

POSTGRADUATE RESEARCH IN GOVERNMENT MEDICAL COLLEGE (GMC) SRINAGAR: A PROFILE

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Abstract *The present paper reports a study of 970 MD and MS dissertations submitted to the University of Kashmir during 1963-2008, which are analyzed for identifying the areas of research undertaken in Medicine and Surgery in general and its sub-specializations.*

Keywords: *Medicine-Research, Surgery-Research, Surgery-MS Theses, Medicine-MD Theses*

INTRODUCTION

Medicine has remained a prime target of humanity right from the time when first treatment would have been given. Till date a huge amount of research has been carried over in the field of Medicine. Organisations all over the globe are involved in research activities to enhance the literature in the field of Medicine. Studies have been carried to trace the growth and development of medicinal sciences from time to time. The current study is also an attempt to gauge the PG research from Government Medical College, Srinagar, Kashmir, India.

Government Medical College Srinagar, established in 1959, is one of the premier Government Medical Institutions of the country concerned with imparting health and medical education and is supported by five types of hospitals (i.e. Bone and Joint Hospitals, Children Hospitals, Psychiatry Hospitals, Chest Disease Hospitals, and Maternity Hospitals, besides S.M.H.S Hospitals) It provides medical education at undergraduate and postgraduate levels in different disciplines.

REVIEW OF LITERATURE

Garg, Kumar, Madhavi, & Bahl (2009) evaluate malaria vaccine research carried out in different parts of the world during 1972–2004 using different bibliometric indicators. Malaria vaccine research output is gradually increasing. The USA, followed by the UK and Australia, contributed the highest number of paper.

Chiu & Ho (2005) conducted a bibliometric analysis of all homeopathy-related research publications in Science

Citation Index (SCI) during the period of 1991 to 2003.

Garcia, Rodriguez-Sanchez, Fdez-Valdivia, Herrera & Torres-Salinas (2012) studied the ranking of research output of universities on the basis of the multidimensional prestige of influential fields of Spanish Universities during the period 2006-2010.

Tijssen (2007) examined research outputs of Africa-based authors published in the scientific literature during the years 1980–2004, either in the international journals representing ‘mainstream’ science, or in national and regional journals reflecting ‘indigenous science’.

Patel & Kim (2007) describe the contribution of low- and middle-income (LAMI) countries to leading general psychiatric journals, reviews original research published over a 3-year period (2002–2004) in the six highest-impact general psychiatry journals. Only 3.7% of published research emerges from these less affluent countries, which account for over 80% of the global population. As much as 50% of the research from LAMI countries is led by authors from high-income countries.

Yousuf (1998) compiled the research work conducted by various post graduate scholars under the eight subject headings of the Department of Medicine in Government Medical College, Srinagar submitted to the University of Kashmir from 1967-1994 at PG level.

Kumar & Garg (2005) reveal that Chinese researchers prefer to publish their research results in domestic journals, while Indian researchers prefer to publish their research results in journals published in the advanced countries of the West.

Jeevan & Gupta (2002) suggest a methodology for studying the quantitative profile of a research university, with a view

to get idea about the performance and impact of research produced in Research and Development.

Arunachalam (2001) examines mathematics research in India, as reflected by papers indexed in Mathscl 1988-1998 and revealed that statistics, quantum theory, and general topology are the three subfields contributing the most to India's output in mathematics research, followed by special functions, economics and operations research, and relativity and gravitational theory.

Patra & Chand (2005) explore the chronological growth of Indian Biotechnology research to examine the authorship pattern. Bradford's law of scattering is used to identify the core journals which cover most of the research and development output of Indian Biotechnology and show the active authors, institutions and state-wise distributions of Indian Biotechnology research output.

Arunachalam & Gunasekaran (2002 a) map and evaluate diabetes research in India and China, based on papers published during 1990–1999 and indexed in PubMed, Science Citation Index (SCI) and Biochemistry and Biophysics Citation Index (BBCI) and citations to each one of these papers up to 2000. The study reveals that these two countries together account for 26% of the prevalence of diabetes, they contribute less than 2% of the world's research and argue that both India and China need to (i) strengthen their research capabilities in this area, (ii) increase investment in health-care research considerably, (iii) facilitate substantive international collaboration in research, and (iv) support cross-disciplinary research between basic life sciences researchers and medical researchers.

Patra & Chand (2007) study the growth over time of Indian AIDS research output based on bibliographic data from Pub Med and Web of Science. They identify active institutions and state-wise distributions of Indian AIDS research output and reveal that there is a rapid growth of literature from 1992 onwards.

Kaur & Gupta (2010) examine India's performance based on its publication output in dental sciences during 1999–2008, based on parameters of the country's annual average growth rate, global publication share & rank.

Gupta & Bala (2011) analyze the research output of India in asthma during the period from 1999 till 2008. They analyze the growth, rank and global publications share, citation impact, share of international collaborative papers, contribution of major collaborative partner countries and contribution of various subject fields.

Gupta & Dhawan (2009) provide current indicators on Indian science and technology for measuring the country's progress in research covering 11 years publications data on India

and top 20 productive countries as drawn from the Scopus database for the period 1996 to 2006. They compare the similarity of Indian research profile with top 20 productive countries.

Ramamurti (2003) summarizes the Indian research effort in the area of aging.

Arunachalam & Gunasekaran (2002 b) research papers indexed on tuberculosis in India and China in three international databases, viz. Pub Med, Science Citation Index and Biochemistry and Biophysics Citation Index over the ten-year period 1990-1999. They report that these two countries lead the world in the incidence of tuberculosis (TB), accounting for 23% and 17% respectively, of the global burden of the disease and hold the 15th and the 18th positions in terms of incidence per 100,000 population. But India accounts for only about 5- 6% of the world's research output in this area and China a paltry 1%.

Ansari, Gul & Yaseen (2006) have also highlighted the geographic distribution of research output on Alzheimer's disease.

OBJECTIVES

The study is carried out with the following objectives:

- To identify areas of research conducted in the field of Medicine and Surgery in the GMC at PG level.
- To trace trends in the field of Medicine and Surgery at PG level and pave way to ascertain linkages with national and international research.

SCOPE

The study is confined to research conducted in GMC in the field of Medicine and Surgery from the year 1963-2008 submitted to the University of Kashmir for award of Degree of Masters in Medicine and Surgery. The data are confined to the theses which are presently available in the Theses section of the Allama Iqbal Library, University of Kashmir.

METHODOLOGY

The data were collected from the Theses Section (Allama Iqbal Library, University of Kashmir). The information was confined mainly to the title page and efforts were made to probe into the contents and summary to glance deep into the project for content analysis to meet the target of the objectives. The data were recorded and arranged accordingly from various aspects keeping in view the indicators of the objectives. The data were tabulated, presented, analyzed, and interpreted with the help of tables and figures.

RESULTS AND DISCUSSION

Research Contribution in Medicine and Surgery

The degrees awarded by GMC during 1963-2008 are reported to be 970 ranging from anatomy to social and preventive medicine which are dispersed along different fields and specialities in a varying number. Fig. 1 portrays a wide picture of two broad categories of Medicine and Surgery. It is further classified into different decades to trace the trend in various fields like 10 specialised fields of Medicine and 5 of Surgery.

Distribution of Research in Surgery (1963-2008)

The research started and awarded in the field of Surgery is six in number during the decade (1963-72). A substantial

increase is noticed during 1983-92 but a drop down came in turmoil period (1993-2002). The research revived again in a short time, reaching to zenith with 127 degrees to its profile within a short span of five years (2003-2008) (Fig. 2).

Distribution of Research in Medicine (1963-2008)

The data further reveal that the research in the field of Medicine awarded during the first decade are found to be sixteen only. The research during the first three decades have increased tremendously and reached highest level (40.22%) during 1983-93 and dipped in 1993-2002. It has slightly increased in last five years (2003-8) (Fig. 3).

Fig. 1: Research Contribution in Medicine and Surgery

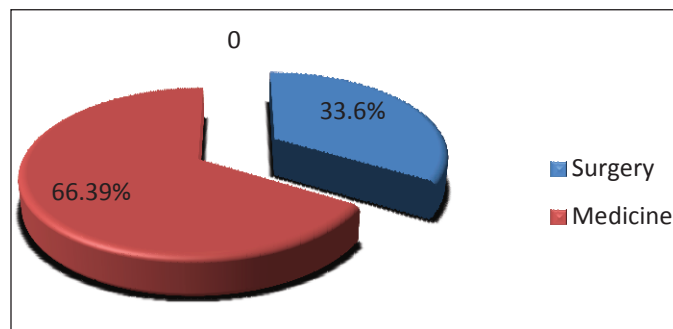


Fig. 2: Distribution of Research in Surgery (1963-2008)

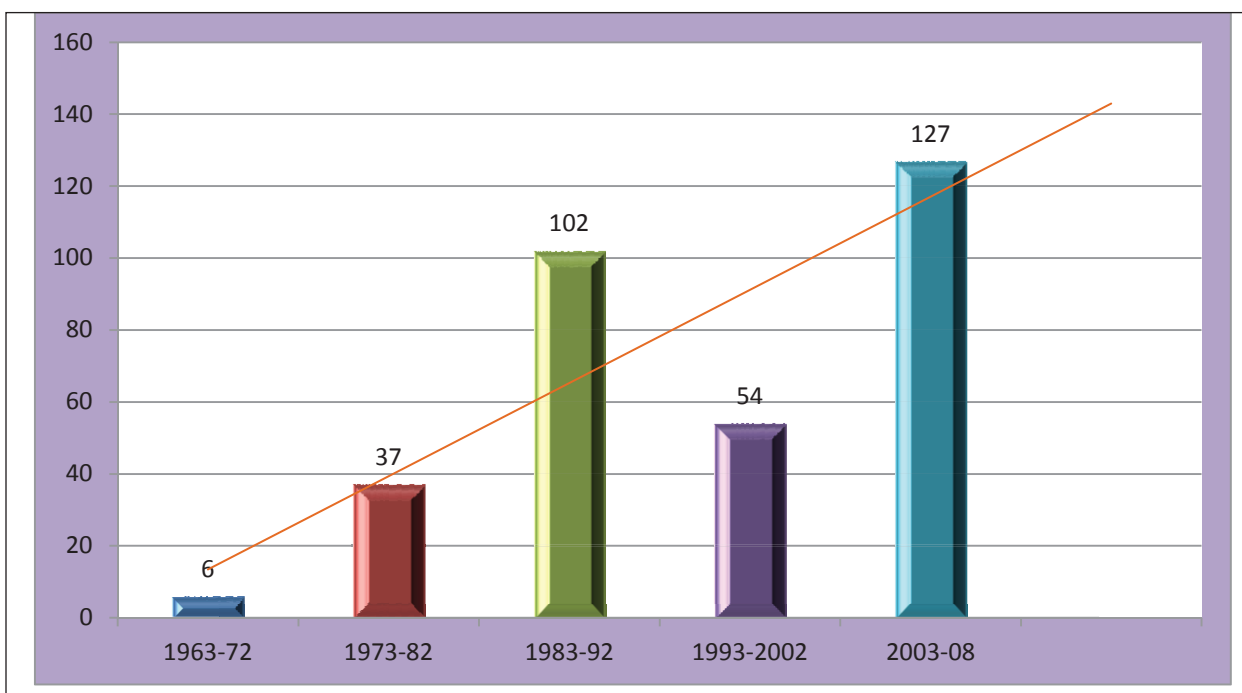


Fig. 3: Distribution of Research in Medicine (1963-2008)

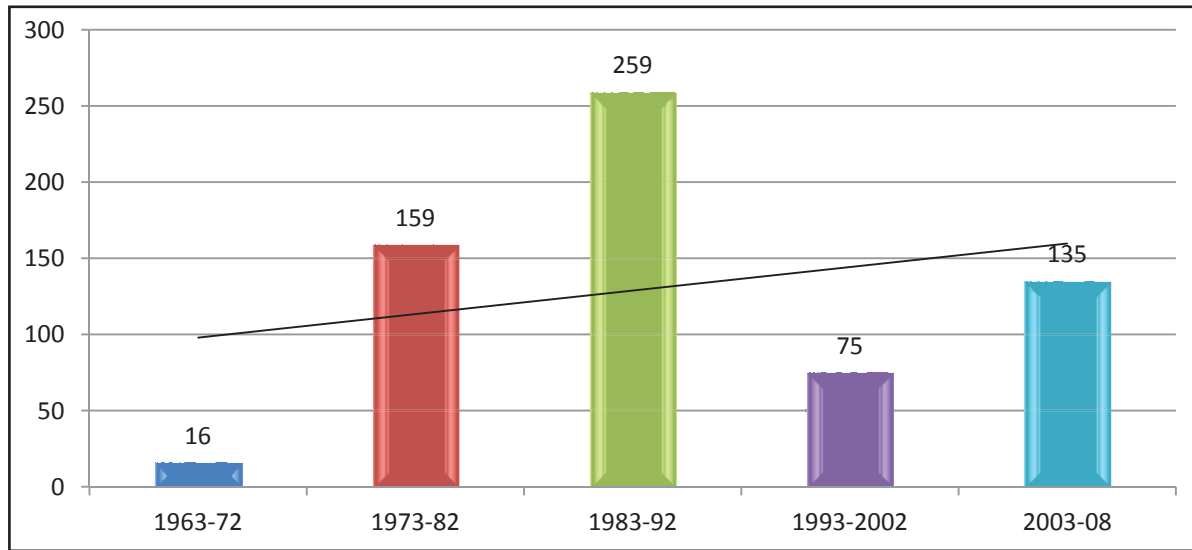
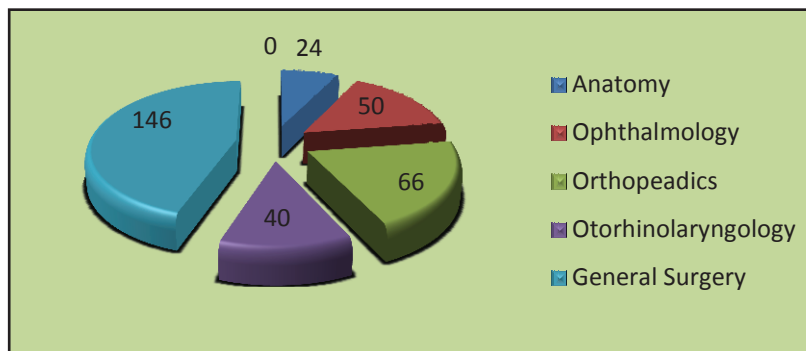


Fig. 4: Distribution of Research in Surgery (Department-wise)



Distribution of Research in Surgery (Department-wise)

General Surgery is a favourable field as compared to Anatomy, Ophthalmology, Orthopedics, and Otorhinolaryngology. This may be due to positions available in respective specialties and may not necessarily be an indicator for growth or decline.

The study indicates that the degrees awarded in the field of General Surgery is highest in number viz.146 followed by Orthopedics(66), Ophthalmology(50),Otorhinolaryngology (40), and Anatomy (24) (Fig. 4).

Distribution of Research in Medicine (Department-wise)

In the field of Medicine, the research started to award degrees during 1963 and 44 degrees were awarded over a period of 45 years. The General Medicine being the favourable field, in comparison to other fields, accounts for 250 degrees,

followed by the Obstetrics and Gynecology (148), and Pediatrics (65).The research in Anesthesiology, Social and Preventive Medicine, and Pharmacology is negligible. The research started in Pharmacology in year 1965 and two degrees were awarded during 1965 against 9 awarded over a period of 45 years. The research in Dermatology too is not encouraging as only 14 degrees were awarded during four and a half decades (Fig. 5).

Distribution of Research in Surgery (Year-wise)

Subject Dispersion

➤ **Anatomy**

In Anatomy, research started in early sixties and one research was awarded in the year 1963 and in the decade 1963-72, only three degrees were granted. It doubled during the next decade. During next two decades it dropped down but improved in last five years (2003-08) by awarding eight degrees (Fig 6).

Fig. 5: Distribution of Research in Medicine (Department-wise)

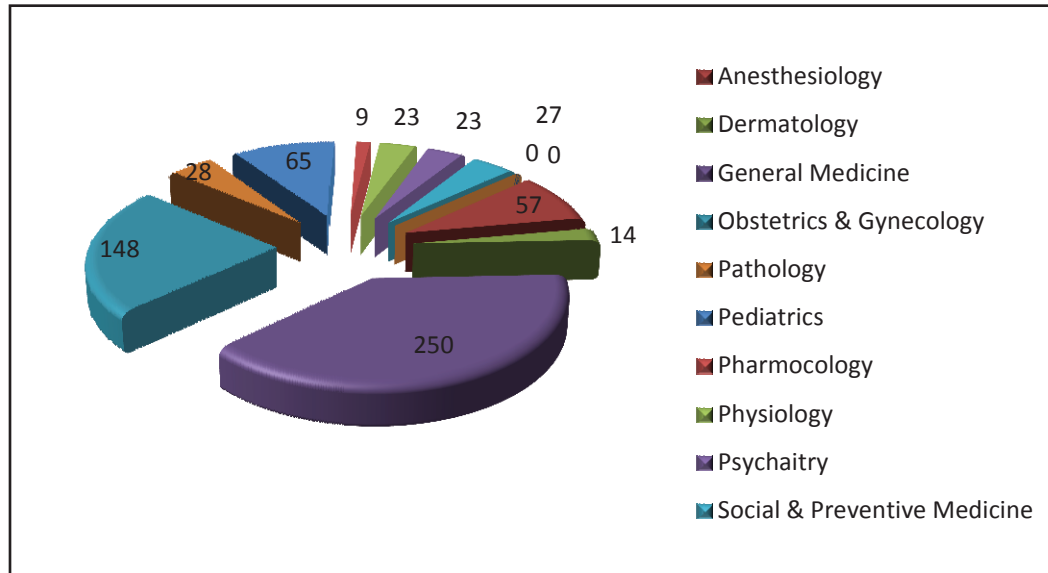
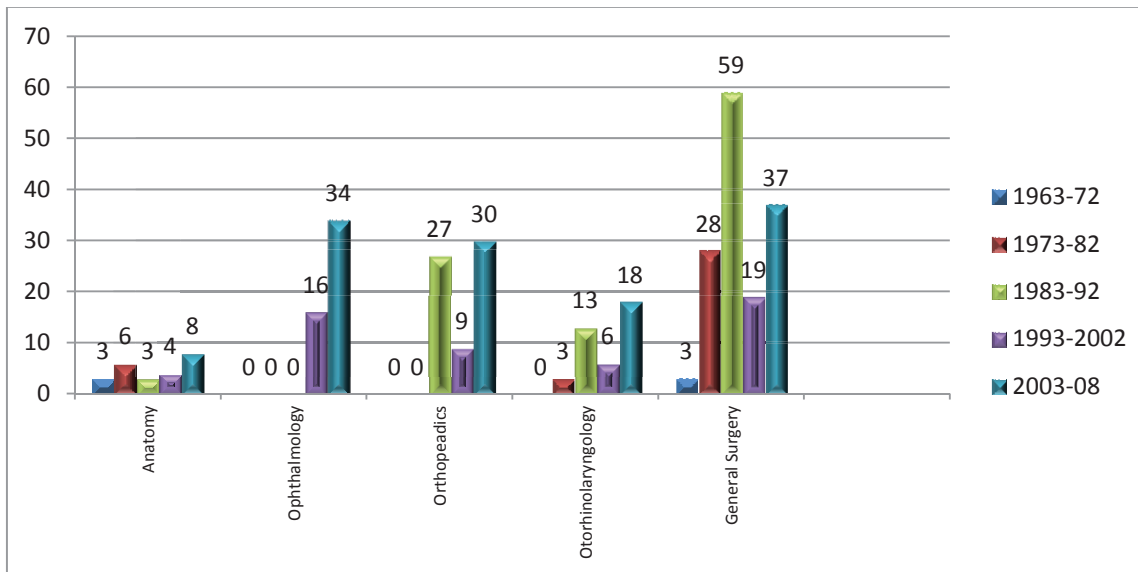


Fig. 6: Distribution of Research in Surgery (Year Wise)



➤ **Ophthalmology**

In Ophthalmology, research awarded in year 1991 with 3 degrees, and later 16 degrees were awarded in next decade. The research increased tremendously and doubled during next five years (2003-08) (Fig 6).

➤ **Orthopedics**

In Orthopedics, 2 researches were awarded during 1983 and during the decade 1983-1992, 27 degrees were awarded. The next decade showed decline, which may be due to disturbed conditions in the valley. However it increased substantially as 30 degrees were awarded during next five years (2003-08) (Fig 6).

➤ **Otorhinolaryngology**

The research started in mid-70s and one research was awarded in year 1973. In first decade three degrees were awarded with substantial increase in next decade (13 degrees). However, it declined in next decade and later increased rapidly in next five years (2003-08) by awarding 18 degrees (Fig 6).

➤ **General Surgery**

General surgery being favourable field where research started in late sixties and three degrees poured in during first decade while later two decades marked a substantial increase. The trend declined in the next decade due to disturbed conditions. It shined once more in next five years with 37 degrees in the field (Fig 6).

Distribution of Research in Medicine (Year-wise)

Subject Dispersion

➤ Anaesthesiology

In Anaesthesiology, 13 degrees were awarded during 1973-82. The number rose to 22 in the time span of 1983-92. During next decade i.e. 1993-2002, it dropped down to six. However, output increased tremendously during next five years (2003-2008) (Fig. 7).

➤ Dermatology

The research in Dermatology started in late 80s and first degree was granted in 1989 summing to 4 degrees only during the decade (1983-92). During next decade it could not increase significantly (Fig. 7).

➤ General Medicine

General Medicine has been favourable field for research during all decades. Two degrees were awarded during 1967. The research increased tremendously during the next decade as 81 degrees were granted. However, the research did not increase later too much as only 9 degrees were bestowed to scholars during 1993-2002 which shows decline of research by more than 50% (Fig. 7).

➤ Obstetrics and Gynaecology

The research started in early 70s with 2 degrees awarded in 1973 with total of 35 degrees awarded during 1973-82. However it increased substantially bestowing 66 degrees in

the later decade. After a decline for some period, next decade (2003-08) showed a rise again (Fig. 7).

➤ Pathology

The research started in early 60s contributing to 6 degrees during the first decade. An increase of research during next decades was noticed by 50% and n % respectively. However, the research declined to a great extent by producing 6 MDs only over a period of 15 years (Fig. 7).

➤ Paediatrics

The first degree was awarded in 1977 with a total of 12 degrees during 1973-92. However, the research increased rapidly in next decade and during 1993-2002 it shows decline and does not increase significantly during the last five years (Fig. 7).

➤ Pharmacology

The research started and 2 degrees were awarded in 1965. The research has not shown any considerable increase as Department produced 9 degrees only for about a half century (Fig. 7).

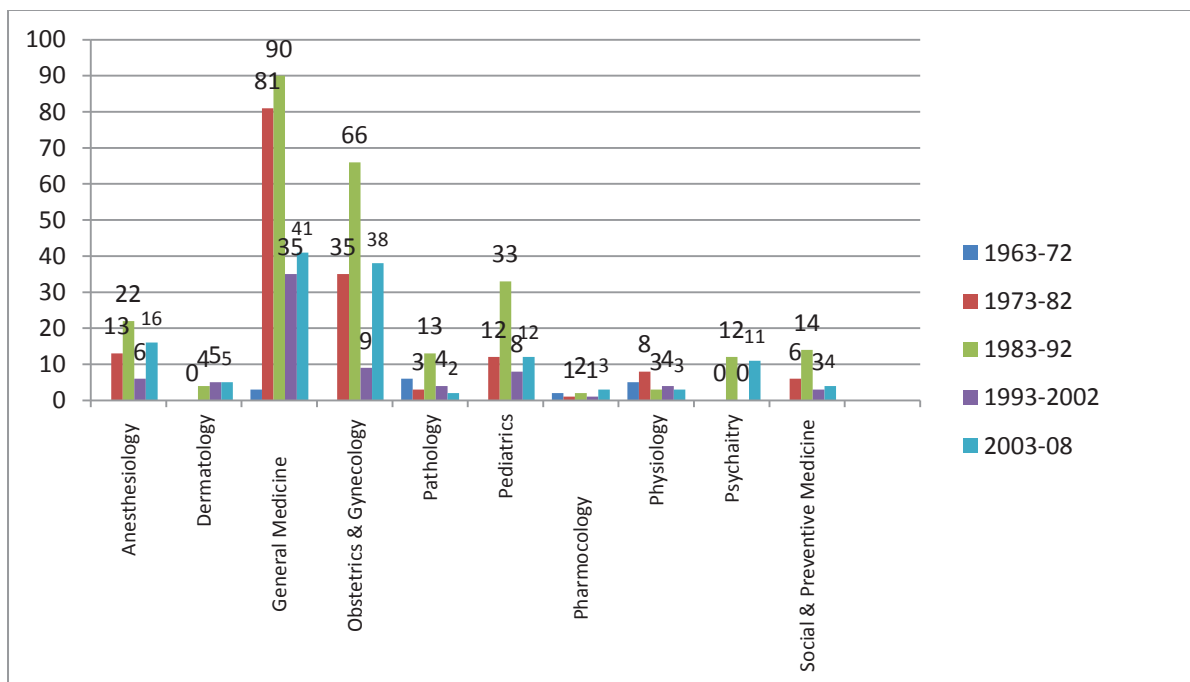
➤ Physiology

The research started in 1963 and 5 degrees were awarded during the decade. The research augmented during next decade. The research, however, declined in next two and half decades (Fig. 7).

➤ Psychiatry

The research started in early 80s and 12 degrees were awarded during the decade. No research was conducted

Fig. 7: Year-wise Distribution of Research in Medicine



during the next decade due to disturbed conditions of the valley, although rich data were available. However, next five years has shown a significant increase and interest in the field (Fig. 7).

➤ Social and Preventive Medicine

S&PM worked on 6 problems in the first decade and it doubled in next decade, thereafter, it has shown decline over next fifteen years (Fig. 7).

Thrust Areas

In Surgery, the research mostly conducted on the both male and female Albino Rats, studying the effects of estrogen, cyclophosphamide, clomiphene, lithium carbonate and fluoride on histology of testes, prostate, thyroid, adrenals glands, liver, kidney, heart, pancreas, skin, cerebrum, cerebellum and spinal cord. The fractures/ condylar fractures of tibia, femur, and humerus and operational management were studied. Treatment of carcinoma of different organs by surgery was followed by chemotherapy and drug therapy. Few studies on adopting the method of laparoscopic for surgical treatment were considered in repair of hernia, renal cyst, and its complications. Surgical study on peptic ulcer, urolithiasis, gall stone, lung cyst, intestinal anastomosis, and their post-operative complication and treatment were made. Studies on intra-ocular lens implantation, treatment of vitreous hemorrhage and secondary haemorrhage studying their etiological aspect were conducted. In Medicine the research was mostly conducted on asthma, chronic bronchitis, bronchial asthma, chronic anemia, diabetes mellitus, cardiac diseases, and duodenal ulcers. The malignancy of stomach, lungs, breast, colo-rectal, malignant tumours, head, neck and esophagus studying the effect of radiotherapy, role of needle aspiration biopsy in diagnosis, and pathological aspects were also studied along with clinic pathological aspect viral hepatitis and hypertension. The research studied the effects of various drugs on Albino rats and rabbits. Pregnancy wastage, ectopic pregnancy, infertility, diseases of uterus, ether anesthesia, premedication, and helicobacter pylori were also studied. The pathological and histo-pathological study of carcinoma of various organs, needle aspiration biopsy, abdominal pain-children, anemic children, malnutrition, depression and multiple sclerosis were the main thrust of research.

CONCLUSION

The hay days of GMC in terms of research output especially at PG level noted during 1983-92 contribute 57.21% of the total output. The subjects of General Medicine and Surgery thrived both for local and national phenomenon, followed by Obstetrics and Gynecology. The other sub-disciplines made their mark and accelerated with time, of course, with less

frequency due to many socio-political factors. However, a new trend is emerging for revival of the tradition studying new problems and tools for the welfare of the society. Let us hope that profile will take new strides during the current decade.

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