



Epidemiology of neurological disorders in Warangal, India – risk factor assessment-based prospective observational study

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Abstract

Introduction and Objective. Neurological disorders are without a doubt among the most terrifying ailments that humans can experience. Although several observational studies on neurological illnesses have been conducted worldwide, there are relatively few such studies in India. The aim of the study is to research patients with neurological disorders in terms of their profiles, demographic data, family history, dietary habits, social habits, occupational status, geographical location, diagnosis, and treatment plan.

Materials and methods. The 6-month prospective observational study involved an in-depth interview schedule, and an information sheet in English and local languages using 1,000 patients.

Results. The findings of this study demonstrate that the prevalence of cervical discomfort followed by ischemic stroke is rather significant, and that neurological diseases were more common in rural areas than in metropolitan areas. Patients had hypertension (HTN), diabetes mellitus (DM), either alone

or both together, Ischemic stroke, pain, epilepsy, thyroid, migraine, tuberculoma, and hemorrhagic stroke as previous illnesses.

Conclusions. The prevalence of neurological problems was found to be higher in individuals over the age of 40 than in younger people. According to the statistics, females (58.5%) are more prone to neurological problems than males (41.5%). The patients' body weight was also taken into account, and it was shown that the majority of the individuals with neurological diseases (33.7%) were of normal body weight. The frequency of neurological diseases was found to be much higher (55%) in rural regions than in urban areas (45%). The majority of patients with neurological illnesses were housewives. Analysis concluded that cervical discomfort is the most common neurological illness, compared to other neurological disorders.

Key words

STROBE, epidemiology, neurological disorders, observational study, risk factor assessment

INTRODUCTION

Apart from cerebral neoplasia, injuries and infections, at least 2,500 Indians per million are plagued by neurological problems [1–3]. Numerous risk variables involved in neurological diseases need to be recognized in order that their effect must correctly understood for the benefit of the patients [4–10]. The aim of this study is to identify the pattern of prevalence across different neurological disorders, collect data pertaining to the risk factors and outcomes of the disorders, and stratify patients based on demographic information, past medical and familial history, diet, social habits and occupation.

MATERIALS AND METHOD

Study design. The prospective cohort observational study was conducted within the Secondary and Tertiary care hospitals of Warangal, the second largest city in Telangana, India. The area covers 471 square kilometres and the city population is around 10 lakhs among whom 62% live in urban areas with diverse ethnic, religious, cultural, socio-economic, and linguistic backgrounds. With the help of the STROBE approach, the results were assessed in terms of risk variables that affect the neurological state of individuals [11–22].

The 6-month study involved an in-depth interview schedule; an information sheet was developed in English. All the patients arriving at the hospital with neurological complaints were approached. All interviews were conducted in Hindi, English, or the preferred local dialect (Telugu), by three researchers – the main interviewer and two note takers. The follow-up was done for each subject who took his updates. The examination was carried out using an established questionnaire produced by the National Institute of Mental Health and Neurosciences (NIMHANS), with

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those of Medawar E et al. Of the total number of patients, 258 (25.8%) had the habit of drinking alcohol, 57 (5.7%) were smokers, 37 (3.7%) had both habits, 8 (0.8%) had the habit of chewing tobacco, and the remainder – 640 (64%), were found to be free from these habits. Pan B, et al. [38] showed the same results on neurobiological and neuro-cognitive consequences of chronic alcohol use and cigarette smoking in North America, and found 58% of patients had the habits of both alcohol and smoking, followed by 32% with the habit of drinking alcohol, and 15% had the habit of smoking.

CONCLUSIONS

The study analyzed the key risk factors for brain diseases and which appear to be gender-specific, with females being more vulnerable since their hormones impact neuritis development, synapse formation, myelin fabrication, and neural plasticity. The frequency of neurological illnesses was significantly higher in the countryside (55%), where a greater proportion of people engaged in agriculture. Cervical discomfort was discovered to be the leading cause of sickness in farmers (19.1%). From dawn to dusk, the heavy work load that farming demands has a greater effect on the deterioration of spinal health, and can also be a pivotal factor in generating cervical pain. Alcohol intake (45.8%) is another big risk factor, as alcohol travels quickly through the blood-brain barrier, influencing the brain's neurons directly, and can damage or even kill a cell, slowing down the signal propagation. The findings presented confirm that the data supports previous studies.

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