

Association Amongst the Diseases in the Tribal area of Nasik District, Maharashtra (India)

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Abstract

Diseases are the result of a complex interaction of physical, biological, and economic variables. The term "disease association" refers to the occurrence of two diseases more frequently than would be predicted by chance. To put it another way, diseases are said to be linked when they occur more frequently than one could predict by coincidence. The primary goal of this study is to evaluate the disease association with correlation coefficient in the study region. Total of 115 villages are chosen and 23 villages from the list of ITDP villages have randomly chosen for sampling survey. By using a probability proportional size of the various tribes, a total of 10 households (HHs) from each chosen village have been covered. For all disorders, the correlation co-efficient value computed is 0.019. As a result; they have a strong relationship with one another. Gastroenteritis, typhoid, dysentery, and amoebiasis are closely linked to nutritional deficiency diseases such as anaemia and malnutrition.

Keywords: disease association; ranking; co-efficient; correlation; morbidity

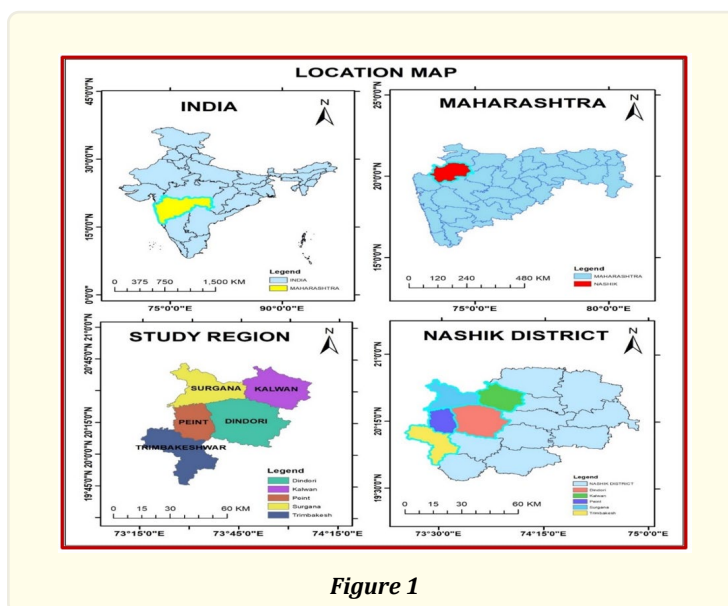
Introduction

A correlation matrix is created to better understand the influence of some factors on disease occurrence. The most prevalent kid morbidities include diarrhoea, severe respiratory tract infections, and malnutrition. Acute respiratory infections (ARIs) are among the top causes of death in children under the age of five. Diarrhoea is the second largest cause of death in children under the age of five. (Park, K & Parks. -2007). Intestinal disorders such as dysentery, leprosy, anemia, sickle cell, gastro and digestive diseases are among them. Other diseases account for a small percentage of morbidity cases. (Jelliffe, D.B.-1966).

According to the total number of morbidity cases of hyper tension, dysentery, scabies, anemia, amoebiasis, fever, malaria, gastro, diarrhea, and malnutrition are the most common diseases in the research area. All of the diseases prevalent in the area are divided into six categories. The disorders in the first three orders are regarded as significant illnesses. Hyper tension, scabies, diabetes mellitus, malaria, diarrhea and typhoid are among the diseases covered. The disorders that fall into the fourth order have a moderate level of morbidity (Suryawanshi D. S.2021).

Study Region

The study area is located in the north-western part of the Nashik District. It extends from 19° 44' 57" to 20° 43' 55" north latitudes and 73° 14' 05" to 73° 06' 57" east longitudes. Study area covers an area of 4581.98 sq. km., which is 29.40 % of the geographical area of the district. It is surrounded by Deola and Chandwad tehsil in the east and the north-east, Gujrat state in the north, Palghar districts of Maharashtra State to the south-west, Igatpuri tehsil to the south. It consists of 05 tehsils, namely Peint, Dindori, Surgana, Kalwan and Trimabkeshwar. The population of the region is 976092. It includes 760 villages and 40 PHC. (Wetal J. D. & Suryawanshi D. S.2021).



Objective

The primary goal of this study is to evaluate the disease association in the tribal area of north-western part of the Nashik District. The objectives are kept in mind in order to achieve the study's goal. Such as search the association and correlation coefficient of diseases in the study region.

Material, Methods & Samplings

Through the sample village survey, total of 115 villages are chosen and 23 villages from the list of ITDP villages have randomly chosen in each Tehsil for 2021. By using a probability proportional to the size of the various tribes, a total of 10 households (HHs) from each chosen village have been covered in June 2021. For this reason, households in each village are divided into groups based on tribe and the necessary numbers of households from each tribe are included in the survey. A percentage of primary health centres categorized according to relief units and disease association classes in order to consider the extent of disease incidence. In order to figure out link amongst various diseases correlation co-efficient values are produced with the use of various simple soft wearers of the computer analysis i e. calculation, ranking, percentage.

Result and Discussion

It may be pointed out here that, the lower the ranking of co-efficient values, higher the disease association and higher the ranking of co-efficient value, the lower the disease association. The correlation co-efficient values are generated with the aid of a computer in order to find out, if there is a link between various diseases. It is no other co-relation of coefficient is more than 05, the correlation matrix 0.019 clearly shows that, the occurrence of a given disease is not linked to any single factor. This suggests that the prevalence of disease is a result of the interaction of all causes.

Association of typhoid with malaria

Typhoid and malaria shows close association, this association explained by the value of correlation of co-efficient 0.083. Typhoid and the malaria plasmodium both have societal factors that play a role in their propagation. As a result, someone living in such an environment is at risk of developing both diseases, either simultaneously or as an acute infection on top of a chronic infection.

Association of hepatise with typhoid

Hepatise and typhoid shows close association, this association explained by the value of correlation of co-efficient 0.192. Typhoid fever is a tropical infectious disease with a high rate of morbidity and fatality. Hepatomegaly and mildly disturbed liver functions are common side effects of typhoid fever; severe hepatitis is an uncommon consequence.

Association of amoebiasis with diarrhoea

Amoebiasis and diarrhoea shows close association, this association explained by the value of correlation of co-efficient 0.408. The term 'amoebic' refers to the amoeba e. histolytic, which causes colitis. The condition is usually minor, causing only stomach (abdominal) pain and diarrhoea. In certain patients, however, more acute inflammation with ulceration of the intestinal lining might ensue, resulting in 'amoebic dysentery.

Association of hypertension with tuberculosis

Hypertension and tuberculosis shows close association, this association explained by the value of correlation of co-efficient 0.562. Although lifestyle variables are known to influence the risk of hypertension is a chronic infection such as tuberculosis (TB) may also play a role in the development of these diseases in distinct ways.

Association of dysentery with anaemia

Dysentery and anaemia shows close association, this association explained by the value of correlation of co-efficient 0.528. Anaemia production is disrupted by dietary abnormalities in people with dysentery.

Association of malnutrition with leprosy, sickle cell and diarrhoea

Leprosy and malnutrition shows close association, this association explained by the value of correlation of co-efficient 0.236. In the present research looking into the link between socioeconomic conditions and leprosy, food scarcity was linked to the disease. Due to a lack of nutrition, the immune system may be harmed, and the progression of infection to clinical leprosy may be slowed.

Sickle cell and malnutrition shows close association, this association explained by the value of correlation of co-efficient 0.328. Tribal population were prone to sickle cell because of malnutrition. A marked relationship had been established between genetic mutation and malnutrition diarrhoea and malnutrition shows close association, this association explained by the value of correlation of co-efficient 0.356.

Conclusion

The correlation of all illness co-efficient values is greater than 0.5, indicating that disease occurrence in the region is more than 30% explainable and meaningful. The correlation matrix clearly shows (Table No 1) that, intestinal disorders such as typhoid, hepatitis, amoebiasis hypertension, dysentery and malnutrition are closely linked to nutritional deficiency diseases such as leprosy, sickle cell, anemia, tuberculosis, and diarrhea and typhoid disease.

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