CHAPTER - VI
THE SPATIAL ORGANISATION
OF HEALTH CARE FACILITIES
IN SATARA CITY
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CHAPTER - VI
THE SPATIAL ORGANISATION OF HEALTH CARE FACILITIES IN SATARA CITY

6.0 INTRODUCTION:

The application of geographical concept and techniques to health related problems can be called medical geography. Medical geography is, or can be, the spatial analysis of most aspects of human health problems. So long as there are geographical variation in time and space, whether related to naturally occurring or artificial environments, there is a definite need for geographic applications and communications of research findings.

The foundation of modern medical geography in India was laid down in the 1930s. It is still the most underdeveloped branch of geography. Capt.A.M.V. Hesterlow was the first researcher who threw light on the possible relationship of environmental factors and disease in southern India.¹ Later, Arthur Geddes made a very important contribution when he dwelth on the relationship between the general conditions of health and population growth in India.² A.T.A. Learmonth who provided a scientific base to the researches in medical geography in India and till date almost all the work done by various scholars in the country has been inspired by his pioneering studies.³

The studies in disease ecology widely attracted geographers and contributed a number of papers in different periodicals in India and aboard. It is found that most of the work has been done on geography of nutrition and disease ecology, and a very few research work is carried
out in socio-cultural aspects of health, health behaviour and traditional medicine, health care geography and family planning programme.

Rais Akhtar and Nilofar Izar have studied ‘The Inequalities in the distribution of Health care facilities in India’ and highlighted the imbalances in availability of health facilities in different regions at state level. Except this, not a single research study has been done on health facilities up till now. So, here, an attempt has been made to study the medical facilities at local level by taking a case study of Satara city. The present study includes the spatial distribution of health care facilities such as dispensaries, hospitals, doctors in relation to their specialization. The study of medical shops in relation to No. of dispensaries, hospitals, doctors, patients and population they serve.

6.1 METHODOLOGY :-

The present study is entirely based upon primary data. The primary data has been obtained during the field work, with the help of a thoughtful questionnaire by taking interviews with doctors of each and every dispensaries and hospitals (Appendix - II). The fieldwork as well as empirical method have been used to depict the various dispensaries, hospitals and medical shops in the different sectors of the city. After collecting the primary data, it has been tabulated and represented with the help of various statistical techniques, various maps and diagrams have been prepared to show the different types of information.
6.2 SPATIAL ORGANIZATION OF HEALTH CARE FACILITIES IN SATARA CITY :-

The spatial patterning and supply of health services are the aspects of health care that most impinges itself on the consciousness of the consumer. Whereas the consumer may have views on the quality of care received, he or she will most certainly have views about the number of facilities available, the location and the times at which they may, or may not be available. In the case of low income groups and those primarily concerned with the needs of people, the concern achieves more significance and begin to influence the use that can be made of such facilities.

The location of health-care facilities is an obvious geographical area of interest. The number, the size and the location of health-care facilities can have a direct bearing on their utilization, and hence on the level of care available to citizens (Joseph and Phillips, 1984). Geographers are constantly preoccupied with decision relating to optimum location and optimization of location.

6.3 SPATIAL DISTRIBUTION OF DISPENSARIES IN SATARA CITY :-

Dispensary is a place, especially charitable institution, where medicines are dispensed. Dispensaries are the important institutions which serve or supply the useful health facilities in rural as well as in urban areas. The dispensary is the point of first contact for most of the consumers /patients. Dispensary consists of the family practitioner services and community health services. Practitioners base their
locational decisions not an accurate and objective information but on imperfect knowledge and personal values. Understanding of the present distribution and policies designed to guide future distributions must therefore by based as much on doctor's perceptions as on the objective characteristics of places. If doctors are free to establish themselves in general practice wherever they choose, their distribution over the region/area would be undoubtedly be uneven.

Here, an attempt has been made to study the distribution of dispensaries in Satara city. It is observed from the table VI-I, that there are 219 dispensaries distributed in the 13 sectors of the city. The distributional pattern is found uneven according to different sectors. The sector numbers 12 and 5 have more concentration of dispensaries i.e. 13.8 and 12.3 per cent respectively. Then the sector numbers 6 and 10 have 10 and 9.2 per cent dispensaries respectively.

The sector numbers 5 and 6 lie on the east and west side of the Powai Naka. The dispensaries are mainly located along the main roads which are more accessible to all patients of the city and the surrounding rural areas. The sector numbers 12 and 7 lie at the old central part of the city, i.e. near Rajwada, Moti chowk and City-post office areas. The sector number 9 has few dispensaries i.e. 2.7 per cent. The sectors which have peripheral locations have less concentration of dispensaries, i.e. sector Nos. 2, 4, 8. The sectors which are located at the central part of the old city and near Powai Naka and S.T. Bus Stand are more accessible and have more concentration of dispensaries. (Fig.6.1)
SATARA CITY
SECTOR-WISE DISTRIBUTION OF DISPENSARIES
(2005)

INDEX

- Dispensary

Fig. 6.1
6.4 SPATIAL DISTRIBUTION OF HOSPITALS IN SATARA CITY:-

Analysis and prediction of hospitals utilization is a fundamental requirement for effective medical service planning and hospital management. This is probably more existing research on hospital location and patient behaviour pattern on any other form of medical care. The geographical distribution of hospital services to the public and the travel costs incurred by the community.

There are considerable geographical researches on the spatial patterning of hospital facilities which has been reviewed by Shannon and Dever (1974)\textsuperscript{5} and Whitelegg (1982)\textsuperscript{6}. Much of the early quantitative work in Geography took hospital location as its subject matter as this fitted well with contemporary approaches to study the retailing and its hierarchical structure. Contributions to the literature of hospital location and use of facilities have come from several different countries. Stimson (1980) has investigated the Australian situation and at a more detail spatial scale.\textsuperscript{7} Cleland, et al (1977) have examined the hierarchical structure of Adelaide's hospital provision.\textsuperscript{8} Geographical inequalities in hospital bed, population ratios are not limited to capitalist societies and have been identified in the U.S.S.R (Now called CIS) (Cole, and Harrison 1978)\textsuperscript{9}. In Los Angeles, Wachs and Kumagai (1973) identified inequalities in access to hospital facilities which were the result of both locational factors and availability of automobiles.

Here an attempt has been made to study the spatial distribution of hospitals in Satara city. There are 107 hospitals in the city which
are distributed in the various sectors but their distribution is uneven. The sector Nos. 3 and 5 have equal number of hospitals 17 hospitals each (i.e. 15.9 per cent) which are located in the eastern part of the city. These hospitals are mainly located near Powai Naka and S.T.Bus stand, which are very accessible by any road.

The sector No. 5 includes the Civil Hospital and other specialized hospitals. The sector No. 3 is situated in the north-central part of the city and accessible by all roads, so large number of hospitals are found in this sector (Table VI-I)

The sector No. 10 is situated in the western part of the city, where 14 per cent hospitals are located. This is a part of old central city and serves most of the population of western part of the district. The sector No.1 is also situated in the north-western part of the city where Aryangla Hospital is situated which is surrounded by other hospitals, and has 10.2 per cent of hospitals. The sector No.6 lies in the western part of Powai Naka and has 10.2 per cent of hospitals. Other sectors have less No. of hospitals as compared to above 5 sectors, i.e. less than 10 per cent. (Figure 6.2)
SATARA CITY
SECTOR-WISE DISTRIBUTION OF HOSPITALS
(2005)

INDEX

- Hospital

Fig. 6.2
### TABLE VI-I
SATARA CITY
SECTORWISE DISTRIBUTION OF DISPENSARIES AND HOSPITALS (2005)

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<th>Sector No.</th>
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<th>Hospitals</th>
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<td>In Nos.</td>
<td>In %</td>
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<td><strong>Total</strong></td>
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</tr>
</tbody>
</table>

Source: Based on field work (2005).

### 6.5 SPATIAL DISTRIBUTION OF DOCTORS IN SATARA CITY:

There are a variety of spatial pattern in supply of doctors/physicians services in urban areas. If doctors are free to establish themselves in general practice wherever they choose, their distribution over the areas would undoubtedly be uneven. The attractiveness of areas is also related to the availability and condition to practice premises, as well as the social, cultural and professional climate of the area. The generality of findings on physician locations suggest that some rather basic market forces are at work which transcends the differences between health facilities. Career development clearly plays an important role.
Here, an attempt has been made to study the spatial distribution of doctors in the Satara City. There are 524 doctors in the study region. Out of 13 sectors 5 sectors have more number of doctors than the average. Doctors are highly concentrated in the sector No. 5 (116 doctors, which accounts for 22.2 per cent). This sector is situated east of the Powai Naka and includes the area of Civil Hospital, which is surrounded by many specialized health centers. This area is newly developed and is highly accessible.

The Sector No. 3 ranks second in the hierarchy of number of doctors in the city, which accounts for 10.9 per cent or 57 doctors. This sector is situated in the north-central part of the city and on the north-eastern part of S.T.Stand and Shahu stadium, which is the more accessible part of the city by road with all types of automobile facilities. All the important hospitals are situated along the roads, which are intersecting each other in this area. (Table VI-II)

The Sector No. 1 ranks third in the hierarchy of number of doctors, which has 54 doctors (10.4 per cent doctors). The sector Nos.10 and 12 have same number of doctors, i.e. 50 doctors each. These sectors of the city, which were parts of the old city. Here, Aryangla Hospital and other important hospitals are located near by Rajwada, Moti chowk and City-Post office.

The Sector No. 11 has a few number of doctors,i.e. (1.9 percent doctors), because this area is occupied by daily market, automobile repairing workshops, petrol-pumps, majjid and some residents. So very less number of medical facilities are found in this sector. This area is occupied by mainly low class working groups.
The Sector No. 4 has also a few number of doctors (i.e. 3 per cent). This sector lies in the east part of the study region, where density of population is very low and most of the area is occupied by widely spaced residents. Some area is occupied by government offices and Sainik School, so the number of doctors are found less. The Sector Nos. 6 and 7 have 40 and 39 doctors respectively. Other sectors have less number of doctors than the average. The table VI-II and Fig. 6.3 gives detail about the sectorwise distribution of doctors in the Satara City.

**TABLE VI-II**

**SATARA CITY**

**SECTORWISE DISTRIBUTION OF HEALTH CARE CENTRES, DOCTORS AND HOSPITAL BEDS (2005)**

<table>
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<tr>
<th>Sector No.</th>
<th>Health Care Centres</th>
<th>Doctors</th>
<th>Hospital Beds</th>
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<td>In %</td>
<td>In Nos.</td>
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<td><strong>Total</strong></td>
<td>326</td>
<td>100.00</td>
<td>524</td>
</tr>
</tbody>
</table>

Source: Based upon field work (2005).
SATARA CITY
SECTOR-WISE DISTRIBUTION OF DOCTORS
(2005)

INDEX
• 2 Doctors

Fig. 6.3
6.6 SECTORWISE DISTRIBUTION OF HEALTH CARE FACILITIES AND DOCTORS :-

Health care facilities include both the dispensaries and hospitals located in a particular area. There are some dispensaries where single doctor practice is observed but in hospital more than two doctors are found in practice, they are mainly the members of one family or a couple. There are number of specialized doctors visiting various hospitals on specific days and times. There are some consulting centres having single doctor but nursing and maternity hospitals have more number of doctors.

In the study area, it is observed that there is a close relationship between number of health care centres and number of hospital and dispensaries which accounts more number of doctors (i.e. 116). In this sector the Krantisinha Nana Patil General Hospital is located and this hospital is surrounded by other specialized types of hospitals, so the number of doctors are also more in this sector. The sector No. 3 has more doctors i.e. 57, and health care centres, i.e. 35 centres. The sectors which are situated in the western part of the city i.e. sector Nos. 1, 10 and 12 have more number of doctors and health care centres. (Table VI-II).

The sector Nos. 4,8,9 and 11 have less number of doctors and also health care centres as compared to the other sectors. The Fig. 6.4 shows the relationship between number of doctors and health care centres in the Satara city. All sectors of the study area have corelation except sector No. 5. In this sector, there are more number of doctors due to the location of Civil Hospital, which involves more number of doctors as compared to other sectors.
SATARA CITY
RELATIONSHIP BETWEEN NO. OF DOCTORS AND
HEALTH CARE CENTRES
(2005)

Fig. 6.4
6.7 SECTORWISE DISTRIBUTION OF SPECIALIZED DOCTORS:

There are various types of specialized health service according to different diseases. Here, an attempt has been made to study the sectorwise distribution of specialized doctors in which 22 various specializations have been considered. It is observed that some specialized doctors are practiced in a particular sectors than those of the other sector.

1. General Physicians :-

In the present discussion, firstly, the category of general physicians have been considered. There are 173 General Physicians which are unevenly distributed in the study region accounts for 33 percent of the total. The sector No. 5 has more number of General Physician, i.e. 35 (20.2 percent ), because this area includes Civil Hospital and situated east of the Powai Naka, is more accessible for all patients of the city and surrounding villages.

The sector Nos. 1,7,10 and 12 have more number of General Physicians. These sectors are located in the western part of the city, which is densely populated area. The sector Nos. 4, 6, 11 and 13 have very few number of doctors. The table VI-III and Figure 6.5 gives clear idea about the sectorwise distribution of General Physicians in the Satara City.

2. Gynaecologists :-

In the specialized category of the doctors the Gynaecologists rank second, which accounts for 14 percent. 73 gynaecologists are
<table>
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<th>Ward No.</th>
<th>General Physicians</th>
<th>Gynaecologists</th>
<th>Dentists</th>
<th>Child Specialists</th>
<th>Orthopaedic</th>
<th>ENT</th>
<th>FM Specialists</th>
<th>Surgeons</th>
<th>Heart Specialists</th>
<th>Skin Specialists</th>
<th>Nucare</th>
<th>Genecmologic</th>
<th>Urologists</th>
<th>Pathologists</th>
<th>Radiologists</th>
<th>Anaesthesia</th>
<th>Ultralogists (X-ray)</th>
<th>Cancer</th>
<th>Psychiatric</th>
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<td>(2)</td>
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<td>(2.3)</td>
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<td>(16.7)</td>
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<td>(1)</td>
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<td>(16.7)</td>
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<td><strong>5.9</strong></td>
<td><strong>5.3</strong></td>
<td><strong>4.9</strong></td>
<td><strong>3.7</strong></td>
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<td><strong>1.5</strong></td>
<td><strong>1.2</strong></td>
<td><strong>1.2</strong></td>
<td><strong>1.0</strong></td>
<td><strong>0.8</strong></td>
<td><strong>0.8</strong></td>
<td><strong>0.8</strong></td>
<td><strong>0.8</strong></td>
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<td><strong>0.8</strong></td>
<td><strong>0.8</strong></td>
<td>100.0</td>
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</tbody>
</table>

Figures in brackets indicate percentage of total.

**TABLE VI-III**

**SATARA CITY**

**WARDWISE DISTRIBUTION OF SPECIALISED DOCTORS (2005)**
SATARA CITY
SECTOR-WISE DISTRIBUTION OF SPECIALIZED DOCTORS (2005)

INDEX
- Physicians

Fig. 6.5
distributed in various sectors of the study area. The sector No. 5 has more number of Gynaecologists, i.e. 17 (23.3 percent). This sector is located east of Powai Naka and accessible by all transportation routes, so more number of hospitals are located in this area. The sector No. 3 ranks second in the hierarchy of Gynaecologists doctors. This sector is situated near S.T.Bus stand. The hospitals are located along the main streets, which are more accessible for all people of the outside villages.

The sector No. 1 ranks third in which there are 10 gynaecologists (13.7 percent). Other remaining sectors have less number of Gynaecologists. The sector Nos. 9 and 11 have only one doctor and sector No. 4 has not a single Gynaecologist doctor. The table VI-III and Figure 6.6 show sectorwise distribution of Gynaecologists doctors in the Satara City.

3. Dentists :-

In the study region, there are 30 dental doctors, out of which 7 doctors (i.e. 23.3 percent) are found in the sector No. 12, which is located at the central part of the city and densely populated area. The sector Nos. 3 and 5 have 5 dental doctors each. These two sectors are situated in the east and north east part of the study area, which are more accessible and recently developed areas. The sector Nos. 1, 4, 7, 9 and 11 have only one each dental doctor and sector Nos. 2 and 8 have not a single dental doctor. The table VI-III and Figure 6.7 gives clear idea about the sectorwise distribution of dental doctors.

4. Child Specialists :-

The child specialists doctors are distributed over all sectors except sector No. 11. There are 29 doctors which accounts for 5.5 percent to
SATARA CITY
SECTOR-WISE DISTRIBUTION OF SPECIALIZED DOCTORS (2005)

INDEX

- Gynaecologist

Fig. 6.6
SATARA CITY
SECTOR-WISE DISTRIBUTION OF SPECIALISED DOCTORS (2005)

INDEX
- Dentist
○ Child Specialist

Fig. 6.7
total doctors. The sector Nos. 10 has 4 child specialists, which is observed in the central part of the study area. The sector Nos. 2, 5, 6, 7 and 12 have 3 doctors each, the sector Nos. 1, 4, 8 and 9 have 2 doctors and sector Nos. 3 and 13 have one doctor each. This is a most important health facility, so it is distributed in all sectors (Table VI-III and Figure 6.7).

5. Orthopedic :-

The orthopedic doctors are unevenly distributed in the study region. There are 25 Orthopedic doctors, which accounts for 4.8 per cent of the total doctors. The sector Nos. 3 and 5 have 7 doctors each, which accounts nearly 56 per cent of the total. These sectors are located in the eastern and northern parts of the Powai Naka and S.T. Stand Bus stand. So, most of the orthopedic doctors have established their hospitals along the main roads. The sector Nos. 10 and 12 have one doctor each and these sectors are located in the central part of the city. The sector Nos. 2, 4, 8, 9, 11 and 13 have not a single orthopedic doctor. (Table VI-III and Figure 6.8)

6. ENT :-

The ENT (Ear, Noise and Throat) doctors are unevenly distributed in the city. There are 19 ENT specialized doctors which accounts for only 3.7 per cent of the total. The sector Nos. 3 and 5 have 7 and 3 doctors respectively. These are concentrated in the eastern and northern parts of the city, which are more accessible for outside patients. The sector Nos. 4, 7, 8, 9, 10 and 11 have not a single ENT specialist doctor and other sectors have also few number of doctors. (Table VI-III Figure 6.8)
SATARA CITY
SECTOR-WISE DISTRIBUTION OF SPECIALISED DOCTORS (2005)

INDEX
- Eye Specialist
- Orthopaedic
- ENT

Fig. 6.8
7. Ophthalmic :-

The Eye specialists are called as ‘Ophthalmic Specialists.’ The term ‘Optician’ is often used for convenience to cover three profession: the ophthalmic medical practitioners, who tests sight, the dispensing optician, who supplied glasses and the ophthalmic optician (the most common type), who does both.

In the study region, there are 19 Eye Specialist doctors. The sector Nos. 5 have 6 doctors (i.e. 31.6 per cent). This sector lies in the eastern part of the Powai Naka. The sector No. 1 has 3 doctors and it lies in the western part of the city. The sector Nos. 3, 6, 7 and 12 have 2 doctors each and 1 each doctor is observed in the sector Nos. 10 and 13. The sector Nos. 2, 4, 8, 9 and 11 have not single ophthalmic doctor (Table VI-III Figure 6.8).

8. Surgeons :-

There are 17 surgeons in the study region which are found in sector Nos. 3 and 5 only and accounts for 3.2 per cent of the total doctors. These two sectors are situated in eastern and north-eastern parts of the city, where Civil Hospital and other important hospitals are located. The sector Nos. 3 and 5 have 3 and 14 surgeons respectively. (Figure 6.9).

9. Heart Specialists :-

The heart specialists are located in the 8 sectors and accounts only 3 per cent of the total doctors (i.e. 16) of the study area. The sector No. 6 has 3 heart specialists and sector No. 7 has only 1 doctor. The sector Nos. 1, 2, 5, 10, 12 and 13 have 2 doctors each. (Figure 6.9)
SATARA CITY
SECtor-WISE DISTRIBUTION OF
SPECIALIZED DOCTORS
(2005)

INDEX
○ Gastroscopic
● Skin Specialist
Θ Neo care
⊕ Urologists
⊗ Heart Specialists
+ Surgeons

Fig. 6.9
10. **Skin Specialists** :-

    There are 12 skin specialist doctors in the study region. The sector Nos. 3, 10, 11 and 13 have 2 doctors each and sector Nos. 2, 4, 5 and 6 have one doctor each. The sector Nos. 1, 7, 8, 9 and 12 have not a single skin specialist doctor. (Figure 6.9).

11. **Neo-Care Centres** :-

    Neo-care centre is very important facility developed in the study area which serves not only urban population but also serves the surrounding rural population. There are 8 neo-care centres in the study area. These centres are concentrated in 3 sectors only viz sector Nos. 5, 1 and 9. The sector No. 5 have 4 neo-care centres and other have 2 centres each. (Figure 6.9).

12. **Gastroscopic** :-

    Gastroscopic specialized doctors are observed in the four sectors but sector No. 12 has more concentration of doctors i.e. 4 and sector Nos. 3, 6 and 13 have only one doctor. (Figure 6.9).

13. **Urologists** :-

    There are 6 Urologists in the study region and they are found in the sector Nos. 5, 6 and 7 only. The sector No. 6 has 3 doctors, while sector No. 5 has 2 doctors (Fig. 6.9). The area is located in the east and west part of the Powai Naka.

14. **Pathologists** :-

    Pathologists are concentrated in the four sectors of the study area. The sector No. 5 has 2 pathologists, and other three sectors, i.e.
2, 3 and 12 have one doctor each. It is observed that many specialist doctors have their own pathological laboratories. So these are not considered separately as specialized as pathologists. (Figure 6.10).

15. **Consultants** :-

Four consultants are mainly observed in sector No. 6 and sector No. 4 has only one doctor. The sector No. 6 lies in the west of the Powai Naka and sector No. 4 lies in the eastern part of the study region. (Figure 6.10).

16. **Radiologists** :-

There are four Radiologist doctors in the four sector viz. in 3, 4, 5 and 6 while other sectors have absence of these doctors. (Figure 6.10).

17. **Anaesthesia** :-

Anaesthesia specialized doctors are found in the sector No. 5 and all remaining sectors have absence of such doctors. (Figure 6.10).

18. **Ultralogists (X-rays)** :-

Ultralogists give service or facility separately for patients but same specialized hospitals provide the same service at the same place. There are four sectors where this service facility is available, i.e. sector Nos. 2, 3, 8 and 9 (Figure 6.10).

19. **Cancer specialist** :-

There are only two cancer specialist doctors mainly in the sector No. 4 which lies in the east part of the study region which is newly developed area. (Figure 6.10).
SATARA CITY
SECTOR-WISE DISTRIBUTION OF SPECIALIZED DOCTORS
(2005)

INDEX
○ Radiologists
● Ulrologists
Θ Psychiatric
⊕ Anaesthesia
▲ Consultants
□ Cancer
+ Pathologists

Fig. 6.10
SATARA CITY
SECTOR-WISE DISTRIBUTION OF SPECIALIZED DOCTORS (2005)

INDEX
- Homeopathic

Fig. 6.11
20. **Psychiatric** :-

Psychiatric doctors provide their services to the patients who are mentally ill or mentally handicapped. There are only two doctors in the study area, mainly in sector Nos. 3 and 13. (Figure 6.10).

21. **C.T.Scan** :-

There is only one C. T. Scan hospital in the sector No.5, which is newly developed.

22. **Homeopathic** :-

Homeopathic treatment is a separate treatment than the Ayurvedic and Allopathic. There are 63 Homeopathic doctors distributed in all sectors except sector No. 2. There are 11 doctors observed in the sector No. 11, which is situated in the central part of the study area. The sector Nos. 1 and 5 have 12 and 9 doctors respectively, while remaining sectors have less number of doctors. Table VI-III and Fig. 6.11 gives clear picture of sector wise distribution of homeopathic doctors.

From the above discussion, it reveals that General Physicians have higher in numbers followed by Gynaecologists and dentists. Child specialists and Orthopedics are more in number than the other specialists. Radiologists, Anaesthesia, Ultrologists, Cancer and Psychatric specialists are found less in number as compare to others.

6.8 **SECTORWISE DISTRIBUTION OF DOCTORS ACCORDING TO THEIR QUALIFICATIONS** :-

There are three types of medical systems usually practiced by doctors: Allopathic, Ayurvedic and Homeopathic. Allopathic system
is more developed and practiced in the world and more researched branch of the medical science. The Ayurvedic system is closely linked with the Indian Culture. Ayurveda literally means the science of life. Now-a-days this medical system is more popular among the people than the Allopathic system. This system lays emphasis both on prevention and curing of diseases and promotion of positive health. The preventive measures of Ayurveda include personal and social hygiene, the use of rejuvenating agents, primarily herbs to improve memory, intelligence and develop immunity to disease and to increase strength and longevity through yoga exercises.

Homeopathic system is not more popular as Allopathic and Ayurvedic systems. Besides these systems, there is another medical system i.e. Unani in which the minerals and metallic salts are used for treatments of diseases. They also use local herbs, spices, wild and domestic flowers, fruits and nuts in their prescriptions.

Here, an attempt has been made to study the sectorwise distribution of doctors according to their qualification and medical system of practice. There are 277 doctors who practices Allopathic system, in which there are 117 M.B.B.S, 110 M.D. and 50 M.S. doctors, which together accounts for 52.9 percent of the total. There are 99 doctors who follows the Ayurvedic system, in which there are 96 B.A.M.S and 3 M.D doctors, who accounts for 18.9 percent of the total. Those who practice Homoeopathic system accounts for 12 percent of the total, i.e. 63 doctors in which there are 60 B.H.M.S. and 3 M.D. doctors.
SATARA CITY
SECTOR-WISE DISTRIBUTION OF DOCTORS ACCORDING TO THEIR QUALIFICATIONS

Fig. 6.12
The doctors who use both the systems i.e. allopathic and ayurvedic accounts for 11.5 per cent of the total. There are 25 dental doctors in the study region. The table VI-IV and Fig. 6.12 gives clear idea about the sectorwise distribution of doctors according to their qualifications.

### TABLE VI-IV

SATARA CITY

SECTORWISE DISTRIBUTION OF DOCTORS ACCORDING TO THEIR QUALIFICATION

<table>
<thead>
<tr>
<th>Sector No.</th>
<th>M.B.B.S.</th>
<th>M.D.</th>
<th>M.S.</th>
<th>B.A.M.S.</th>
<th>M.D.</th>
<th>B.H.M.S.</th>
<th>M.D.</th>
<th>Others</th>
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<th>Total</th>
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<td>3</td>
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<td>25</td>
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</tr>
</tbody>
</table>

|       | 52.90 | 18.90 | 12.00 | 11.50 | 4.70 | 100.00 |

Source : Based upon field work (2005).

### 6.9 SECTORWISE DISTRIBUTION OF DOCTORS AND PATIENTS :-

There is a close relationship between number of doctors and patients in any region. In the present study, the patients visiting per
month to each dispensary and hospital has been taken into consideration and the ratio of patients per doctor has been calculated. In the study region, it is observed that the highest patient ratio per doctor is observed in the sector No. 6, i.e. 550 patients per doctor. This sector is located near Powai Naka, so it is more convenient and accessible as compared to other sectors. The sector Nos. 8, 12 and 11 have also more number of patient ratio, i.e. 533, 519 and 515 respectively. These sector have more number of doctors and patients because they are located in the more densely populated area having specialized hospitals which serve more population of the surrounding region.

The sector Nos. 2, 7, 9 and 13 have observed the patient ratio between 400 to 500. These sectors are located on the periphery of the study region, where number of doctors are less as compared to patients. The patient ratio between 300 to 400 is observed in the sector Nos. 4, 5 and 10. In these sectors number of doctors have found more and number of patients also more, so the patient ratio per doctor is observed less e.g. sector No.5 where there 116 dectors and 35,306 patients visiting per month, which is higher than the other sectors but the ratio is found less. As compared to sector No. 11 where only 10 doctors and 5,150 patients are observed but the ratio is found higher as compare to sector No.5.

The sector Nos.1 and 3 have patients ratio less than 300, where the number of doctors are more i.e. 54 and 57 respectively, so the patient ratio is observed low. The table VI-V and fig.6.13 give clear idea about the sectorwise distribution of doctors and patients visiting to health centres and their ratio for the year 2001.
SATARA CITY
RELATIONSHIP BETWEEN NO. OF DOCTORS AND NUMBER OF PATIENTS

Fig. 6.13
### TABLE VI-V

**SATARA CITY**

**SECTORWISE DISTRIBUTION OF DOCTORS, PATIENTS AND THEIR RATIO**

<table>
<thead>
<tr>
<th>Sector No.</th>
<th>Doctor No.</th>
<th>No. of Patients Visiting per month</th>
<th>% to total</th>
<th>Ratio of patient per doctor</th>
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<td><strong>204,092</strong></td>
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<td><strong>390</strong></td>
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</tbody>
</table>

Source: Based upon field work (2005).

**6.10 SECTORWISE DISTRIBUTION OF HOSPITAL BEDS:**

Availability of hospital beds is an important indicator of health services. In the study region, there is no relationship found in the distribution of doctors, health centres and number of beds. It is observed that, there is no any peculiar pattern of distribution. The sector No. 4 has not a single hospital bed. This sector is located in the eastern part
SATARA CITY
SECTOR-WISE DISTRIBUTION OF BEDS
(2005)

INDEX
- Five Beds
- Two Hundred Forty One Beds
  (Civil Hospital)

Fig. 6.14
of the study area. The sector Nos. 3 and 5 have highest number of hospital beds, i.e. 180 and 488 respectively, which account for 14.4 per cent and 39.0 per cent of the total. The sector Nos. 2 and 6 have also more number of hospital beds.

The sector Nos. 3, 5, and 6 are located near Powai Naka and near S.T. Bus stand, which are more accessible areas of the study region and most of the hospitals are located in the central part of the city, so the number of hospital beds observed more. Other remaining sectors have observed less number of beds. The table VI-II and fig. 6.14 gives clear idea about the distribution of hospital beds in the study region.

6.11 SPATIAL DISTRIBUTION OF MEDICAL SHOPS IN SATARA CITY

The medical shops or chemists or pharmacies are very important centres which provide the services to patients and doctors. Here, an attempt has been made to study the sector-wise distribution of medical shops and their relationship with health care centres.

According to 2001, there are 133 medical shops in the city which are unevenly distributed over 13 sectors. It is observed that the sector Nos. 6 and 5 have more concentration of medical shops i.e. 16.5 per cent and 13.5 per cent of the total. These two sectors are located near Powai Naka, the sector No. 5 lies in the eastern part of the main road, while sector No. 6 lies in the west and north-west part of the Powai Naka. Now this area is more accessible for the people of the city and those came from outside the city, where more number of hospitals are found concentrated. These two sectors together account nearly 30 per cent of the medical shops of the city.
The sector Nos. 1 and 10 have the same number of medical shops i.e. 15 medical shops each. These sectors are also situated close together in the north-western part of the city. This area lies near the Rajwada and Aryangla Hospital, which is more accessible to people of the western part of the city. These two sectors together account for 22.6 per cent of the total medical shops.

The sector Nos. 2 and 13 have also the same number of medical shops i.e. 10 shops each and account for 7.5 per cent of the total. It means both these sectors account for 15 percent of the medical shops and serve the population of different areas. The sector No. 2 is located in the western part of S.T. Bus Stand, where New Radhika Road has now developed in the east-west direction. So, new hospitals are attracted along with this road and consequently new medical shops are also grown within a few years. The sector No. 13 lies near City Post Office and Devi Chowk, where most of the specialized hospitals are located. So the concentration of medical shops are observed in this sector.

All the above sectors are located in the inner part of the city, so they have more number of health care centres and medical shops, which are situated near the hospitals and dispensaries. The other sectors which have got peripheral locations account few number of medical shops. The sector Nos. 4, 9, 11 and 12 have a very less number of medical shops, i.e. 4 and 5 shops respectively. The table VI-VI and fig. 6.15 gives clear idea about the distribution of medical shops in the study area.
SATARA CITY
SECTOR-WISE DISTRIBUTION OF MEDICAL SHOPS
(2005)

INDEX
○ Medical Shop

Fig. 6.15
TABLE VI-VI
SATARA CITY
SECTORWISE DISTRIBUTION OF MEDICAL SHOPS AND
HEALTH CARE CENTRES - 2005

<table>
<thead>
<tr>
<th>Sector No.</th>
<th>Medical Shops</th>
<th>Health Care Centres</th>
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<tr>
<td></td>
<td>In Nos.</td>
<td>In %</td>
</tr>
<tr>
<td>1</td>
<td>15</td>
<td>11.30</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
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<td>3</td>
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</tr>
<tr>
<td>8</td>
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<td>7.50</td>
</tr>
<tr>
<td>Total</td>
<td>133</td>
<td>100.00</td>
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</tbody>
</table>

Source: Based upon field work.

6.12 SPATIAL RELATIONSHIP BETWEEN HEALTH CARE CENTRES AND MEDICAL SHOPS:

The spatial distribution of health care centres and medical shops always shows close relationships in any area. In the study area, the sector Nos. 1, 5 and 10 have close relationship in the distribution of health care centres and medical shops. The sector No. 5 has 13.5 percent of the health care centres and the same percent of medical shops. This sector has perfect co-relation between both these facilities. This sector is situated east of the Powai Naka, which involves Civil Hospital and most of the other specialized hospitals.

The sector No. 10 has 10.7 percent of health care centres and 10.3 percent of the medical shops. This sector is located in the central
part of the old city i.e. the area of Rajwada and Moti Chowk. The sector No. 1 has more number of medical shops as compared to health care centres. In this area the number of dispensaries and hospitals are less but the size of these centres is large than the other sectors. So it is observed that the number of medical shops are more than the health care centres.

The sector Nos. 4, 9 and 11 have also close relationship in distributions i.e. less number of health care centres and less number of medical shops, i.e. less than 4 per cent of the total in each sector. (Table VI-VI and fig 6.16).

The sector No. 6 has more number of medical shops but less number of health care centres i.e. 16.5 per cent medical shops and 10.1 percent of the health care centres. This area is located at the west and northern part of the Powai Naka. So, more number of medical shops are concentrated. The sector No. 12 has complete adverse position, it means less number of medical shops and more number of health care centres, i.e. 3.8 per cent medical shops and 11.7 per cent health care centres respectively. It shows negative co-relation.

The other remaining sectors show close relationship between the distribution of health care centres and medical shops. The table VI-VI and fig. 6.16 shows clear picture of the distribution of health care centres and medical shops in the study area. In the study area, nearly 56.7 percent of the health care centres are concentrated in the five sectors viz. 3, 5, 6, 10 and 12 and nearly 52.6 per cent of medical shops are concentrated in four sectors viz. 1, 5, 6 and 10.
REFERENCES :-


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