชักซ้ำ แนวทางการบริหารยากันชักแนวทางการวินิจฉัยและรักษาภาวะชักต่อเนื่องเป็นต้น นอกจากนี้มีเนื้อหาที่เพิ่มเติมคือแนวทางการจัดการปัญหาทางจิตเวชในผู้ป่วยโรคลมชัก รูปแบบการจัดการคลินิกโรคลมชัก ระบบการกระจายยากันชักในภาคตะวันออกเฉียงเหนือ และระบบการส่งตรวจระดับยากันชักในเลือด ได้จัดประชุมวิชาการเพื่อชี้แจงการใช้แนวทางการรักษาโรคลมชักสำหรับทีมสหสาขาวิชาชีพ ภาคตะวันออกเฉียงเหนือ และจัดพิมพ์แนวทางการรักษาโรคลมชักสำหรับทีมสหสาขาวิชาชีพภาคตะวันออกเฉียงเหนือ ทั้งในรูปแบบหนังสือและสื่อวีดีโอ โดยส่งหนังสือแนวทางการรักษาโรคลมชักสำหรับทีมสหสาขาวิชาชีพภาคตะวันออกเฉียงเหนือไปยังทุกโรงพยาบาลในภาคตะวันออกเฉียงเหนือ และศูนย์แพทยศาสตรศึกษาทุกแห่ง สื่อวีดีโอเผยแพร่ทางช่อง [youtube.com/kku](https://www.youtube.com/kku)

สรุป: แนวทางการรักษาโรคลมชักสำหรับทีมสหสาขาวิชาชีพภาคตะวันออกเฉียงเหนือเป็นแนวทางที่สร้างขึ้น โดยยึดหลักตามมาตรฐานวิชาชีพ เพื่อให้ได้แนวทางที่มีความเหมาะสมกับทรัพยากรที่มีอยู่อย่างจำกัดทั้งด้านบุคลากร ยากันชักและเครื่องมือการตรวจรักษาวินิจฉัยให้เกิดประโยชน์สูงสุดในการให้บริการผู้ป่วย
