Chapter-3
Objectives and Methodology of Study
OBJECTIVES AND METHODOLOGY OF STUDY

INTRODUCTION

Knowledge is dynamic and multidimensional in nature. The new researches and the thirst for knowledge has lead to the generation of new work. It is necessary that new research and new findings should be circulated widely among the research scholars, scientists, specialists and others.

Due to rapid growth of knowledge, a librarian faces problem in acquisition, collection, selection and organization of relevant documents within limited financial resources. To overcome these problems they need techniques by which they can use the limited financial resources to the optimum. Such a technique is the bibliometric technique. Bibliometric studies in recent years have attained significance because of its practical application in the evaluation of library operation and services, as a statistical and mathematical technique. It has extensive application in library and information field in identifying the research trends in particular subject, trends in authorship and collaboration research core journals, author’s productivity, obsolescence and scattering of literature. This study is helpful in management of scientific literature measuring the utility of periodicals and relationship between journals and subject area and also in knowing the most productive contribution in a given field.
It is also helpful at the information centers in formulating need based collection development policy, weeding and stacking policy and also for eliminating the problems in acquisition, organization and dissemination of information. Bibliometrics has emerged as the most prominent tool.

The present study aims at identification and description of some of the characteristics of the literature published in the field of “Brain Tumor”. This study is considered for a period of 5 years from 2007-2011 with a view to identify year, language, subject areas, forms of document, country of origin where the document is published.

It is a well known fact that knowledge is growing at very fast rate. It is necessary that a new work and new findings should be highlighted among the research scholars and others who are interested in them. So the present study will help the librarians in the selection of literature in the field of “Brain Tumor” precisely.

OBJECTIVES

Before conducting any study, the objectives of the study should be kept in mind by the researcher. The present study aims at identification and describing some of the characteristics of literature published in the field of “Brain Tumor” over the period of 5 years (2007-2011) with a view to identify the year, language, subject, form of the documents, and country of origin from where the document is published.
Objectives and Methodology

The main objectives of the present study are:

i. **Ranking of periodicals**: To know the core periodicals containing the maximum literature on “Brain Tumor”.

ii. **Ranking of authors**: To know the eminent authors in the field of “Brain Tumor”.

iii. **Forms of documents**: To find out most used forms of source material i.e. periodicals articles, research reports, conference proceedings, bulletins etc.

iv. **Geographical scattering of items**: To know about the country producing most of the literature in the field of “Brain Tumor”.

v. **Chronological study**: To know the most productive year/years of the literature published on the subject.

vi. **Language wise distribution of items**: To know the dominating language in which most of the articles on the subject have been published.

vii. **Subject dispersion**: To identify the scattering of the subject under study.

**METHODOLOGY**

The exponential growth of literature and rapid development of libraries generated several evolutionary studies about the effectiveness and efficiency of information services. These studies led to the identification
and application of appropriate qualitative measuring techniques known as Bibliometrics. The methodology adopted is outlined under:

- **Selection of Source Documents**
- **Collection of Data**
- **Analysis and Interpretation of Data**
  - Ranking of Periodicals
  - Country wise distribution of items
  - Subject wise distribution of items
  - Year wise Distribution of items
  - Language wise distribution of items
  - Form wise distribution of items
  - Ranking of authors
- **Application of Bibliometric Laws**
- **Conclusion**

**Selection of Source Document**

To collect the relevant literature on Brain Tumor, the PubMed Central was found to be the most comprehensive and appropriate source of literature in the field of Medical Science.

**Collection of Data**

The most important task was to select the documents from which the data has been collected on the subject “Brain Tumor”. It was hereby that
about 2500 references have been collected from PubMed Central for the year 2007-2011. The same was analyzed on Excel-Worksheet.

Analysis and Interpretation of Data

All the 2500 references were arranged and analyzed systematically in order to complete the following studies.

i. Ranking of Periodicals

The main objective of this study is to identify the core periodicals containing the research literature on Brain Tumor. To conduct this study, the items published in different periodicals were grouped together and ranked list of periodicals were prepared. It is necessary to know the most productive journals on the subject.

ii. Country wise distribution of items

This study is conducted to identify the place of origin of documents, which is given in PubMed Central database. The countries were grouped on the basis of their place of origin. The cumulative no. of publication of each country was counted and ranked in a table.

iii. Subject wise distribution of items

Though most of the literature on a given subject is published in core journals but sometimes some material of research value is published in the journals belonging to other related fields. The information about the subject fields of periodicals was obtained from Ulrich International
Periodical Directory; 46th ed., 2008. This analysis identifies the core subjects as well as related subjects in the Brain Tumor.

iv. **Year wise distribution of items**

In this analysis, publication year of items were studied to know how many items belong to a particular time period on the basis of no. of items belonging to a particular year. The data was analyzed and tabulated to find the most productive year of items.

v. **Language wise distribution of items**

This study attempts to analyze the language wise distribution of items. Since the source of documents is of international level, is having comprehensive coverage, so the articles are published in almost all languages of the world. Thus, the researcher analyzed the items on the basis of their language. For the purpose of language wise analysis, the entries were grouped according to their languages. After this, they were counted and then prepared a ranked list of languages.

vi. **Ranking of authors**

The researchers analyze the authors on the basis of their frequency of occurrence i.e. how many times an author occurs. This study has been conducted to know the eminent personalities in the field of Brain Tumor. Ranking of authors are done to identify the most productive contributions on the subject. For the purpose of ranking of authors, the information
about all the authors was retrieved, arranged and tabulated in the order of
decreasing frequency of their contributions.

vii. **Form wise distribution of items**

There are varieties of forms of documents in which literature on Brain
Tumor is published. These articles, research report, news letter etc. the
analysis has been done to know the major forms of documents used for
producing new information on the subject under study. These have been
tabulated to find out most used source material.

**Application of Bibliometric Laws**

The whole study depends upon the application of bibliometric laws such
as Lotka, Bradford and Zipf’s Laws. These laws were applied to the
analyzed data to check their validity.

**Conclusion**

The last step of this study is to conclude the findings of the study and
made true recommendations, if proved.