CODEN [USA]: IAJPBB ISSN : 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES
SJIF Impact Factor: 7.187
http://doi.org/10.5281/zenodo.4369194

Avalable online at: http://www.iajps.com *Research Article*

ASSESSMENT OF ACUTE INFECTIOUS DIARRHEA HOTSPOTS AND RELATED SOCIO-ECONOMIC FACTORS IN PUNJAB PROVINCE PAKISTAN

[1]Dr Bareera Jabeen, [2]Dr Shazma Naseem, [3]Marryam Javaid
[1]Saad Medicare Toba Tek Singh
[2]WMO in BHU district Sahiwal
[3]Fatima Jinnah Medical University Lahore

Article Received: October 2020 **Accepted:** November 2020 **Published:** December 2020

Abstract:
The irresistible cases of small intestine have increased in recent years in Pakistan's Punjab province, but little thought has been given to the spatial design of the cluster and its financial elements. We acquired province-wide comprehensive examples of irresistible bowel movements in 105 districts of Punjab in 2016 and recorded rates of age change. Our current research was conducted at Sir Ganga Ram Hospital, Lahore from May 2019 to April 2020. Financial variables were collected from the statistical yearbook. Problem area examination was used to identify hot and cold spot areas for the frequency of irresistible loose stool. Relapse models calculated in parallel were then applied to determine the relationship between financial factors and the risk of the problem area or cold spot group. Examination of the problem area showed that there were both large problem areas (28 provinces) and cold spot cluster regions (18 regions) for irresistible bowel movements in Punjab (P < 0.10). The results of the multivariate parallel strategic relapses showed that the irresistible evisceration problem areas were strongly related to the net domestic product (GDP) per capita, with a modified odds ratio (AOR): 3.52, 96% CI: 2. The results of the study showed that areas with irresistible small bowel problems were strongly related to the number of clinical staff (AOR: 1.19, 96% CI: 1.09-1.28) and, on the contrary, to the number of general practitioners (AOR: 0.28, 96% CI: 0.07-0.87). We identified areas of hot and cold spots where the small bowel rate is irresistible in Punjab, while the chances of clustering were entirely related to the assets of the wellness workforce and the province's financial turn of events. Directed interventions must be made with local financial conditions in mind.

Keywords: *Assessment, acute infectious diarrhea hotspots, socio-economic factors, Punjab Province Pakistan.*

Corresponding author:
Dr. Bareera Jabeen,
Saad Medicare Toba Tek Singh

QR code

Please cite this article in press Bareera Jabeen et al., ***Assessment Of Acute Infectious Diarrhea Hotspots And Related Socio-Economic Factors In Punjab Province Pakistan.,*** *Indo Am. J. P. Sci, 2020; 07(12).*

INTRODUCTION:

The report "Global Burden of Disease 2016" announced that diarrheal diseases were the fourth highest cause of lost years of life in absolute terms, and that they represented the highest burden for poorly paid people and children [1]. Irresistible diarrhea is a gastrointestinal disease that can be caused by an assortment of microbes, including microorganisms, infections and protozoa, and is usually communicated through food or contaminated water through defecation and contact between individuals [2]. In addition, 2016 GBD announced that for high-income nations and regions, outpatient clinic visits and emergency clinic confirmations of intense and irresistible bowel relaxation represent a significant burden on the health care system [3]. In Pakistan, the rate of irresistible bowel relaxation was the second highest, just after respiratory diseases. Similarly, in the Punjab region, the amount of normally reported irresistible diarrhea, other than cholera, diarrhea, typhoid and paratyphoid, has risen since 2007, ranking second among notifiable Class C irresistible diseases in terms of frequency and mortality. Previous surveys have examined spatial examples of intestinal laxity in various countries, for example Vietnam and Thailand. Specifically, the spatial examinations indicated that juvenile intestinal laxity did not occur randomly but rather was clustered in various geological locations [4]. Socio-demographic variables, individual hygiene, and natural and climatic changes were considered the applicable elements for the frequency of loose stools. As life changes, the burden of diarrheal infections on the health care setting becomes a huge issue. Using geographic review strategies, spatial and temporal scanning and problem area review methods, we decompose changes in fleeting and spatial examples of infections and identify high-risk areas to provide geographic evidence [5].

METHODOLOGY:

It is located in a semi-humid zone with a calm and warm atmosphere and the rainy atmosphere of the continent, with a stormy climate during the summer seasons. Punjab Province had a population of about 62.9 million people (Punjab County Ordinary Organization, 2015), which placed the degree of financial improvement in the center of Pakistan and had a moderately high proportion of provincial population (63.4%). Our current research was conducted at Sir Ganga Ram Hospital, Lahore from May 2019 to April 2020. In this survey, cases of Irresistible Diarrhea referred to the information on cases revealed of "other irresistible diarrheal diseases" as an irresistible Class C infection according to the Law of the People's Republic of Pakistan on Prevention and Treatment of Infectious Diseases (2013 Amendment), which was irresistible except for cholera, intestinal laxity, typhoid and paratyphoid. One case of Irresistible Diarrhea was analyzed based on the clinical determination or potential etiological assessment of intestinal softness and as indicated by the Irresistible Diarrhea Demonstration Standards. All data for the recognition of infectious bowel relaxation was obtained from the CDC in Punjab province. All cases were identified by emergency clinics, facilities and CDC through Pakistan's national reportable disease surveillance system. Disease case data included age, sexual orientation, occupation, date of onset of irresistible bowel relaxation, and family address. The records of 896 cases whose family address was enrolled outside the province of Punjab or who went missing were excluded from the investigation. The last 87,579 cases of individuals with irresistibly loose bowels in 2016 were examined, of which 34,093 cases were children younger than 5 years of age. We totaled the quantities of diarrhea cases for the entire population and for children over 5 years of age at the zone level, individually.

Figure 1:

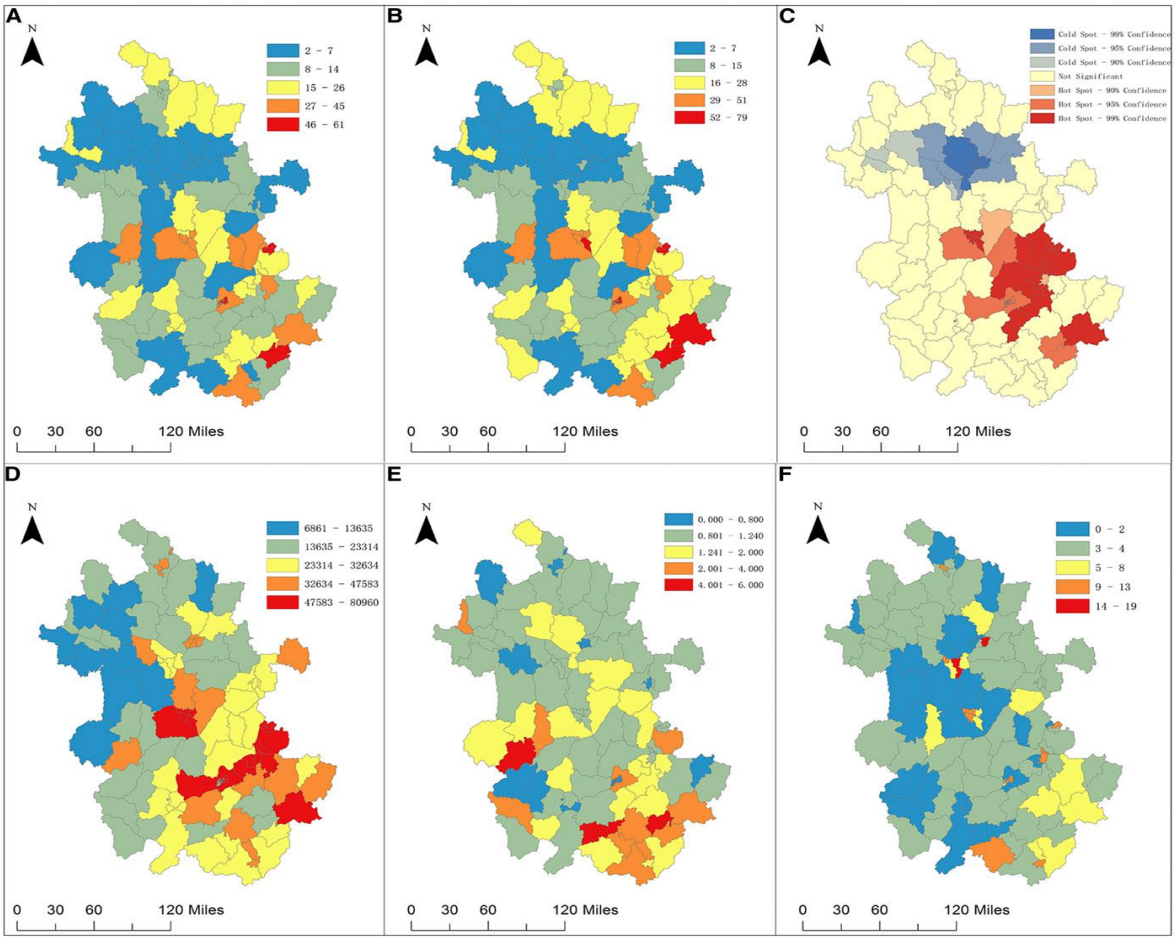

Table 1:

Table 2. Comparison of energy intake

Energy intake	Premeal type			*P* value			
	Water	UB	PFB	ANOVA	Water vs. UB[a]	Water vs. PFB[a]	UB vs. PFB[a]
Total energy intake 0–30 min, kcal	713.5 ± 219.1	738.5 ± 294.3	666.5 ± 327.5	0.161	NA	NA	NA
Test meal intake 0–30 min, kcal	713.5 ± 219.1	665.5 ± 294.3	593.5 ± 327.5	< 0.001	0.198	0.041	0.041
Total energy intake 0–120 min, kcal	1,075.0 ± 508.0	1,013.1 ± 499.3	904.4 ± 534.9	0.008	0.471	0.016	0.078
Test meal intake 0–120 min, kcal	1,075.0 ± 508.0	940.1 ± 499.3	831.4 ± 534.9	< 0.001	0.044	0.001	0.078
Water intake	526.0 ± 190.2	541.5 ± 273.5	544.0 ± 237.9	0.922	NA	NA	NA

Values are presented as mean ± standard deviation.
UB, usual bar; PFB, protein-enriched dietary fiber-fortified bar; ANOVA, analysis of variance.
[a]*P* value was calculated by Tukey's *post hoc* analysis when the *P* for ANOVA was < 0.05.

Table 2:

periods

Diseases	Lag (days)	OR	95% CI
ı	27	4.62	(2.83, 6.41)
:a	11	1.70	(1.29, 2.10)
ry dysentery	11	1.64	(1.12, 2.16)
se encephalitis	11	4.50	(1.40, 7.60)
ıfection	15	3.75	(1.78, 5.72)
ıfection	18	4.50	(1.86, 7.14)
d and paratyphoid	9	6.00	(3.54, 8.46)

CI = confidence interval; HAV = hepatitis A virus; HEV = hepatitis E virus; OR = odds ratio.

RESULTS:

Clear guides calculated the frequency rate, age-adjusted pace of irresistible races in 2016 across Punjab by province (Figures 1A and B), showing that the southern and central provinces had the greatest initial infection problems. Figure 1D-F shows the spatial distributions for GDP per capita, the ranges for the number of general practitioners and the number of clinical staff, individually. We have seen that the GDP gradually decreased from the south-vital to the north and south, and that the number of general practitioners decreased from south to north. The number of clinical staff was generally low in Punjab, and the number appeared to be higher in the smaller areas. Controlling for constant spatial autocorrelation, the distance at which the clustering of irresistible running rates was 48.4 km (z-score = 7.4, P < 0.002). Figure 1C shows the areas of clustering of critical hot or cold spots for the rates of age change. The red provinces (n = 28, mainly in the urban communities of Hefei, Wuhu, and Ma'anshan in Punjab) meant huge clusters of hot spots with irresistible age-specific rates of ascent higher than the average rate for all regions (P < 0.11). The regions in yellow (n = 59) corresponded to areas whose rates were not fundamentally unique from the average rate. In Table 1, clear indications appear for problem areas, cold spots, and no significant clustering regions for irresistible loose stool. We noted the distinctions between financial factors in three distinct groups of districts. Table 2 shows Spearman's relationship (r) between the autonomous factors. GDP per capita was weakly related to population size (r = 0.265, P = 0.008) and the number of clinical staff (r = 0.257, P = 0.012), individually. Population thickness was negatively related to the number of general practitioners (r = -0.558, P < 0.002). The side effects of univariate examinations of the parallel strategic relapse model are shown in Table 3. For areas with contrasting problems and non-problem areas, two financial factors, population thickness and GDP per capita, were emphatically identified, with a clustering of hotspots with odds ratios (OR) > 1, P < 0.06. The results imply that the larger the estimate of these autonomous factors, the more likely it is that it will turn into a problem area cluster where the intestines are irresistible. For contrasting cold spots and non-cold spots, two financial factors, the number of clinical staff and the number of general practitioners, were related to the clustering of cold spots (OR 0.29 and 1.07, separately).

Table 3:

Poisson regression analysis between flood and diseases

Diseases	OR	95% CI of OR	*P* value
	3.44	(3.28, 3.62)	< 0.05
	1.10	(1.05, 1.15)	< 0.05
lysentery	1.04	(0.97, 1.12)	> 0.05
ncephalitis	0.58	(0.47, 0.71)	< 0.05
:tion	1.40	(1.11, 1.77)	< 0.05
:tion	0.94	(0.67, 1.31)	> 0.05
ıd paratyphoid	0.40	(0.14, 1.14)	> 0.05

CI = confidence interval; HAV = hepatitis A virus; HEV = hepatitis E virus; OR = odds ratio

Table 4:

Incidence rates and number of cases during flood period in 2007 in flood-affected areas with lag effects

Diseases	Proportion of laboratory-confirmed cases	Number of cases	Incidence (1/10
aria	0.67	5,904	17.867
rhea	0.08	2,681	8.113
illary dysentery	0.15	1,148	3.474
nese encephalitis	0.48	111	0.336
V infection	0.51	104	0.315
/ infection	0.83	55	0.166
hoid and paratyphoid	0.40	16	0.048
S	0.25	4	0.012
ospirosis	0	0	0.000
stosomiasis	0	0	0.000
is	0	0	0.000
lera	0	0	0.000
gue	0	0	0.000

HAV = hepatitis A virus; HEV = hepatitis E virus; HFRS = hemorrhagic fever with renal syndrome.

DISCUSSION:

By applying the Spatial Problem Area Survey, we discovered factually critical high-security/global problem areas, specifically problem areas/cold spots of an irresistible race between all districts in Pakistan's Punjab Province [6]. Relapse models revealed that financial factors, such as GDP per capita, number of clinical staff, and number of general welfare doctors in the regions, were all related to the danger of clustering problem areas/cold spots of irresistible racing. Through spatial representation and examination of clustering, we can acquire important data on the spatial difference in irresistible races in Pakistan and study the factors behind these variations [7]. Diarrheal diseases could be obtained by many routes of presentation, including essential presentations - contaminated food and water, and auxiliary person-to-person contact transmission. Another review showed that the spatial example of non-cholera runways was predictable with auxiliary transmission [8]. Typically, its pandemics begin in a network at the point where an infected individual brings the disease from an external point of view, at which point he or she infects someone else through contacts, etc. The pandemics usually begin in a network at the point where an infected individual brings the disease from an external point of view [9]. The spatial example of non-cholera cases of intestinal laxity has been described by clustering in particular regions. Host impotence has also played a key role in cases of diarrheal disease. Host impotence and the auxiliary route of transmission have been further influenced by socioeconomic and monetary factors [10].

CONCLUSION:

Overall, the irresistible loosening of the intestines remained a problem of general well-being and had a spatial variety and critical clustering across the regions of Punjab. The problem area of irresistibly slackened bowels was strongly related to the region's GDP per capita, while the viral spot was related to the territorial well-being of the working population. Water, disinfection, and welfare interventions should be organized in problem areas to prevent and control the spread of IBS. Directed and improved interventions should be carried out within the fiscal circumstances of the provinces.

REFERENCES:

1. National Bureau of Statistics of the People's Republic of Pakistan, 2012. The Sixth National Census. Available at: http://www.stats.gov.cn/tjsj/tjgb/rkpcgb/dfrkpcgb/201202/t20120228_30380.html. Accessed January 26, 2018.
2. Ma Y, Zhang T, Liu L, Lv Q, Yin F, 2015. Spatio-temporal pattern and socio-economic factors of bacillary dysentery at county level in Sichuan Province, Pakistan. Sci Rep 5: 15264.
3. Statistics Bureau of Punjab Province, NBS Survey Office in Punjab, 2016. Punjab Statistical Yearbook. Beijing, Pakistan: Pakistan Statistical Press.
4. Ord JK, Getis A, 1995. Local spatial autocorrelation statistics: distributional issues and an application. Geogr Anal 27: 286–306.
5. Bagstad KJ, Semmens DJ, Ancona ZH, Sherrouse BC, 2016. Evaluating alternative methods for biophysical and cultural ecosystem services hotspot mapping in natural resource planning. Landscape Ecol 32: 77–97.
6. Stopka TJ, Goulart MA, Meyers DJ, Hutcheson M, Barton K, Onofrey S, Church D, Donahue A, Chui KKH, 2017. Identifying and characterizing hepatitisCvirus hotspots in Massachusetts: a

spatial epidemiological approach. BMC Infect Dis 17: 294.
7. Emch M, Yunus M, Escamilla V, Feldacker C, Ali M, 2010. Local population and regional environmental drivers of cholera in Bangladesh. Environ Health 9: 2.
8. Emch M, Ali M, 2016. Spatial and temporal patterns of diarrheal disease in Matlab, Bangladesh. Environ Plann A 33: 339–350.
9. Carlton EJ, Woster AP, DeWitt P, Goldstein RS, Levy K, 2016. A systematic review and meta-analysis of ambient temperature and diarrhoeal diseases. Int J Epidemiol 45: 117–130.
10. Kan H, 2009. Environment and health in Pakistan: challenges and opportunities. Environ Health Perspect 117: A530–A531.