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Research Article

Utilisation Patterns of Men Inpatient and Outpatient Services in Primary Health Centers: A Case Study of Belgaum District, Karnataka.

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Abstract

This study examines the utilization patterns of male inpatient and outpatient services in Primary Health Centres (PHCs) in the Belgaum District of Karnataka, India. The research focuses on understanding the impact of various health policies and the availability of healthcare facilities for men in rural areas. Utilizing secondary data from the Communicable Diseases Reports of the District Health Office Belgaum over five years (2018-2022), the study employs statistical tools such as tabulation, averages, percentages, and bar diagrams to analyze the data.

Key findings indicate that the number of old outpatient (OPD) cases among men remained relatively constant, ranging between 36% and 38%, while new OPD cases fluctuated between 54% and 58%. Inpatient (IPD) cases showed minor variations, ranging from 5% to 8%. The study also highlights the impact of the COVID-19 pandemic, noting a decrease in old OPD cases and an increase in new OPD and IPD cases during the pandemic period.

The research underscores the importance of PHCs in providing accessible and comprehensive healthcare services to the rural male population. It also evaluates the effectiveness of major health policies such as Ayushman Bharat Arogya Karnataka (ABAK) and the National Health Mission (NHM) in improving healthcare access and outcomes. The study concludes that while PHCs play a crucial role in rural health, continuous improvement in healthcare delivery is needed to address the evolving health needs of the rural male population.

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Keyword: Primary Health Centres (PHCs), Male healthcare utilization, Inpatient services, Outpatient services, Rural healthcare, Ayushman Bharat Arogya Karnataka (ABAK), COVID-19 impact, Communicable diseases, non-communicable diseases, Health Statistics and Rural health infrastructure.

INTRODUCTION

India is the second most populous country in the world next to China. In India, more than 70 percent of the total population lives in rural areas according to the 2011 census of India. The total population is121 cores now it is expected to be 145 cores in 2024. According to the census of 2011, Karnataka state has a total population of 6,10,95,297 Out of Karnataka's total population 3,74,69,335 (61.32 percent) total population live in rural areas. Therefore, the rural population plays the main role in getting healthcare facilities. Same Karnataka has a total 3,09,66,657 male population. Out of that total, 1,89,29,354 (61.12 percent) live in rural areas. The study district Belgaum is Karnataka state's second most popular district with a rural population of 35,68,466 and 18,11,094 (50.75 percent) rural males. Rural Karnataka state has 2127 primary health centres that are responsible for preventing diseases and providing a wide range of essential healthcare services for men's health.

The Government of Karnataka has implemented several healthcare policies aimed at improving access to health services by the common man. Primary Health Centres (PHCs) in Karnataka provide a wide range of healthcare facilities that benefit men, ensuring comprehensive and accessible healthcare.

OBJECTIVES OF THE STUDY

This study was equalled with the following objectives

1. To understand major health policies related to common men in Karnataka state.
2. 02. To know men's health care facilities available in PHCs of Karnataka.
3. 03. To evaluate men's OPD and IPD in all PHCs of Belgaum District.
4. 04. To examine the healthcare facilities available in PHCs of Belgaum District.
5. 05. To compare the men's IPD and OPD in all PHCs with others of Belgaum District.

METHODOLOGY

The study uses secondary data sources from the Communicable Diseases Reports of the District Health Office Belgaum. The study period is five years from 2018.

Statistical Tools Used:

The current study uses statistical tools like tabulation, averages, percentages, and bar diagrams.

Major health policies in Karnataka State:

Karnataka state has implemented the following major health policies related to ordinary men

1. **Ayushman Bharat Arogya Karnataka (ABAK):**
   It is an ambitious scheme launched by the Karnataka State Government to provide universal health coverage to all state residents. It is a part of the central government's Ayushman Bharat scheme and aims to provide quality healthcare services to the poor and vulnerable sections of society at no cost. The scheme provides all types of healthcare services, from primary to secondary and tertiary.
   This scheme provides free health coverage up to ₹5 lakh per family per year for secondary and tertiary care hospitalisation. It covers over 1,650 treatments and procedures in both government and private hospitals. All residents of the state who meet the eligibility criteria can benefit from this scheme. It offers a Health Card, generally called an ABHA Card. It ensures that people no longer need to worry about the cost of treatment for expensive diseases. Providing quality healthcare services to society's poor and vulnerable sections at no cost. This scheme will improve the people's standard of living and the quality of healthcare services in the state, and beneficiaries will be able to live healthy lives.

2. **The National Health Mission (NHM):**
   In Karnataka state, The National Health Mission is a flagship program that provides accessible, affordable, and quality healthcare to the state's population, particularly in rural areas. It has the following sub-programs,

I. **Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCH+A)**: It is a comprehensive initiative under the National Health Mission (NHM). It aims to improve health outcomes for women, children, and adolescents by providing a wide range of care throughout different life stages. It focuses on family planning, safe abortion services, and reproductive health education. Ensures safe motherhood through antenatal care, skilled birth attendance, and postnatal care. Provides essential newborn care, including immunization and management of neonatal illnesses. It aims to reduce child mortality through immunization, nutrition programs, and management of common childhood diseases. Addresses the health needs of adolescents, including nutrition, mental health, and reproductive health education.

II. **Communicable and Non-Communicable Diseases**:
The National Health Mission (NHM) in Karnataka, focuses on Communicable and Non-Communicable Diseases and aims to reduce the burden of these diseases through prevention, control, and management strategies. For prevention and controlling communicable diseases, The Karnataka government's efforts to implement the Revised National Tuberculosis Control Program (RNTCP) to detect and treat Tuberculosis (TB**)** cases. Efforts are made to conduct vector control activities and provide prevention and treatment for malaria. And promoting awareness, prevention, and treatment through the National AIDS Control Program for HIV/AIDS Control. Implemented an Immunization Program to ensure widespread vaccination against diseases like measles, polio, and hepatitis.

The NHM also addresses the Non-Communicable Diseases (NCDs) through, the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS) for early diagnosis, treatment, and management of these conditions. Implemented the National Mental Health Programme (NMHP) for mental health services and promoted mental well-being. The National

Programme for Control of Blindness and Visual Impairment (NPCBVI) was implemented to reduce the prevalence of blindness through preventive and curative services.

3. **Karnataka Health and Medical Education Department Initiatives:**
The Karnataka Health and Medical Education Department has implemented several initiatives to improve rural health in the state including

I. **The National Rural Health Mission (NRHM):**
Karnataka aims to Upgrade and construct new healthcare facilities to ensure better access to medical services in rural regions, Recruiting and train healthcare professionals, including doctors, nurses, and community health workers, to serve in rural areas, implement programs to reduce maternal and infant mortality rates through better prenatal and postnatal care. Enhancing disease prevention and health promotion activities, including immunization drives and health education campaigns. These efforts are part of a broader strategy to ensure equitable and quality healthcare for rural populations in Karnataka.

II. **Compulsory Rural Service:**
The Karnataka Health and Medical Education Department mandates a one-year compulsory rural servicefor newly graduated MBBS doctors. MBBS graduates from government medical colleges or those who studied under government quotas in private colleges must serve in designated rural hospitals for one year. This initiative is designed to address the shortage of healthcare professionals in rural areas and improve healthcare access for rural populations.

III. Partnerships for Innovation:
The Karnataka Health and Medical Education Department has partnered with the Centre for Cellular and Molecular Platforms (C-CAMP) to enhance public health through innovative solutions. Like integrating cutting-edge health technologies into the state's public health system, focusing on indigenous innovations, and joint projects implemented to pilot and scale up innovative health technologies, improving healthcare delivery and outcomes. The initiative also seeks to bolster the state's healthcare infrastructure and services, ensuring better health outcomes for the population.

4. **The Sakala Services:**
The Sakala Services measures in Karnataka aim to ensure the timely delivery of various government services, including rural healthcare. This includes mandates that specific health services must be provided within a stipulated time frame, ensuring accountability and efficiency, Citizens can access and apply for health services online, reducing the need for physical visits making the process more convenient, and allowing for A robust system is in place for addressing grievances related to service delivery, ensuring that issues are resolved promptly.

Common healthcare facilities are available in Primary Health Centres (PHCs) in Karnataka:
Primary Health Centres (PHCs) in Karnataka provide a wide range of essential healthcare services for the community.

1. **Outpatient Services:**
Primary Health Centres (PHCs) in Karnataka offer a variety of outpatient facilities to cater to the community's healthcare needs. Which includes Diagnosis and treatment of common illnesses and health conditions, Antenatal and postnatal care, immunisations, nutritional support, monitoring and treatment for chronic conditions such as diabetes and hypertension, Laboratory tests, and basic diagnostic procedures to aid in the diagnosis and treatment of illnesses, providing information on disease prevention, healthy lifestyles, and family planning.
2. **Basic diagnostic facilities:**
Primary Health Centres (PHCs) in Karnataka offer several basic diagnostic facilities like Routine blood tests for conditions like anemia, diabetes, and infections, Basic urine analysis to detect urinary tract infections and other conditions, and examination of samples for diseases like malaria and tuberculosis, simple tests to confirm pregnancy. Rapid Diagnostic Tests For diseases such as malaria and dengue.
3. **Maternal and Child Health Services:**
Primary Health Centres (PHCs) in Karnataka provide several essential maternal and child health services, such as Regular check-ups, nutritional support, and health education for pregnant women to ensure a healthy pregnancy, and follow-up care for mothers and newborns, including monitoring and support during the postpartum period. Offers Vaccinations for children to protect against common and preventable diseases. Provides Nutritional Support Programs to address malnutrition in children and provide dietary guidance for mothers. Health Information on breastfeeding, family planning, and childcare practices. These services aim to reduce maternal and infant mortality rates and improve overall health outcomes for mothers and children in rural areas.
4. **Preventive Services** Primary Health Centres (PHCs) in Karnataka offer several preventive services to promote community health and prevent diseases by providing Vaccinations for children and adults to protect against common and preventable diseases, Programs to educate the community about healthy lifestyles, nutrition, hygiene, and disease prevention, Regular health check-ups and screenings for conditions like hypertension, diabetes, and certain cancers. PHCs Measures to control the spread of vector-borne diseases such as malaria and dengue. Involved in counseling and provision of contraceptives to help families plan and space their children.
5. **Emergency Care:**
Primary Health Centres (PHCs) in Karnataka provide several emergency facilities to ensure timely medical care for the community through Immediate treatment for common emergencies such as injuries, burns, and acute

illnesses, contributing to the Availability of 24/7 ambulances to transport patients to higher-level healthcare facilities if needed, offers First Aid for initial management and stabilization of patients before referral to specialized care, and Emergency Obstetric Care Services to handle complications during pregnancy and childbirth.

Number of men treated at IPD and OPD in PHCs of Belgaum District

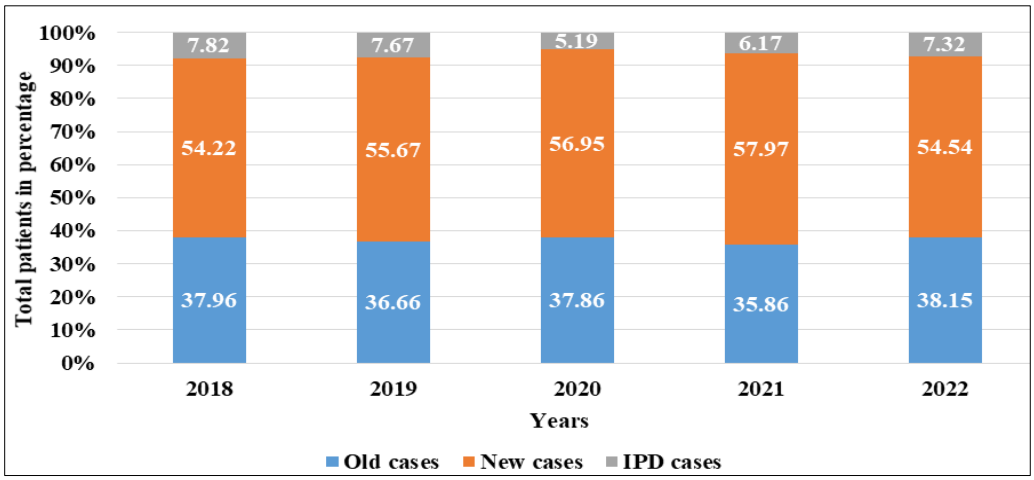
The following data are the Men's OPD and IPD treatments in PHCs and CHCs of Belgaum District from 2018 to 2022. i.e. 5 years.

Table 1: Annual Distribution of Male Outpatient (OPD) and Inpatient (IPD) Cases in PHCs and CHCs of Belgaum District (2018–2022)

Year	OPD		IPD	Total
	OLD CASES	NEW CASES		
	PHC / CHC	PHC / CHC	PHC / CHC	
2018	404823 (37.96))	578212 (54.22)	83424 (7.82)	1066459 (100)
2019	432254 (36.66)	656501 (55.67)	90417 (7.67)	1179172 (100)
2020	294401 (37.86)	442923 (56.95)	40373 (5.19)	777697 (100)
2021	365808 (35.86)	591397 (57.97)	62941 (6.17)	1020146 (100)
2022	363936 (38.15)	520281 (54.54)	69809 (7.32)	954026 (100)

Source: Communicable Diseases Reports 2018, 2019, 2020, 2021, and 2022 from District Health Office (DHO) Belgaum.
Note: Data in bracket shows percentage.

Table No. 01 shows that OPD old cases slightly increased from 36.66 percent to 37.86 percent from 2019 to 2020. Then, it decreased from 37.86 percent to 35.86 percent from 2020 to 2021 and increased to 38.15 percent in 2022. The same new OPD cases rose from 54.22 percent to 55.67 percent from 2018 to 2019, and further OPD cases rose from 56.95 percent to 57.97 percent from 2020 to 2021, respectively. Both old and new OPD cases recorded 38.15 and 54.54 percent in 2022. Meanwhile, IPD cases slightly changed from 7.82 percent to 7.67 percent from 2018 to 2019. 5.19 percent to 6.17 percent in 2020, and in 2021, in 2022, IPD cases were reported to 7.32 percent in the study area.



Source: Table No.01
Note: Data in percentage.

Figure 1: Number of men's treated OPD and IPD in all PHCs of Belgaum district.

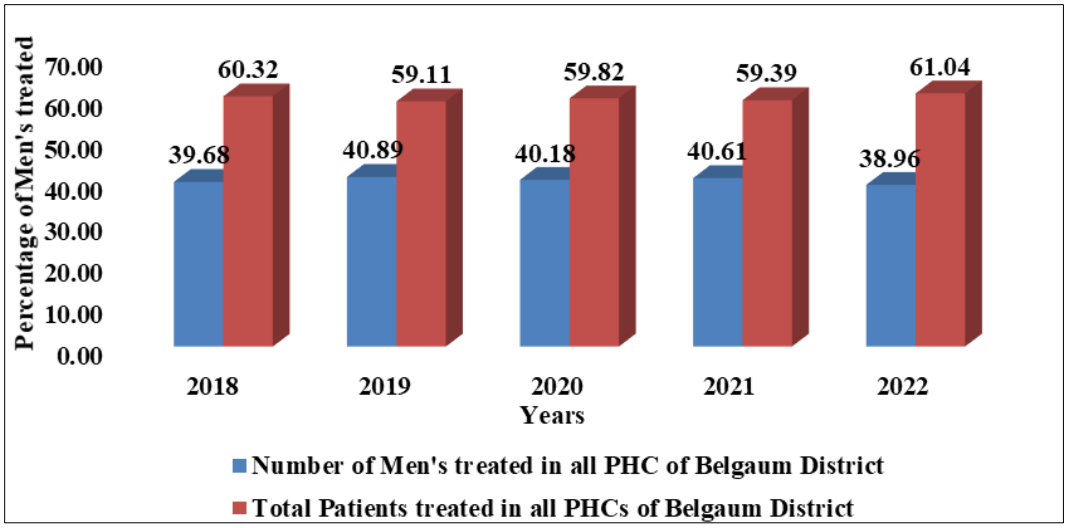
Comparison of the Number of men treated at IPD and OPD with total IPD and OPD patients in PHCs of Belgaum District.

Table No. 02 shows that 39.68 percent of men were treated in all PHCs of the Belgaum district in 2018, and that magnitude remained slightly constant at 40 percent until 2021, when it decreased to 38.96 percent in 2022.

Table 2: Comparison of Total Male Patients Treated vs. Overall Patient Load in PHCs of Belgaum District (2018–2022)

Year	Number of Men treated in all PHC of Belgaum District	Total Patients treated in all PHCs of Belgaum district
2018	1066459 (39.68)	2687740 (60.32)
2019	1179172 (40.89)	2883426 (59.11)
2020	777697 (40.18)	1935541 (59.82)
2021	1020146 (40.16)	2512264 (59.39)
2022	954026 (38.96)	2448761 (61.04)

Source: Communicable Diseases Reports 2018, 2019, 2020, 2021, and 2022 from District Health Office (DHO) Belgaum.
Note: Data in bracket shows percentage.



Source: Table No.02
Note: Data shows in percentage.

Figure 2: Percentage of Men's treated in all PHCs of Belgaum District

The total number of patients treated in all PHCs of the Belgaum district was 60.32 percent in 2018, which remained slightly constant at 59 percent until 2021 and increased to 61.04 percent in 2022.

FINDINGS

The present article represents the following findings,

1. The study finds men's old OPD cases remain constant during the study period, i.e., between 36 to 38 percent.
2. Men's new OPD cases are approximately constant in the study period, i.e., between 54 and 58 percent.
3. Men's IPD cases are approximately the same during selected periods, i.e., between 5 to 8 percent.
4. During the period of 2020 to 2021, generally considered a COVID-19 period, men's old OPD cases decreased from 37.86 percent to 35.86 percent, respectively.
5. In the COVID-19 period, men's new OPD cases increased from 56.95 percent to 57.97 percent.
6. IPD cases increased from 5.19 percent to 6.17 percent between 2020 to 2021 years.
7. In the study period, the total number of other patients treated in all PHCs of the Belgaum district is recorded as between 59 percent and 61 percent.
8. During COVID-19, 59 percent of patients other than men were treated in all PHCs in the Belgaum district.
9. Post-COVID-19 period, the total number of male patients decreased from 40.16 percent to 38.96 percent.
10. After 2021, the number of patients other than male patients increased from 59.39 percent to 61.04 percent.

Limitations of study

The present study has its limitations as follows,

1. The study area is limited to only Belgaum District of Karnataka state.
2. The study considers only all PHCs working in Belgaum district of Karnataka state.
3. The study is based on data available from the DHO office in Belgaum.
4. The study is reflected only five years from 2018.

CONCLUSION

Primary Health Centres are crucial in rural health; PHCs are the first contact point between patients and medical officers. The above study reflects that, during the COVID-19 pandemic period, old OPD cases decreased, new OPD cases increased, and total IPD cases increased due to the implementation of preventative measures to control the spreading of the pandemic. IPD cases increased due to the ventilation and COVID-19 camps. The total number of instances notably increased in 2021 due to the peak of the COVID-19 pandemic, which disrupted regular healthcare services in the private sector.

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