THE OUTBREAK OF CHOLERA IN TAMILNADU HAS NOT SUBSIDED FOR THE LAST 3 YEARS. (STUDY OF CHOLERA OUTBREAKS AND PREVENTIVE MEASURES IN TAMILNADU - 2010,2011 AND 2019)

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Abstract

Relevance:

Humanity has suffered from devastating cholera outbreaks from time to time throughout its history. All cholera pandemics spread around the world from the Ganges Valley, where the disease has been well known since antiquity. Climatic and geographical features, such as constant heat, pollution of river waters and mass congestion of people near rivers during ceremonies like Kumbha mela, contributed to the spread of the disease across the Indian subcontinent.

There are many infections known from history that threatened civilization with even greater force, one of them is cholera.

India is one of the tropical countries due to its high population, intestinal diseases are one of the problems faced by the health sector. The state has developed effective measures together with health officials to prevent outbreaks and control the most common intestinal infections. On the one hand, the dense population and on the other hand, the climatic and geographical features of the countries of India present some difficulties in the prevention and prevention of a number of infections.

In this country, the most common diseases are amoebiasis, colitis, salmonellosis, typhoid fever, parasitic infections - ascariasis, giardiasis and cholera, despite the preventive actions of the government.

In 2010,2011 and 2019, there were high outbreaks of cholera in Tamil Nadu due to the fact that Tamil Nadu is highly susceptible to cyclones and floods, as a result of which many stagnant reservoirs have become a breeding ground for water-borne diseases such as cholera.

Cholera outbreaks have recently become less frequent due to measures taken by the Government of Tamil Nadu. However, in 2010,2011, and 2019-year outbreaks require more thorough analysis and surveys to prevent further spread of infection.

The population of the state is 721 47 030 people. Diarrheal diseases were common every year in India, where in the state of Tamil Nadu, Villupuram district, there is no total. Of the 163841 reported in 2019, this was one of the highest rates. In the period from 2010 to 2012 (for research purposes, the decade from 2010 to 2020 was taken for cross-examination), the incidence of cholera was the highest, until 2018, a total of 194 cases were registered. In 2019, there was a sudden outbreak of 293 cases in Tamilnadu due to severe floods in India.

Keywords: Cholera, Tamil Nadu, Nilgiris, India, Diarrhea, floods, Cyclones, Schemes.

Goal: The main purpose of this work is to analyze the causes, methods adopted by the Government to eradicate it, and further ideas on how other countries can prevent the spread and effective treatment of cholera.

Ethics: Permission to conduct the study was issued by Osh State Medical University, Kyrgyzstan.

Materials and methods:

Primary data were collected from surveys conducted by the state government on common cases of acute diarrheal diseases that were not gender-specific.

Secondary data from articles published on state health websites, news channels about the extent of damage caused and previously published articles by the authors.

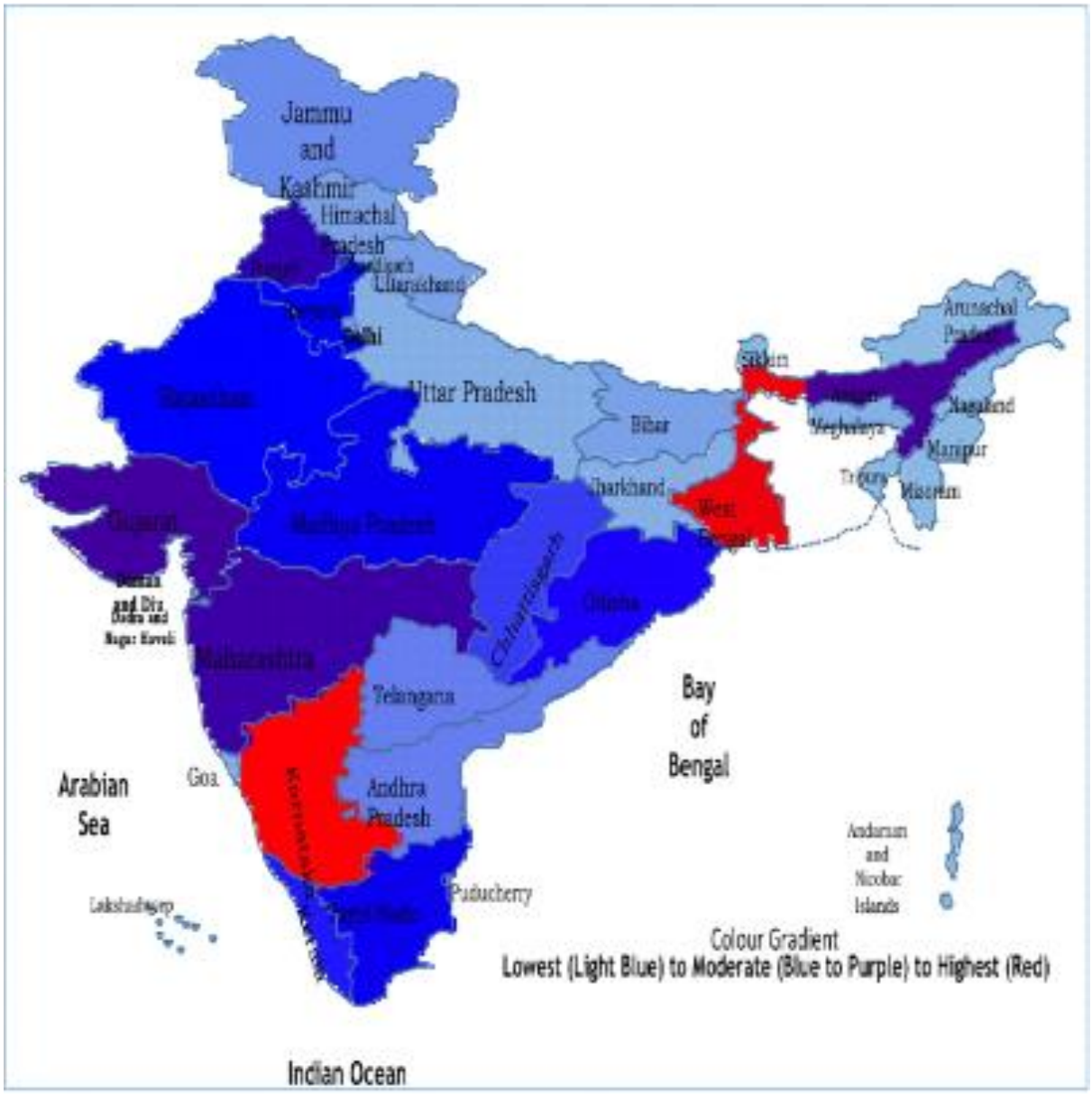
Geographical area, seasonal and cyclical trends were analyzed using data for the period from 2010 to 2020.

Statistical analysis has been carried out, and chart tables are used to display data trends during cyclical changes.

Results and discussions

Tamilnadu is an area prone to tropical cyclones, usually originating from the Indian and Pacific Oceans due to a system of winds rotating counterclockwise in the center of low pressure, most often from the Bay of Bengal, as soon as it reaches land - heavy rains and storms manifest, leading to the loss of homes and crops. Karnataka and West Bengal were the most affected, with the highest foci of acute cholera outbreaks. While Gujarat, Punjab, Maharashtra and Assam are for moderate outbreaks with Tamil Nadu in the less moderate affected region.

CHOLERA:



CHOLERA OUTBREAKS FROM IDSP DATA FROM THE YEAR OF 2007 TO 2015

KARNATAKA AND WEST BENGAL WAS THE HIGHEST AFFECTED WITH THE HIGHEST HOTSPOTS FOR ACUTE CHOLERA OUTBREAKS. WHILE GUJARAT, PUNJAB, MAHARASTRA AND ASSAM FOR MODERATE OUTBREAKS WITH TAMILNADU IN THE LESS MODERATE AFFECTED REGION.

2010-2015 CUMULATIVE DATA OF CASES AND DEATHS CAUSED BY CHOLERA IN INDIA

STATE	NO. OF DISTRICTS	AREA	POPULATION	NO OF DISTRICTS WITH CHOLERA	NO. OF YEARS AFFECTED	TOTAL NO OF CASES
ANDAMAN AND NICOBAR	3	8252	379944	0	0	0
ANDRA PRADESH	13	161290	49378776	2	2	45
ARUNACHAL PRADESH	16	90090	138611	0	0	0
ASSAM	27	84880	31169672	12	5	2526
BIHAR	38	96745	103804637	2	1	41
CHANDHIGARH	1	118	1054686	1	3	39
CHHATISHGARH	18	136936	25540196	6	4	937
DADARA AND HAVELI NAGAR	1	494	342853	1	2	15
DAMAN AND DIU	2	109	242911	0	0	0
GOA	2	3627	1457723	1	1	97
GUJARAT	26	186302	60383628	12	6	1842
HARYANA	21	44108	25353081	8	5	1451
HIMACHAL PRADESH	12	55726	6856509	1	1	235
JAMMU AND KASHMIR	23	222363	12548926	2	2	2467
JHARKHAND	24	82172	32966238	0	0	0
KARNATAKA	30	191707	61130704	23	6	3284
KERALA	14	38809	33387677	3	4	237
LAKSHADWEEP	1	664	64429	0	0	0
MADHYA PRADESH	50	309061	72597565	4	3	995
MAHARASHTRA	35	307880	112372972	14	6	1422
MANIPUR	9	24412	2721756	0	0	0
MEGHALAYA	7	23976	2964007	0	0	0
MIZORAM	8	22908	19091014	0	0	0
DELHI	9	1504	16753236	2	1	100
NAGALAND	11	18229	1980602	0	0	0
ODISHA	30	159600	41947358	7	4	1160
PUDUCHERRY	4	504	1244464	1	2	17
PUNJAB	20	50393	27704236	9	6	2122
RAJASTHAN	33	342598	68621012	7	4	1607
SIKKIM	4	7449	607688	0	0	0
TAMILNADU	32	130238	72138958	16	5	677
TELUNGANA	10	115159	35286757	2	2	358
TRIPURA	4	11217	3671032	0	0	0
UTTAR PRADESH	71	242646	199581477	0	0	0
UTTARAKHAND	13	53877	10116752	1	1	27

TAMILNADU CONTRIBUTED 5.96% CASES IN THE OVERALL CHOLERA CASES IN INDIA DURING THE YEARS OF 2009 TO 2017. TAMILNADU HAS ONE OF THE LARGEST POPULATIONS IN INDIA – 6TH RANKING (IN ALL OF INDIA), HAVING SUCH A LARGE POPULATION HOW DID THE STATE GOVERNMENT MANAGE TO CONTROL WITH VERY SMALL OUTBREAKS AND LACK OF SIGNIFICANT DEATHS.

Cholera cases in Tamilnadu 2010-2019

YEARS	CASES	DEATHS
2010	**932**	**1**
2011	**580**	**0**
2012	**516**	**0**
2013	**146**	**0**
2014	**18**	**0**
2015	**26**	**0**
2016	**4**	**0**
2017	**0**	**0**
2018	**0**	**0**
2019	**293**	**0**

Serotypes:

There are more than 200 serotypes for cholera, O1 and O139 Strains are the Most Common Cause of Epidemics and Outbreaks. In 2010, Theni District Had an Outbreak due to the biotype of O1- El Tor, Ogawa Serotype. 2011 and 2019 outbreaks Reported are of The El Tor biotype. Before 2000's India Experienced From the Classical Biotype From O1.

The No. Of Deaths due to Cholera during the Decade of 2010 to 2019 has been close to zero due to The Medical System of The State of Tamil Nadu. Development has been Shown In the Medical System By Adopting Guidelines From World Health Organization (WHO) and Introduction of New Schemes and Awareness Programs.

Symptoms Of Cholera:

An Infected Person Might Have Mild to No Symptoms but sometimes Severe Symptoms Such as Vomiting, "Rice Water" Diarrhea Which Leads to Dehydration and Finally-Hypovolemic Shock. As a Result, Rehydration Therapy is Priority to Save the Person.

In 2010, the National Disaster Management Authority of India warned the states of Tamil Nadu, Andhra Pradesh and Puducherry about Cyclone Jal. The authorities were stationed from Vijayawada to Nellore. But despite the notice, the coastal areas of Karnataka and Tamilnadu were affected due to heavy rains caused by Cyclone Jal. According to the results of statistical processing, it was known that about 3 thousand hectares of crops were damaged, and people were left without means of livelihood, 36 people died due to the cyclone in the Costal and Rayalasima regions of the state of Andhra Pradesh. This led to stagnation of water in reservoirs, which became a breeding ground for cholera. AndraPradesh suffered the most, where the central Government offered the families of the victims social and humanitarian assistance.

In 2011, an outbreak in the shadow area was caused by untreated municipal water supply, samples were taken from suspected cholera. In the autumn of this year, the entire Tamilnadu region was further affected by Cyclone "Thane". According to the results of the surveys, about 33 people died, 21 deaths were registered in Kaddalore district, while 6 deaths occurred in Villupuram-2, Tiruvallur-2 and Chennai-1.

This outbreak not only caused damage to health, but also damaged rice crops with an area of about 25 thousand acres in the Kaveri Delta area.

Temporary aid camps were set up due to the fact that the roofs were blown off by a strong storm wind, people were forbidden to visit the marina beach, as sea waters penetrated deep into the island about 500 meters from the coastline.

In 2019, heavy rainfall was recorded in the region of southern India. Especially in the state of Tamilnadu, while in neighboring regions such as Pondicherry, Karnataka-Bangalore, moderate rainfall has fallen.

It was dubbed the "great floods in India" of 2019 due to the fact that many states faced floods. A series of floods that affected more than 13 states in early July and August due to excessive rains.

The death toll across India was about 1,600.

* Flooding was reported in some areas of Nagapatinam, Tuticorin and Cuddalore. heavy rain also caused flooding in cities in Chennai districts.

* there were warning levels at Bhavanisagar dam (destruction), Kallar River in Odendurai (Coimbatore) - 331 meters.

* In Tamil Nadu, Nilgiris district was the most affected region. where 1,700 people were evacuated from dangerous areas.

Standing reservoirs are treated with chlorine (chlorine concentration * contact time = disinfection level), pipeline supply - 0.5 mg/l, risers and wells - 1.0 mg/l, tanker highways - 2.0 mg/l.

the municipality sending the water supply processes it for public use and regularly disposes of waste to avoid contamination, reproduction and leakage of toxic materials.

Conclusions:

The climate cannot be controlled, but how we act in this regard matters, we can be prepared for this based on areas at high risk, with the necessary amenities for people to overcome the consequences of natural disasters.

Despite the fact that the government had so many achievements, there was a lack of efficiency between the various levels of hierarchy in the government.

GARBAGE DUMP IN VELLALORE

Despite the fact that the government is spreading awareness about health and hygiene, all municipal waste is handled with inadequate care, for example, this is a garbage dump in the Vellalore area, in the Coimbatore area for 4 years; during travel, the air is filled with a stench when you pass through this area - Vellalore. Young children play in the garbage fields, finding new things that they can sell and earn money of about 10-20 rupees a day. Skinny bodies with malnutrition-that was their livelihood. "one person's trash is another's treasure." when asked, employees don't take responsibility and point in a different direction. 10 rupees. It was enough to fill our stomach in Amma's unawagam.

Due to cyclones and precipitation, water accumulates in pits, on vacant lots and sites. especially in areas that tend to accumulate water due to their low terrain. The situation has become favorable for the reproduction of vectors. to avoid this, we have to fill up stagnant reservoirs with soil.

To prevent the bacteria from spreading, all feces (human waste) from sick persons should be thrown away carefully to ensure it does not contaminate anything nearby.

Based on the topography of the region and precipitation, urban, suburban, rural areas; statistical data can be analyzed to determine the most likely regions that can lead to the formation of stagnant reservoirs and regions for the reproduction of vector-borne diseases or organisms that cause water-borne diseases.

The settlement and increase of the green cover in the regions will lead to better water seepage to the ground level, prevention of soil erosion and conservation of biodiversity.

ORS packages can be offered as a region-specific scheme for the treatment of acute diarrheal diseases, especially in families with newborns under 5 years of age.

To some extent, it was cholera that caused the appearance of plumbing and sewerage, because clean water turned out to be the most effective remedy against the disease.

Ironically, the cure for cholera is elementary. to prevent the body from dying from dehydration, you should simply replenish the lost fluid. clean water with a pinch of salt would reduce mortality from 50 to just over one percent.

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