

Quantitative Analyses of Central Nervous Tumours in Pakistan

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Abstract

Objective: To systematically investigate the status of CNS cancer research in Pakistan.

Methods: Local (PakMedinet) as well as international (PubMed) these 170 publications, 120 were original articles, 27 were publication categories. Cumulative citations received by these 170 publications were 1295. The latest article of CNS cancer was published in 2021, suggesting active research in this area from Neuro Surg. The highest number of publications was published from the Aga Khan University, Karachi, followed by Ayub Medical College Abbottabad and University of the Punjab, Lahore.

Conclusion: Taken together, this is the first report detailing status of CNS cancer research in Pakistan. While there are a good number of publications available addressing CNS cancers in Pakistan, these tumours must be investigated further as their incidence, prevalence and associated mortality are on rise in the country.

Keywords:

Introduction

CNS (Central Nervous System) cancer is a type of cancer that starts in the brain or spinal cord. It is a leading cause of cancer-related death in Pakistan. The incidence of CNS cancer is increasing worldwide, and this trend is also observed in Pakistan. In 2016, the incidence of CNS cancer in Pakistan was 14.8/100,000, which is higher than the global average of 3.7/100,000. The mortality rate of CNS cancer in Pakistan is 5.6/100,000, which is also higher than the global average of 4.4/100,000. The prevalence of CNS cancer in Pakistan is 13.3%, which is higher than the global average of 8.3%. The most common type of CNS cancer in Pakistan is glioma, which accounts for 36.6% of all cases. Other common types include meningioma (24.7%), pituitary tumor (10.0%), and brain metastasis (7.6%). The incidence of CNS cancer in Pakistan is higher in men than in women. The mortality rate of CNS cancer in Pakistan is higher in men than in women. The prevalence of CNS cancer in Pakistan is higher in men than in women. The most common type of CNS cancer in Pakistan is glioma, which accounts for 36.6% of all cases. Other common types include meningioma (24.7%), pituitary tumor (10.0%), and brain metastasis (7.6%).

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Methods

The study was conducted using a systematic review of the literature. The search was conducted using PubMed and PakMedinet. The search terms used were "Central Nervous System Cancer" and "Pakistan". The search was limited to English language publications. The search was conducted from January 2016 to January 2021. The search was conducted by two independent reviewers. The search results were screened based on the title and abstract. The full text of the articles was obtained for those that were relevant to the study. The data were extracted from the articles and analyzed.

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Table 2: Major contributing institutions to CNS cancer research in Pakistan.

University/Research Institution	City	n
Aga Khan University Hospital	Karachi	58
Ayub Medical College	Abbottabad	7
University of the Punjab	Lahore	7
King Edward University	Lahore	6
Dow University of Health Sciences	Karachi	5

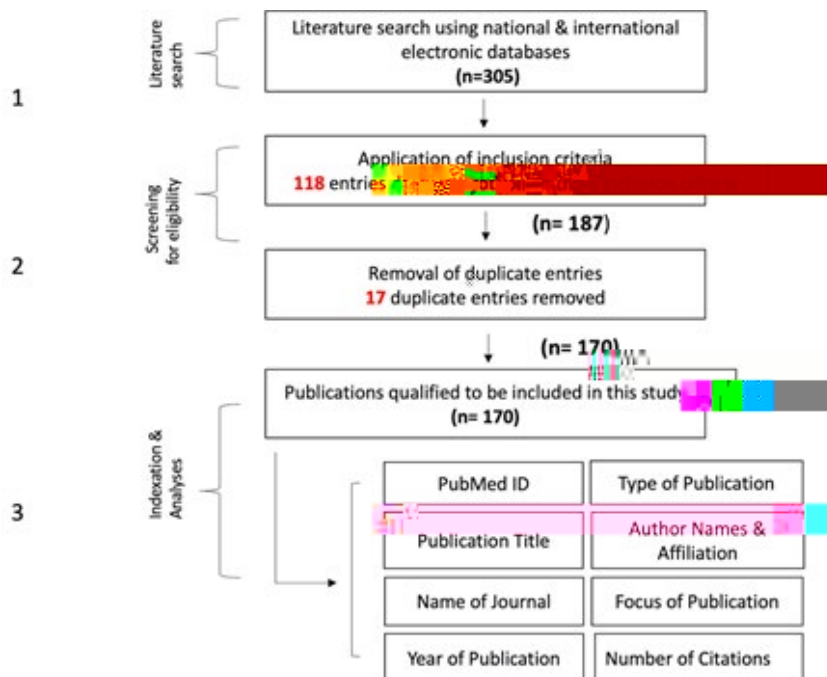


Figure 1: The working algorithm utilized in this study.

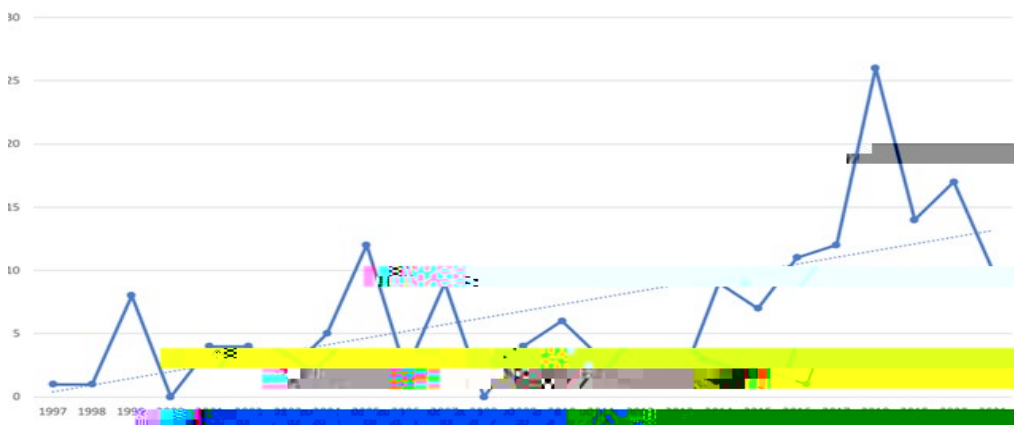


Figure 2: Annual growth of CNS cancer related publications from Pakistan during 1997to date.

Discussion

The present study highlights the increasing trend of CNS cancer research in Pakistan, particularly in the last few years. The annual growth of publications, as shown in Figure 2, indicates a rising awareness and interest in this field. The major contributing institutions, as detailed in Table 2, are primarily based in Karachi and Lahore, reflecting the concentration of research resources in these urban centers. The inclusion criteria and screening process (Figure 1) were designed to ensure the quality and relevance of the included studies. The data points analyzed include PubMed ID, Type of Publication, Publication Title, Author Names & Affiliation, Name of Journal, Focus of Publication, Year of Publication, and Number of Citations. This comprehensive analysis provides a detailed overview of the current state of CNS cancer research in Pakistan and identifies key areas for future investigation.

