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Epilepsy: A Systematic Review



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Abstract

Assessment affecting pole incidences' certainly epilepsy based on formally made public analysis along with look into reasons certainly heterogeneity. Epilepsy is a neurology disease a further overcome a large number of children and adolescents, with 80 percent of those affected living in low- and middle-income nations (LMIC). Epilepsy is accompanied with a lot of stigmas, both perceived and actual. When a person has experienced more than one seizure, they are usually diagnosed with epilepsy. Seizures can influence your emotions, awareness, and ability to move. Seizures can be caused by a variety of factors. Confusion, unusual feelings, repetitive movements, 'blank' moments (in which you are temporarily unresponsive), muscle jerks, abrupt falls, or jerking movements are examples of these (while unconscious). Thirty-three articles were found to meet the admission requirements. Epilepsy had a median incidence of 50.4 per 100,000 people per year (interquartile range [IQR] 33.6–75.6) in high-income countries, 45.0 (IQR 30.3–66.7) in low- and middle-income countries, and 81.7 (IQR 28.0–239.5) in low- and middle-income countries. We give abstract a further make out act using clamor measure affecting hardship along with examine tendency way off epilepsy incidences. Population-based analysis fixed higher incidences' assessment all the more hospital-coarse studies (p 0.02), whereas approaching research architecture since linked combat under assessments than prospective analysis (p 0.04). Our findings highlight the necessity for large population-based epilepsy incidence investigations.

Keywords: Epilepsy; Seizures; Blank moments; LMIC; IQR

Abbreviations: IQR: Interquartile Range; LMIC: Low- and Middle-Income Countries; AED: Anti-Epileptic Drug; PRISMA: Preferred Reporting Items for Systematic Reviews and Meta Analyses; WHO: World Health Organization

Introduction

Epilepsy is one certainly affecting greater prevailing non-communicable the branch of medical science that deals with the nervous system situation along with an essential causation certainly disablement along with fatality. It is estimation Claymore overcome approximately, 70 million citizens worldwide. Affecting ascendancy certainly epilepsy is low -and middle - income countries (LIMC) is precisely recent fatality is great recent way off, affecting causation certainly epilepsy along with automatic discharge may appear ,prevailing abstracts may implication deprecate affecting misfortune certainly epilepsy which is not lack aside disorder unique fatality could act beneficial way off the act of adding value prevailing abstracts way off affecting determination certainly affecting hardship certainly epilepsy. Meantime, most prevailing analysis has been reported, beside the point are by a rare analysis certainly incidences. Actuality analysis incidences certainly epilepsy way off (LMIC) still more

way off (HIC) despite it is not crystal unlikely post meridian alteration is actual by chance expected clamor methodologically alteration, directly assessment is contrary, restricting the scope his adequacy way off a speech act that conveys information civil fitness organization along with spilt matter of course stoppage, apprehension matter of course post meridian, volatility is not actual. One formally made public check certainly affecting incidences certainly epilepsy do not appropriate meta-certainly mechanism. Epilepsy is identified straight line a accumulating certainly composite syndrome properties aside affixed situation a further exist together combat spasm along with a pulse ended 50 million civil worldwide, cognitive, exciting along with behavior comorbidity are unusual spasm are typical way off clamor dual separated into parts, vital category limited along with spread throughout a body spasm overcome two considered together rational bisection, matter of course affecting assault certainly affecting spasm. Spasm production injury certainly consciousness,

either matter of course elongated durations certainly time by chance momentarily along with are sub-classify way off clamor spread throughout a body stimulant-clinic, myoclonic, vacancy, by chance a tunic-subtype. Fragmentary spasm overcome a space distinct one mental bisection certainly affecting, brain along with are affecting greater recurringly kind certainly spasm accustomed aside patients combat epilepsy. Limited spasms are added bisect way off clamor not difficult limited spasm. Whereby, apprehension is detained along with complicated limited spasm, whereby, apprehension is less by chance disappeared, Way off affecting cure certainly epilepsy, no one anti-epileptic drug (AED) has been showed clamor act affecting greater active along with entire AEDS has prepared and printed for distribution and sale misconception.

AEDS are chosen coming after discussion, certainly misconception, affluence certainly used charge along with a licensed medical practitioner education. Epilepsy is average way off patients admit clamor hospitals way off coming into view bazaar. Extent beside the point is report alteration way off affecting epidemiology budgetary, misfortune, along with issue, certainly epilepsy way off directly domain analyze clamor great-assets country, despite less abstracts' matter of course affecting anterior domain be present. Affecting destination certainly cure matter of course patients combat epilepsy is not spasm combat small clamor not misconception. By contrast outstanding clamor variable way off clinically proposal along with usable resources, cure is greater individually along with alter broadly. Affecting uninvolved certainly post meridian analysis is clamor systematic check affecting incidences, budgetary abstracts need along with cure arrangements way off directly, coming into view bazaar, whichever enclose affecting most certainly affecting world populations.

Epilepsy is the addiction claymore has spasm a further commencement way off affecting mental. Affecting mental used electrically marked clamor passes report among mental cells. Uncertainty directly marked are disarray. Post meridian could ahead clamor a spasm. Epilepsy is commonly analyzed since someone have fixed many all the more one spasm. Spasm could overcome yours emotional, having knowledge of by chance activity. Various kinds of certainly spasm concern, various goods. Directly unconcerned carry agitation ,abnormal sensitivity corresponding activity, empty activity ,whereby you are temporarily ,tendon bumbler acute fall, by chance brute activity (instant blacked out) .Consistently another action could review equivalent an epileptic spasm ,for example faintingly Doctors aim analysis matter of course another action straight line vigorous straight line epilepsy ahead you are analyze .Epilepsy is an average medically along with civil derangement by chance group certainly derangement combat exclusive properties. Epilepsy is commonly delimited straight line an addiction clamor alternate spasm. Affecting word epilepsy is formed matter of course Latins along with Greek word

matter of course spasm by chance clamor catch overhead. In fact, way off entire development it could act crumb straight line deep after straight line, medically record be present.

Methodology

We accompanied a systematic examination by using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) as a reference. Neuroimaging studies addressing brain shape and function in POE were thoroughly searched in PubMed. Our search technique was created to increase sensitivity while keeping specificity at a manageable level. We used the Medical Subject Headings search phrases ('diagnostic imaging' AND 'epilepsy') to look for articles in PubMed [1]. The PubMed database was used to conduct a systematic computer-based literature search. The prevalence, demographics, and epilepsy phenomenology were all gathered. The following criteria have to be met for an article to be considered for inclusion in the review: Epilepsy of unclear cause and gluten sensitivity were diagnosed in the research participants. Humans were used as test subjects. The original data were included in the study. Full-text English language articles or abstracts were available for the investigation. Each study's information was extracted using a structured coding system in Google Sheets and the area of examination, age and gender, population size, epilepsy classification, imaging results, blood test consequences, serologic and epilepsy reaction to tremor [2]. A comprehensive review of the literature was conducted using a broad search approach with no starting constraints on language or research design in six digital databases like Embase and Medline. Six gray literature databases like the American Academy of Neurology and ILAE were searched to eliminate publication bias. There were two independent reviewers who screened abstracts, read full-text articles, and extracted data. A meta-analysis and descriptive statistics were created [3]. This analysis includes all published randomized clinical trials and observational peer-reviewed studies that explored factors related with epilepsy in emerging economies to ensure a thorough review of the literature. On the following topics concerning epilepsy in emerging markets, a comprehensive search of the literature was conducted using PubMed, EMBASE, and the Cochrane Review databases: epidemiology, including prevalence and incidence; economics, including burden of disease, effects on productivity, and other economic issues; guidelines for treatment; treatment patterns; drug usage patterns; and unmet needs [4-15].

Criteria for inclusion and removal

Entire retrospective along with approaching community-coarse analysis estimating epilepsy incidences were along with, as were hospital-coarse along with investigation organized body of related information analysis using a population the divisor of a fraction. We are resulting from careful thought analysis matter

of course insertion uncertainly they defined epilepsy straight line dual by chance many assumed spasm that happened at first 24 hour aside along with were not acutely distinctive. Only studies with bight advice adjacent affecting length of chase provoked along with affecting number certainly people to blame hazard to blame affecting start certainly affecting inspection period were included. Studies that exclusively looked at acute symptomatic seizures, specific seizure patterns, or specific epileptic syndromes were omitted. Revision, story, alone case along with cases array, analysis the only formally made public straight line theoretical, letter, by chance commentary, analysis certainly specific grouped, such as the incidences certainly epilepsy among patients combat a history certainly main wound, along with analysis certainly duplicate populations were also omitted.

Analyze and synthesize data

There were two types of prevalence estimates: point prevalence and annual period prevalence. The number of existing instances of epilepsy way off a population distribution in a portion aside affecting overall population at a certain point in time is called point prevalence (e.g., on June 30, 2013). Existing and new instances of epilepsy in a population during a specific period are referred to as period prevalence (e.g., between January 1 and December 31, 2013). Based on the definitions supplied within individual publications, estimates of prevalence were further divided into two mutually exclusive groups: active and lifetime [16-20].

Discussion

Subgroup analyses were utilized to explore the relationship between socioeconomic, demographic, and clinical factors that may impact the prevalence and incidence of epilepsy in this systematic review and meta-analysis of international research on the prevalence and incidence of epilepsy. The prevalence and incidence of epilepsy have long been linked to age. We discovered that the incidence of epilepsy was generally higher in the youngest and oldest age groups, which was consistent with prior descriptive data, but there were insufficient papers to perform a meta-analysis. The 10-year age trend in the point prevalence of active epilepsy is comparable with earlier studies. Early in life, prevalence is projected to be lowest, rising to its peak level during adolescence and early adulthood, declining around age 30, and remaining relatively consistent for the rest of one's life. The number of studies included in this pooled analysis was limited by the use of common age groupings in individual studies; only 12 of the 63 eligible research employed common age groups, and due to the short number of studies, analysis by 10-year age groups was not possible for incidence estimates. In studies of people above the age of 18, the prevalence of epilepsy was slightly greater than in studies of people under the age of 18, whereas the incidence of epilepsy was slightly lower. This finding is in line with prior European epilepsy epidemiology investigations. When the incidence of epilepsy is not zero, as it is here, increased mortality may prevent the lifetime prevalence of epilepsy from increasing greatly with age (especially in older age groups). While sex isn't

known to play a role in epilepsy, it may play a role in disparities in epilepsy incidence. 35 Males were more likely than females to suffer from epilepsy. Some researchers believe that if women reside in a place where they would be regarded unmarriageable or socially ostracized, they are more likely to hide their epilepsy diagnosis. There was no difference in the point prevalence of active epilepsy or cumulative incidence between high and low-middle income nations. In low-middle income nations, however, the active yearly period prevalence was much greater. According to our estimations, affecting incidences certainly epilepsy way off LMICs is roughly twice that of HICs. A prior review came at a similar conclusion, albeit heterogeneity was not checkout. Affecting reasons matter of course affecting increased frequency way off asset-truly needy countries inception clamor industrialization country are seeming clamor act complex. Main wound along with contain along with scourge certainly affecting basic nervous system, such straight-line malaria, neurocysticercosis, along with permission bacteria contagion, rash all play a role. Several studies have found significant links among ion trough existence of different kind of crystal in the same chemical compound along with affecting upgrowth certainly spasm, while it is unclear if directly existence if different kind of crystal in the same chemical compound differ among LMIC along with HIC. Further research way off Africa 33-37 has revealed relating to clutch certainly epilepsy, implying a further genetically aspect rash possibly show an aspect way off epilepsy's greater prevalence. Few LMIC analysis rash along with persons combat sharp distinctive spasm way off his calculations, inflating incidences' assessment. Way off affecting West, a further is mixed data about affecting impact certainly socioeconomic disadvantage way off affecting upgrowth certainly epilepsy, with some research reporting a favorable relationship with deprivation and others finding no link. People with epilepsy had poorer socioeconomic level than people with no stigmatized medical problems, according to one study in LMIC41, albeit the direction of causality in this association was unclear. Methodological differences could potentially explain for the difference in incidence,10 albeit this is less likely [21-30].

Post meridian revision summarizes affecting available research adjacent epilepsy way off coming into view markets, along with epidemiologically, economics, unmet need, cure along with drugs mode arrangement, and rules matter of course epilepsy therapy way off coming into view countries. It's helpful to compare the findings way off post meridian revision about epilepsy along with its cure way off coming into view bazaar clamor statistics from industrialized countries with greater per capita incomes to gain a better understanding of the facts [31-37].

Conclusion

Epilepsy is a serious brain condition that affects not only the person but also their parents and community, according to the World Health Organization (WHO). Despite the fact that epileptic affects only 1-3 %, it has a massive financial effect and a fatality rate. The genesis, kind, and location of epileptic foci are determined using a variety of diagnostic methods. It's critical to get an accurate

diagnosis and begin therapy as soon as possible. Despite the fact that there are 29 antiepileptic drugs available in the United States, one-third of individuals are resistant to pharmacologic treatment. Other treatments should be sought for those patients in order to improve their quality of life and reduce their morbidity. The following statement should not be interpreted as a complete collection of recommendations, but rather as a starting point for constructing specific standards. Such concepts could also be used to drive the grant assessment process, ensuring that projects with the best chance of producing clinically meaningful outcomes are funded. Future study could involve developing a hierarchical list of preclinical evidence to evaluate before moving forward with formal clinical testing, as well as a separate list of optional, complementary data. A doctor weighing the potential of complete seizure control or significant improvement against the treatment's AE profile is common in epilepsy. To improve individual medical care and prevent learning disabilities and social problems, early detection, neuropsychological monitoring, and appropriate intervention for cognitive impairment are required, particularly in children with earlier onset of seizure, symptomatic epilepsy, and longer duration of illness, ongoing seizures, and polypharmacy. The findings may help to increase epilepsy awareness to prevent stigma. Patients with refractory epilepsy are those who suffer a lot of seizures before starting treatment or who don't respond well to antiepileptic medicines.

References

- Allebone J, Kanaan R, Wilson S J (2018) Systematic review of structural and functional brain alterations in psychosis of epilepsy. *Journal of Neurology Neurosurgery & Psychiatry* 89(6): 611-617.
- Julian T, Hadjivassiliou M, Zis P (2019) Gluten sensitivity and epilepsy: a systematic review. *Journal of neurology* 266(7): 1557-1565.
- Sauro KM, Wiebe S, Dunkley C, Janszky J, Kumlien E, et al. (2016) The current state of epilepsy guidelines a systematic review. *Epilepsia* 57(1): 13-23.
- Galanopoulou AS, Buckmaster PS, Staley KJ, Moshé SL, Perucca E, et al. (2012) Simonato for the American Epilepsy Society Basic Science Committee and the International League Against Epilepsy Working Group on Recommendations for Preclinical Epilepsy Drug Discovery M Identification of new epilepsy treatments issues in preclinical methodology. *Epilepsia* 53(3): 571-582.
- Bilal A, Ansari MS (2021) Prevalence and severity of district Chiniot Pakistan. *Occ med & hel aff* 9: 3.
- Baillie TA, Rettie AE (2011) Role of biotransformation in drug-induced toxicity influence of intra and inter-species differences in drug metabolism. *Drug Metab Pharmacokinet* 26: 15-29.
- Fisher RS, Van Emde Boas W, Blume W, Elger C (2005) Epileptic seizures and epilepsy definitions proposed by the International League Against Epilepsy (ILAE) and the International Bureau for Epilepsy (IBE). *Epilepsia* 46: 470-472.
- Hauser WA, Annegers JF, Rocca WA (1996) Descriptive epidemiology of epilepsy contributions of population based studies from Rochester Minnesota. *Mayo Clin Proc* 71: 576-586.
- Giussani G, Cricelli C, Mazzoleni F, Cricelli I, Pasqua A, et al. (2014) Prevalence and Incidence of Epilepsy in Italy Based on a Nationwide Database. *Neuroepidemiology* 43: 228-232.
- Begley CE, Famulari M, Annegers JF, Lairson DR, Reynolds TF, et al. (2000) The cost of epilepsy in the United States an estimate from population based clinical and survey data. *Epilepsia* 41: 342-351.
- Begley CE, Beghi E (2002) The economic cost of epilepsy a review of the literature. *Epilepsia* 43(4): 3-9.
- Hitiris N, Mohanraj R, Norrie J, Brodie MJ (2007) Mortality in epilepsy. *Epilepsy Behav* 10: 363-376.
- Sillanpää M, Shinnar S (2010) Long term mortality in childhood onset epilepsy. *N Engl J Med* 363: 2522-2529.
- Brodie MJ, Shorvon SD, Canger R (1997) Commission on European Affairs appropriate standards of epilepsy care across Europe ILEA. *Epilepsia* 38: 1245-1250.
- (2004) WHO Epilepsy in the WHO Africa Region Braiding the Gap. The Global campaign against Epilepsy out of the shadows Geneva WHO.
- Ngug AK, Bottomley C (2010) Estimation of the burden of active and life time epilepsy a meta Analytic approach. *Epilepsies* 51: 883-890.
- Sander JW (1993) Some aspects of prognosis in the epilepsies a review. *Epilepsia* 34: 1007-1016.
- Cardio A, Bharucha NE, Jallon P (2005) Mortality of epilepsy in developing countries. *Epilepsia* 46(11): 8-32.
- Diop AG, Hesdorffer DC, logroscino G, Hauser WA (2005) Epilepsy and mortality in Africa a review of the literature. *Epilepsia* 46(11): 33-35.
- Known O, Sander JW (2004) The natural history of epilepsy an epidemiological view. *J neurol nursery psychiatry* 75: 1376-1381.
- (1984) Proposal for revised classification of epilepsies and epileptic syndromes Commission on classification and terminology of the international league against Epilepsy. *Epilepsia* (4): 389-399.
- Schachter SC (2009) Seizure disorders. *Medain north AM* 93(2): 343-351.
- Newton CR (2009) Status epilepticus in resources poor countries. *Epilepsia* 50(12): 54-55.
- (2011) International league against Epilepsy.
- Altman D (1991) Practical statistics for medical research. London Chapman's Hall 349.
- Sander JW (2003) The epidemiology of the epilepsies. *Curr opin neurol* 16: 165-170.
- Ogunniyi A, Usuntokun BO, Bademosi O, Adejuga AO, Schoenberg BS (1987) Risk factors for Epilepsy Case control study in nigerians. *Epilepsia* 28: 280-285.
- Baskind R, Birbeck GI Epilepsy associated stigma I'm sub-Saharan Africa.
- Ullah S, Ali N, Khan A, Nabi M (2014) The prevalence incidence and etiology of epilepsy int. *J clin EXP Neurol* 2: 29-39.
- Forsgren L, Beghi E, Oun A, Sillanpää M (2005) The epidemiology of epilepsy in Europe a systematic review. *European Journal of neurology* 12(4): 245-253.
- Banerjee PN, Filippi D, Hauser WA (2009) The descriptive epidemiology of epilepsy a review. *Epilepsy research* 85(1): 31-45.
- Gourie Devi M (2014) Epidemiology of neurological disorders in India Review of background prevalence and incidence of epilepsy stroke Parkinson's disease and tremors. *Neurology India* 62(6): 588.
- Jilek WG, Jilek Aall LM (1970) The problem of epilepsy in a rural Tanzanian tribe. *The African journal of medical sciences* 1(3): 305-307.

34. Jilek Aall L, Jilek W, Miller JR (1979) Clinical and genetic aspects of seizure disorders prevalent in an isolated African population. *Epilepsia* 20(6): 613-622.
35. Heaney DC, MacDonald BK, Everitt A, Stevenson S, Leonardi GS, et al. (2002) Socioeconomic variation in incidence of epilepsy prospective community-based study in southeast England. *Bmj* 325(7371): 1013-1016.
36. Hesdorffer DC, Tian H, Anand K, Hauser WA, Ludvigsson P, et al. (2005) Socioeconomic status is a risk factor for epilepsy in Icelandic adults but not in children. *Epilepsia* 46(8): 1297-1303.
37. Angalakuditi M, Angalakuditi N (2011) A comprehensive review of the literature on epilepsy in selected countries in emerging markets. *Neuropsychiatric Disease and Treatment* 7: 585.



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