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Geographical study of primary health care center distribution in Nandurbar district

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Abstract

In the 21st century, the standard of living has become fast. Therefore, there is a constant change in people's mindset. In which the health of the people is a major one. Taking care of the health of the people is an important task of the government, for which the government is working to fulfill this responsibility by establishing various health centers in India.

According to national health plan every primary health centers is expected to provide Primary health care services to population of 30,000 in plain and 20,000 in hilly, Tribal and deserts areas and sub-centers service for every 5,000 in plain and 3,000 populations in the hilly, tribal and deserts area.

Nandurbar district area has been selected for present study. Nandurbar district is an administrative district in the northwest corner of Maharashtra state in India. Nandurbar is a tribal-dominated district; therefore, since the population of tribals is more in this area and there is still no health awareness in this society, taking care of their health is an important issue. In this area total 61 primary health center and 290 sub-centre existing. But considering the population of this district according to 2011 census is the number of these health centers sufficient?

Keywords: Health, Nandurbar district, tribal, PHC (primary health center), sub-center (primary health sub-center)

Introduction

Healthy People are the Success of area. That's why Health has been declared as the fundamental right of an individual and the states have been assigned the responsibility for the health of their people. So the central and state governments in India are trying to expand and improve their health care services. However, there is a great rift between the required and available health care facilities in rural and tribal areas. The central government established a norm for the set-up of primary health centers and to provide medical facilities to large number of people. The health planners in India think primary health centers and sub centers as the proper infrastructure to provide health service to the rural and tribal population.

The primary health care infrastructure provides the first level contact between the population and health care providers. A primary health care service centre is an important concern for the increasingly growing population in the rural and tribal area. The health service is directly concerned with human beings. The central government established norms for the set-up of primary health centers to provide medical facilities to large number of people the health planners in India think that primary health centers and sub centers are the proper infrastructure to provide health services to the rural and tribal population.

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Study Area

Nandurbar district area has been selected for present study. Nandurbar district is an administrative district in the northwest corner of Maharashtra state in India. On 1 July 1998 Dhule was bifurcated as two separate districts now known as Dhule and Nandurbar. Nandurbar is a tribal-dominated district; the district headquarters are located at Nandurbar city. Nandurbar district lies between latitudes 21°00'N and 22° 03'N and longitudes between

73°31'E and 74°32'E. Nandurbar district occupies an area of 5,955 Sq.km.

Nandurbar district is bounded to the south and south-east and east by Dhule district, to the west, west - north and north is the state of Gujarat, to the north and north-east is the state of Madhya Pradesh. The northern boundary of the district is defined by the great Narmada River.

The district has a population of 16, 48, 295 persons according to the 2011 census. Nandurbar is a tribal-dominated district therefore According to national health plan every primary health centers is expected to provide Primary health care services to population of 20,000 and sub-center services to population of 3,000 people.

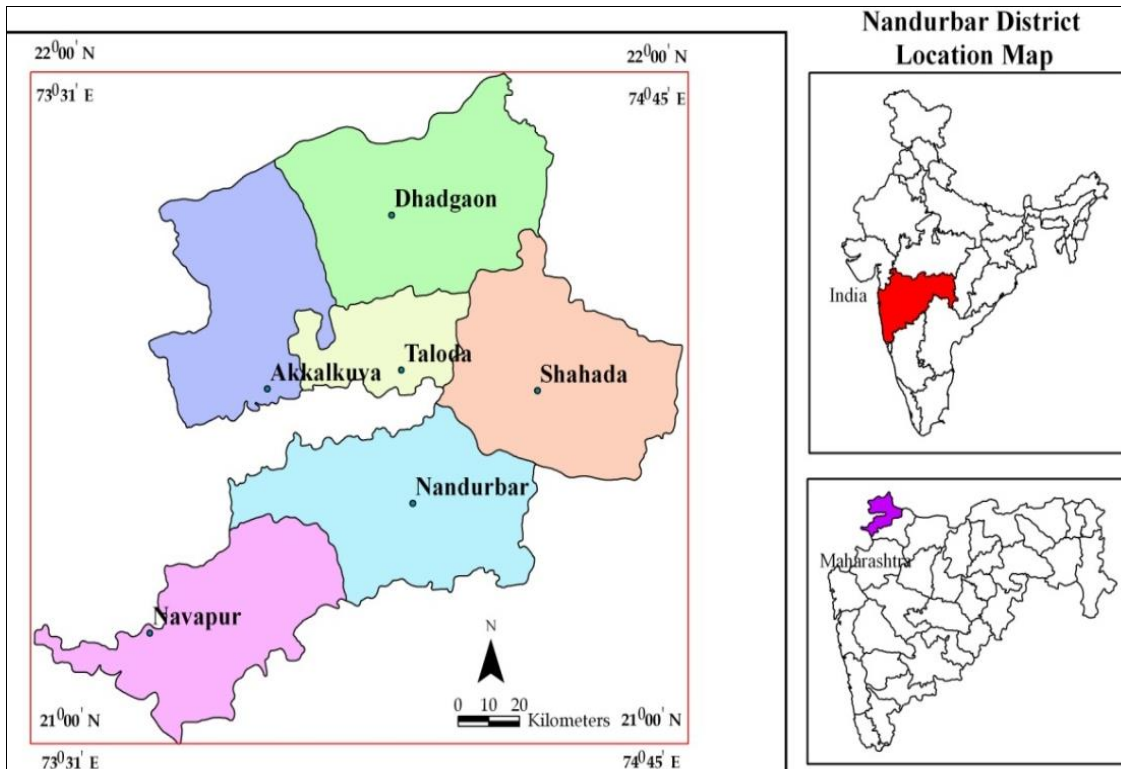


Fig 1: Nandurbar district location map

Objectives

1. To find out the health care services and their adequacy and inadequacy.
2. To access the relationship between the distributions of population and availability of health facilities.

Database and Methodology

The present paper is based on secondary data. The secondary data is collected from district health office and NHRM, Tehsil health office. Population data is collected from census report of the year 2011. Projected population is calculated on the basis of 2011 data. The ratio of primary health centers / sub center and total population is calculated by the following formulas.

Ratio = Total population / number of primary health centers

Primary health centers

The primary health center or primary healthcare center (PHC) is the basic structural and functional unit of the public health services in developing countries. PHCs were established to provide accessible, affordable and available primary health care to people, in accordance with the Alma Ata Declaration of 1978 by the member nations of the World Health Organization (WHO).

Tehsil wise ration of primary health center and population in Nandurbar district

In Study area Nandurbar District consists of 6 tehsil and total 61 PHC. As per national health plan norms, there shall be one Primary Health Center established for every 30,000 population in plain areas and for every 20,000 population in hilly/tribal/desert areas.

Table 1: Tehsil wise ration of Primary Health Center and population in Nandurbar District

Sr. No.	Tehsil	Area	Total Population	PHC	Ratio: Pop. surved 1: 20,000 (As per Tribal Norms)
1.	Akkalkuwa	936.02	245,861	13	18912
2.	Akrani	1,282.31	195,754	13	15058
3.	Nandurbar	1,022.12	367446	07	52492
4.	Nawapur	1,030.23	271852	09	30205
5.	Shahada	1,181.27	407728	14	29123
6.	Taloda	452.94	159654	05	31930
	Total	5,955.00	1,648,295	61	27021

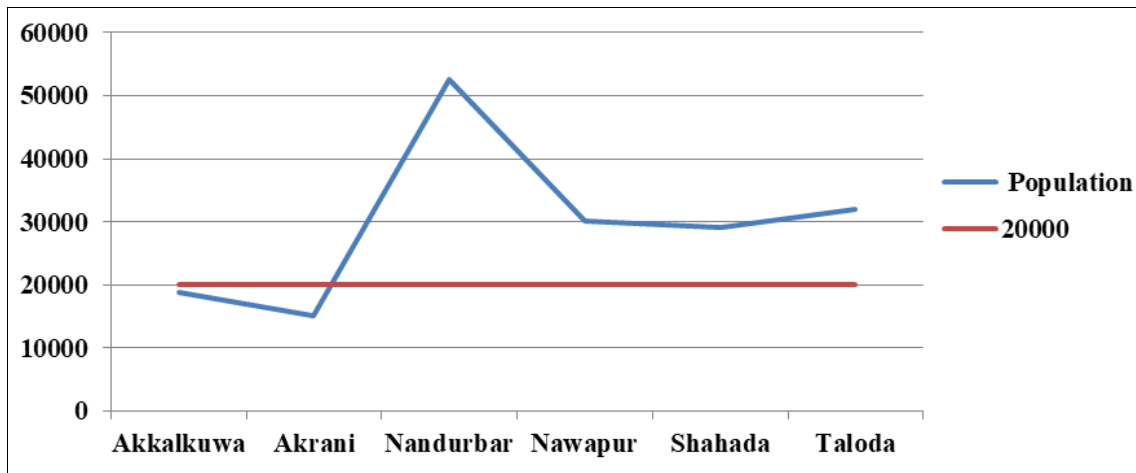


Fig 2: Tehsil wise ration of primary health center and population in Nandurbar district

An Analysis of the above chart and graph shows that, the primary health centre are much less in number then the required for the populations served by per primary health centre in Akkalkuwa and Akrani tehsil is laser than the norms. But the number of health care centers available to

the population in 4 tehsil of Nandurbar district is less. In Nandurbar tehsil 2.5 times more population than the norms and in Nawapur, Taloda, and Shahada tehsil about 1.5 times more population than the norms. It is not suitable for the health care of the people there.

Table 2: Tehsil wise existing number of PHC and required number of PHC in 2011 in Nandurbar district

Sr. No.	Tehsil	Area	Total Population	Existing No. of PHC in 2011	Required no. of PHC in 2011 (As per Tribal Norms)
1.	Akkalkuwa	936.02	245,861	13	12
2.	Akrani	1,282.31	195,754	13	10
3.	Nandurbar	1,022.12	367446	07	18
4.	Nawapur	1,030.23	271852	09	14
5.	Shahada	1,181.27	407728	14	20
6.	Taloda	452.94	159654	05	8
	Total	5,955.00	1,648,295	61	82

Analysis of the above table shows that as per the National Health Plan, each PHC is expected to provide health care to 20000 people in these tribal areas. But only two taluks in Nandurbar district which has 6 tehsils including Akkalkuwa and Akrani tehsil have seen the completion of implementation of National Health Scheme or the number of PHC is complementary to its population. But Nandurbar, Nawapur, Shahada taluks of Nandurbar district do not fulfill these criteria. Therefore, the number of PHCs in these four tehsils is expected to increase by 25 PHC as per the criteria.

Sub-Center

In the public sector, a Health Sub-centre is the most

peripheral and first point of contact between the primary health care system and the community. A Sub-centre provides interface with the community at the grass-root level, providing all the primary health care services. It is the lowest rung of a referral pyramid of health facilities consisting of the Sub-centers, Primary Health Centers,

Tehsil wise ration of Sub-center and population in Nandurbar District

As per population norms, there shall be one Sub-centre established for every 5000 population in plain areas and for every 3000 population in hilly/tribal/desert areas.

Table 3: Tehsil wise ration of Sub-center and population in Nandurbar district

Sr. No.	Tehsil	Area	Total Population	Sub Center	Ration: Pop. Surved 1: 3000 (As per Tribal Norms)
1.	Akkalkuwa	936.02	245,861	61	4030
2.	Akrani	1,282.31	195,754	50	3915
3.	Nandurbar	1,022.12	367446	43	8545
4.	Nawapur	1,030.23	271852	46	5909
5.	Shahada	1,181.27	407728	63	6471
6.	Taloda	452.94	159654	27	5913
	Total	5,955.00	1,648,295	290	5683

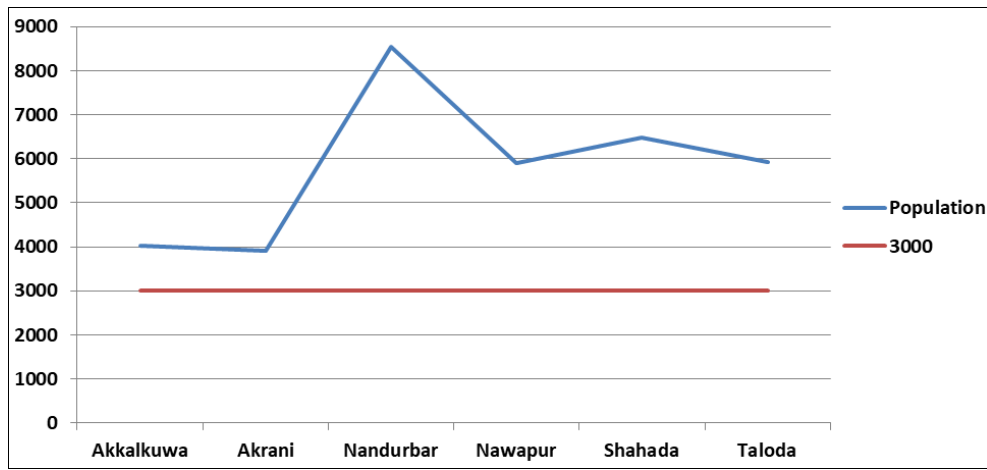


Fig 3: Tehsil wise ration of Sub-center and population in Nandurbar district

Analysis of the above table and graph shows that, as per the National Health Plan, Nandurbar district has an average population of more than 5000 followed by one sub-centre. This is almost double as norms. In Nandurbar tehsil area this

number is almost 3 times higher and Taloda, Nawapur and Shahada tehsil areas have 2 times more population per health center. Akkalkuwa and Akrani tehsil areas show somewhat more population.

Table 4: Tehsil wise existing number of Sub-center and required number of Sub-center in 2011 in Nandurbar district

Sr. No.	Tehsil	Area	Total Population	Existing No. of Sub-center in 2011	Required no. of Sub-center in 2011 (As per Tribal Norms)
1.	Akkalkuwa	936.02	245,861	61	82
2.	Akrani	1,282.31	195,754	50	65
3.	Nandurbar	1,022.12	367,446	43	122
4.	Nawapur	1,030.23	271,852	46	91
5.	Shahada	1,181.27	407,728	63	136
6.	Taloda	452.94	159,654	27	53
	Total	5,955.00	1,648,295	290	549

From the above table it can be seen that, the number of sub centers available in Nandurbar district is almost half as per population. Therefore, there is a requirement of 259 sub-centers in almost all taluks of the district. As per national health care mission this situation is dangers for the health care in district population.

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Conclusion

As per Norms the requirement of a primary health center per 20,000 population in area that means the ration 1:20,000. But in Nandurbar district is great rift between the required and available health care facilities in the study area.

As compare to above said ratio only Akkalkuwa and Akrani tehsil has higher ratio between PHC and Population 1:18912 and 1:15058 respectively. Because this tehsil have covered by mountain areas and they more schedule tribes' population than other tehsils in Nandurbar district.

As compare to above say no anyone tehsil ratio match between Sub-center and total Population in Nandurbar district.

It is clear that there is necessity of introducing planning and increase ratio between health care center and population as per norms.

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