
Epilepsy in Primary Care 2: A Study of Follow up Profile and Response to Treatment

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Abstract

This report describes the follow up profile and response to treatment of epilepsy in a primary health care based programme. five hundred and forty seven subjects with at least two non-febrile seizures were seen over a three year period in four primary care clinics in the district of Bangalore, India. Of these 228 (42%) completed three years of follow up. Of those completing follow up, 57% of the subjects were free of seizures by the end of first year, 66% by the end of second year and 75% by the end of the third year of follow up. On the whole 102 subjects (45%) were free of seizures for the entire three years. Older age, higher frequency of seizures prior to initiation of treatment, longer duration of illness, presence of cluster attacks, presence of associated psychiatric disorders and poor medication compliance were related to inadequate seizure control. The results of this primary care based programme supports the favourable prognosis of epilepsy noted in recent studies. The programme also highlights the feasibility of managing epilepsy at the primary care level.

Key words -

**Epilepsy,
Primary care,
Follow-up,
Treatment response
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Epidemiological studies conducted in different regions of the world have shown that epilepsy is a widely prevalent disorder [1], [2]. The prevalence of active epilepsy (seizures in the previous 24 months) in the general population is reported to be 5 per thousand population. In the developing countries, the prevalence of epilepsy is reported to be higher, possibly due to younger age of the population, socioeconomic factors and different aetiological profile [3].

Recently, a number of studies have examined the prognosis of epilepsy in different countries [4], [5]. There is, however, a paucity of information regarding the prognosis of epilepsy presenting at primary care settings of developing countries. The present report describes the follow up and response to treatment of epilepsy managed at primary care settings catering to a predominantly rural population in the district of Bangalore, India.

Methodology

The Community Mental Health Unit of the National Institute of Mental Health & Neuro Sciences, Bangalore (NIMHANS), has established a programme of neuropsychiatric care at four primary health centres in the district of Bangalore [9]. One of the centres at Sakalawara, a village 16 km from Bangalore is directly administered by NIMHANS, and provides daily outpatient services for general medical as well as neuropsychiatric problems. The other three centres are situated within a radius of 20 km from NIMHANS, and are administered by the Government of Karnataka State. Neuropsychiatric care in these three centres is provided by a mobile team through twice weekly visits to one of the centres and once weekly visit to the other two centres. The team includes a psychiatrist, a clinical psychologist, a psychiatric social worker, nursing professionals and a non-specialist medical officer. The four primary care clinics together cover a population of 75,000. For the neuropsychiatric problems seen at these centres, simple case records and follow up records are maintained centrally at the Sakalawara centre. Currently about 10-15 new cases and 150-175 follow up cases of epilepsy and febrile convulsions are seen every week in all the four centres. Phenobarbitone (PB) and Diphenyl hydantoin (DPH) are the two most commonly used drugs, and are dispensed free of cost for most of the patients. Appointments are usually given once a month to the nearest clinic from the patient's place of residence. Weekly sessions of group oriented health education also forms part of the programme [9]. Five hundred and forty seven subjects (312 males and 235 females) with at least two non-febrile seizures were registered in these four clinics during the three year period from 1st January 1983 to -31st December 1985. For each individual; the follow up data was evaluated for a three year period from the time of registration. A person was considered to be 'regular' for follow up if he (or proxy) had attended the clinic at least 75% of the times that appointments were given. Less frequent visits than this was considered irregular.

Results

Table 1 shows the follow up profile of the cohort studied. Out of the 224 patients who dropped out in the first year, 157 dropped out after the first contact. Of the 228 patients who completed three year follow up, 163 subjects were regular and 65 were irregular. Dropout rates did not differ across the centres. When the individuals who dropped out were compared with those who completed three year follow up (regularly and irregularly), the single variable that distinguished two groups was the distance from the place of residence to the respective centre. Significantly higher number of persons who dropped out were living beyond a radius of 10 km from the respective centre ($X^2=4.05$; $df=2$, $P < 0.05$).

Table 1 - Follow up profile of persons with epilepsy attending primary health care

Table I - Follow up profile of persons with epilepsy attending primary health care

Since complete details about the drugs, dosage, and control of seizures was available for the 228 patients who completed three years of follow up, the pattern of seizure control, medication status, and relationship of seizure control to clinical variables was examined for this group. For each successive year, a higher percentage of subjects attained seizure free status. Fifty seven per cent of the subjects were free of seizures by the end of first year, 66% by the end of second year and 75% by the end of third year. Out of the 228 patients, 102 (45%) were totally free of seizures for the entire three years. Comparisons were made between this group and the rest of the sample by applying Chi square tests (Table 2). Older age, higher frequency of seizures prior to initiation of treatment, longer duration of illness, presence of cluster attacks (more than one attack in 24 hours, with intact consciousness in the intervening period), presence of associated psychiatric disorders, and poor medication compliance were related to inadequate control.

Table II - Comparison of patients with good control of seizures (n=102) and those with inadequate seizure control (n=126)

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PB=Phenobarbitone

DPH=Diphenylhydantoin

NS=Not significant

Discussion

An adequate examination of the follow up data was possible in this study for two reasons. Firstly, the maintenance of simple follow up records which could be completed for all the patients with relative ease despite the heavy attendance in the clinics. Secondly, the well monitored appointments of the patients enabled the assessment of follow up profile.

A fairly high proportion of patients completed 3 years of follow up in our programme. In the hospital based study at Bangalore, which was one of the centres of the collaborative epidemiological study in India, Mani [10] found that 69% of patients completed 3 years of follow up. Such good follow up rates are an exception rather than a rule. Baekeland and Lundwall [11] have observed that in general psychiatric clinics 20-57% of patients drop out of treatment after the first visit. In a rural mental health clinic, Kulhara et al [12] found that 50% of subjects with epilepsy dropped out after first contact, and only 16% completed three years of follow up. Possible reasons for the fairly high follow up rate in our programme includes, provisions of care by the same professional team, health education emphasising the need for regular medication and follow up, and the dispensing of free drugs. However, problem of coming from long distances (in view of the inadequate transport facilities) continues to be a constraint experienced by patients. This highlights the need for decentralization of services for persons with epilepsy.

In our study, 75% of patients followed upto three years were free of seizures at the end of the third year. Elwes et al [6] have summarised the studies examining the prognosis of epilepsy. Examination of

these reports shows that studies conducted before the seventies tended to portray a gloomy outcome of epilepsy. In fact, Rodin [13] from his extensive review noted that 80% of patients with epilepsy were likely to have a chronic seizure disorder. However, the more recent studies conducted from different parts of the world show a satisfactory outcome following treatment. Annegers [14] estimated the percentage of subjects seizure free for five years at the end of 20 years of follow up was 70%. From Japan, Okuma and Kumashiro [4] found that 62% of patients were seizure free at the end of three years. From England, Goodridge and Shorvon [7] examined the prognosis of 122 patients with epilepsy in a population of 6000. Based on the probability curve that is presented by the authors, it is evident that 55% of their subjects would be seizure free by the end of three years. Beghi and Tognani [8] from Italy noted that 50% of males and 47% of females were seizure free by the end of two years. From Africa, Watts [15] described a programme for the care of epilepsy in rural areas. Like in our program this program used a simple treatment regimen with phenobarbitone and diphenylhydantoin. At the end of one year 40% of the subjects were free of seizures and in another 15% the frequency had markedly declined. Side effects of anticonvulsant medication was fairly low.

From India, Mani [9] reported the follow up details for four years of 631 patients recruited at the Bangalore centre in the collaborative study on epilepsy. Of the 436 subjects who completed three years of follow up, the seizures had altogether stopped in 56% of the subjects, and were adequately controlled in another 27%. Side effects of anticonvulsant medication were fairly low. An additional interesting feature of the study was that 31 out the 32 subjects who had not been prescribed anticonvulsant medication were free of seizures for one full calendar year. Thus the findings of these studies highlight that epilepsy has a favourable prognosis. This view is further strengthened by the review of Shorvon [16], which noted the high remission rates in prospective studies using monotherapy.

Poor compliance to anticonvulsant medication was a significant variable related to poor seizure control, a finding also noted by Mani [9]. Other factors related to poor seizure control were also reported in other studies, viz., older age [4], higher seizure frequency [4], [5], [6] and presence of associated disorders [5], [6]. This study, however found no relationship of seizure control to family history of epilepsy or the type of seizures. The latter finding should be interpreted with the limitation that the classification of seizures that was used was very simple and not in conformity with the ILAE classification. Subjects with inadequate seizure control received higher doses of phenobarbitone, a natural therapeutic manoeuvre when seizures are not adequately controlled. For the same reason this group more often received combinations of anticonvulsant medication. Overall this primary care based study supports the findings of the studies at large that epilepsy has a favourable response to treatment. The programme also highlights the feasibility of managing majority of persons with epilepsy at the primary care level using a simple drug regimen. This is especially important for developing countries, where specialist manpower is inadequate. There is an obvious need to extend and evaluate this type of programme on a wider basis.

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