



RESEARCH PAPER

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One year retrospective study on the incidence of communicable diseases in Shangla valley Khyber-pukhtoonkhwa, Pakistan

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Abstract

In spite of the epidemiological alteration, communicable diseases endure a public health issue that represent a substantial cause of morbidity and mortality in district shangla. This study aimed to define the incidence degrees for communicable disease and to evaluate inclinations in communicable disease in different hospitals of District shangla which consist on four tehsils (Tehsil Alpuri, Puran, Besham and chakaisar) over a period of 1 years (2015–2016). A retrospective study was designed that include all cases of communicable disease from 2015 to 2016 in the different tehsil headquarters hospitals of District Shangla. Data collected from different Hospitals of district shangla and the prevalence of many diseases were statistically analysed. It was observed that among the most evaluated pathological conditions in the whole district, upper respiratory tract infection was high (17.5%) in occurrence followed by Diarrhoea and dysentery in children less then 5 years (4.13%), worm infestations (1.3%), dermatitis (0.59%), malaria (0.21%), pneumonia (0.2%), enteric typhoid fever (0.1%) and COPD with prevalence (0.054%) respectively. If the rate of these communicable diseases are going in the same pattern it will lead to a big morbidity rate in the valley, so consideration of health department is needed to provide good health care facilities and establishment of more healthcare centres to eradicate these diseases along with the awareness sessions for common public.

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Introduction

Communicable diseases

District Shangla is famous for beautiful sceneries situated in the northern areas of Khyber Pakhtunkhwa, Counted as the poorest district in the province. The low socio-economic status is due to male and female Literacy rate is low in the area which is one of the causes of poor socioeconomic status. (Iqbal 2016). On the east of District Shangla is District Battagram, District Kohistan in the north, District Buner in the south, and District Swat in the west (Signore and Glaudemans 2011) (Iqbal 2016).

Communicable diseases caused 9.2 million deaths in 2013 about 17 % of all deaths reported. South-East Asia region covering 11 countries have 26% of the world's population and 30% of the world's poor (Beyene *et al.* 2015; Narain and Shah 2008). 40% of the 14 million deaths that occur annually in this region, are due to communicable diseases compared with the global proportion of 28% (Jones *et al.* 2008). Poverty, over population, poor sanitation, Inadequate quality and quantity of water, poor hygiene, substandard and insufficient sanitation facilities, overcrowding, scarcity of soap and tropical climate are parameters responsible for the spread of communicable diseases. (Dingwall, Hoffman, and Staniland 2013).

As many as 1.3 billion people in the South-East Asia Region live in high-risk areas for malaria and dengue fever (Siddiqi and Hertzman 2001). The main causes of morbidity and mortality are diarrheal disease-including cholera and dysentery-acute respiratory infection, measles, and malaria, with HIV/AIDS and tuberculosis becoming increasingly important (Beyene, Hoek *et al.* 2015 (Group 1995). Tuberculosis with HIV increases the risk of a latent infection progressing to active tuberculosis from 10% to 60–80%. (Gessner 1994; Talley, Spiegel, and Girgis 2001; Julien *et al.* 1999; Fawzi *et al.* 2000). Specific health education messages can help prevent many diseases including diarrheal disease, sexually transmitted infections, and HIV/AIDS. Use of chlorinating water reduces the cholera (Gessner 1994).

In Pakistan along with perinatal, maternal and nutritional conditions communicable diseases are accounted for approximately 46% of all the death in 2008. Incidence of HIV in folk age 15-49 years was 0.1% in 2012, which evaluated that disease is remain unaltered since 1990. According to a survey in 2011, there are 334589 cases of malaria in Pakistan which indicated that the disease has been increased since 2008, but less data is available on the rate of mortality to extract the final conclusion on the fatalities level's improvement. Almost there has been very less fall in estimated occurrence of tuberculosis (TB) in the period 1990-2012. In 2009 there were 863 reported cases of measles and 816 reported cases of tetanus and in 2009 (common wealth health report, 2009).

Materials and methods

A one Year retrospective study was carried out in the district shangla. Study duration was one year from January 2015 to December 2015. Data were collected from all Health care centers including DHQ, THQ, BHU, RC, CD located in the respective town of the district. First we made visits plan for the collection of data and then visit to every town health centers to extract the data from past medical record by the permission of concerned health care facility incharge. For the collection of data we used prescribed proforma and daily collected data were gathered. After the completion of study period, data were entered in Microsoft Excel 2016 and data were analyzed by applying percentages to take the whole population of the district as one sample divided by reported cases, data were presented in tables and graphs

Results

The prevalence of the communicable disease in the whole district is alarming, incidence of communicable disease reported cases are shown in table 1 and the demographics distribution on the basis of estimated population are shown in table 2. Town wise communicable diseases results are as follows.

A. Tehsil Alpurai

In whole district total 13 diseases were reported during the year 2015. Cases in Tehsil Alpurai eight diseases were reported and their incidence upon

population of the town are; upper respiratory tract infections 32569(17.5%), Diarrhea and dysentery in less than 5 years 7660(4.13%), Diarrhea and dysentery in more than 5 years 6416(3.46%), TB suspect 2425(1.33%), Suspected Viral Hepatitis 1629(0.87%), Dermatitis 1652(0.88%) scabies 662(0.35%), worm

infestations 2659(1.43%), Pneumonia less than 5 years 305(0.16%), Suspected malaria 393(0.21%) and COPD 101(0.054) cases were recorded. the Fig. number 1 shows the reported cases in different areas of tehsil alpurai district shangla.

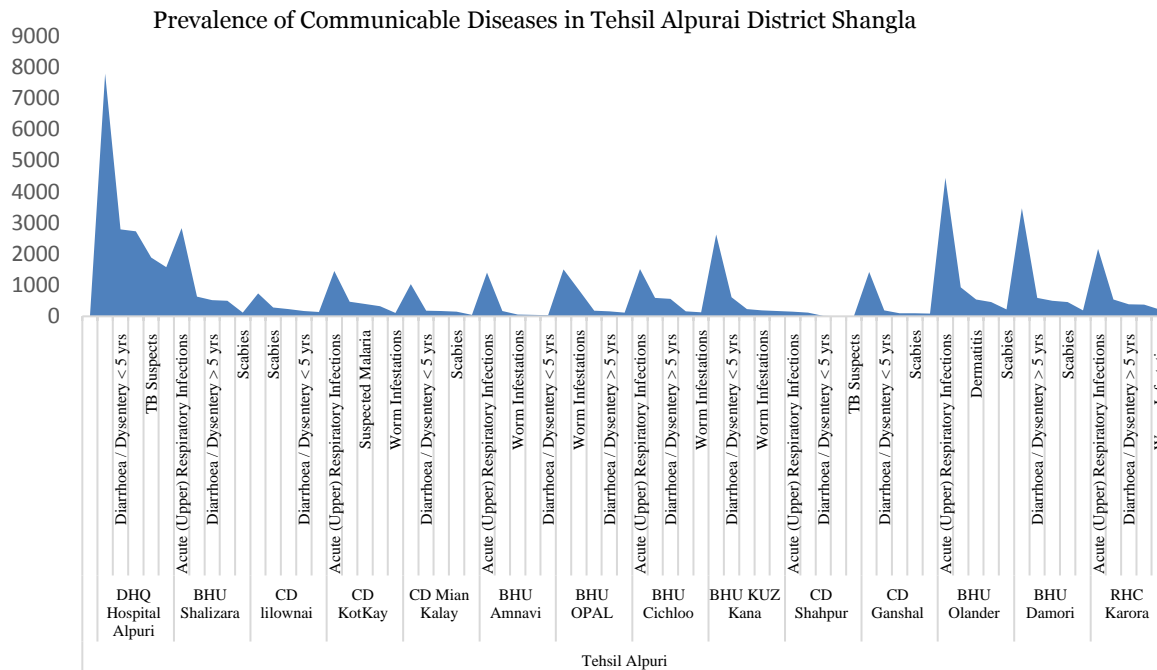


Fig. 1. Prevalence of Communicable Diseases in Tehsil Alpurai District Shangla.

B. Tehsil Puran

The second big division of the district is tehsil puran which have further sub division of Martung and chakaiser. The prevalence of different diseases are upper respiratory tract infections 14997(3.83%), Diarrhea and dysentery in less than 5 years 4603(1.17%), Diarrhea and dysentery in more than 5 years 3438(0.87%), Suspected Viral Hepatitis 35(0.0089%), scabies 1912(0.48%), worm infestations 1548(0.39%) Pneumonia less than 5 years 809(0.20%), Suspected malaria 124(0.013%) and enteric typhoid fever 427(0.10%) cases were recorded. the Fig. number 2 presents the reported cases during the year in different areas of tehsil puran district shangla.

B (i) Tehsil Chakaiser sub-Division

Chakaiser counts as the sub division of tehsil puran and have total population 75000.The incidence rate of different diseases are upper respiratory tract

infections 5363(7.15%), Diarrhea and dysentery in less than 5 years 1182(1.576%), Diarrhea and dysentery in more than 5 years 1376(1.83%), Suspected Viral Hepatitis 35(0.005%), scabies 445 (0.59%), worm infestations 620(0.82%) and enteric typhoid fever 73(0.0009%) cases were recorded. the Fig. number 3 represents the reported cases during the year in different areas of chakaiser district shangla.

B(ii) Tehsil Martung sub-Division

Chakaiser is the sub division of tehsil puran and have total population 79000.The rate of different diseases are upper respiratory tract infections 2635(3.33%), Diarrhea and dysentery in less than 5 years 1112(1.40%), Diarrhea and dysentery in more than 5 years 1048(1.32%), scabies 1202(0.52%), dermatitis 366 (0.46%) worm infestations 567(0.71%) and cases were recorded. The Fig. 4 below shows the reported cases during the year in different areas of martung district shangla.

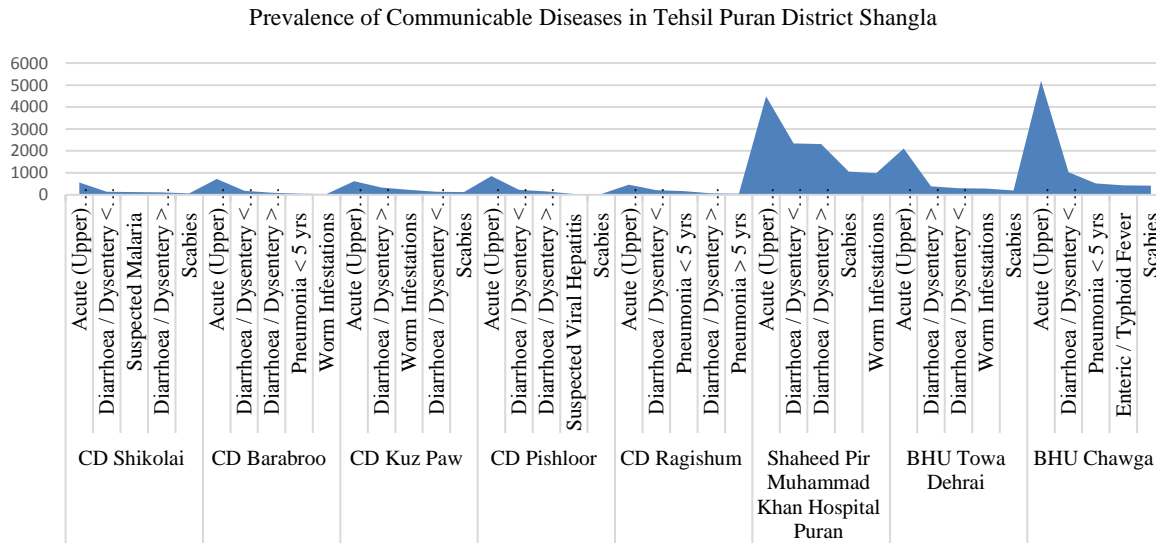


Fig. 2. Prevalence of Communicable Diseases in Tehsil Puran District Shngla.

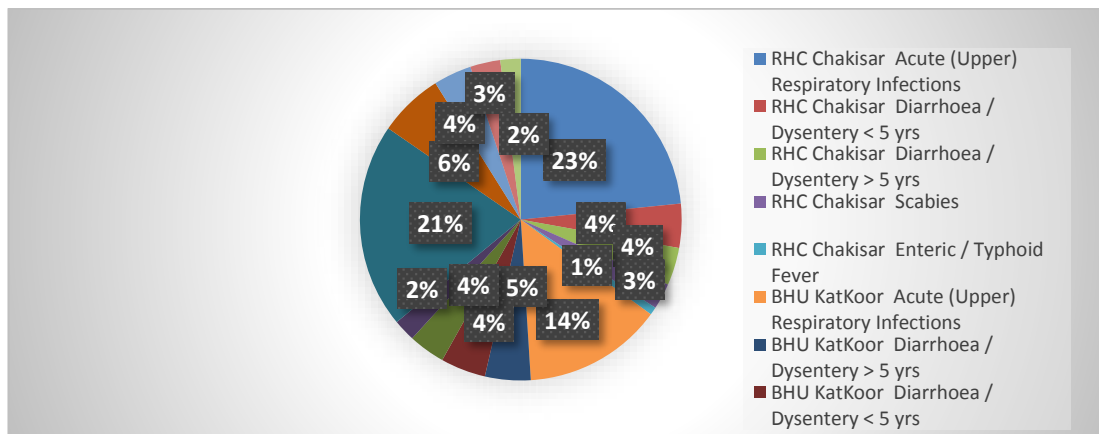


Fig. 3. Prevalence of Communicable Diseases in Tehsil Puran District Shngla.

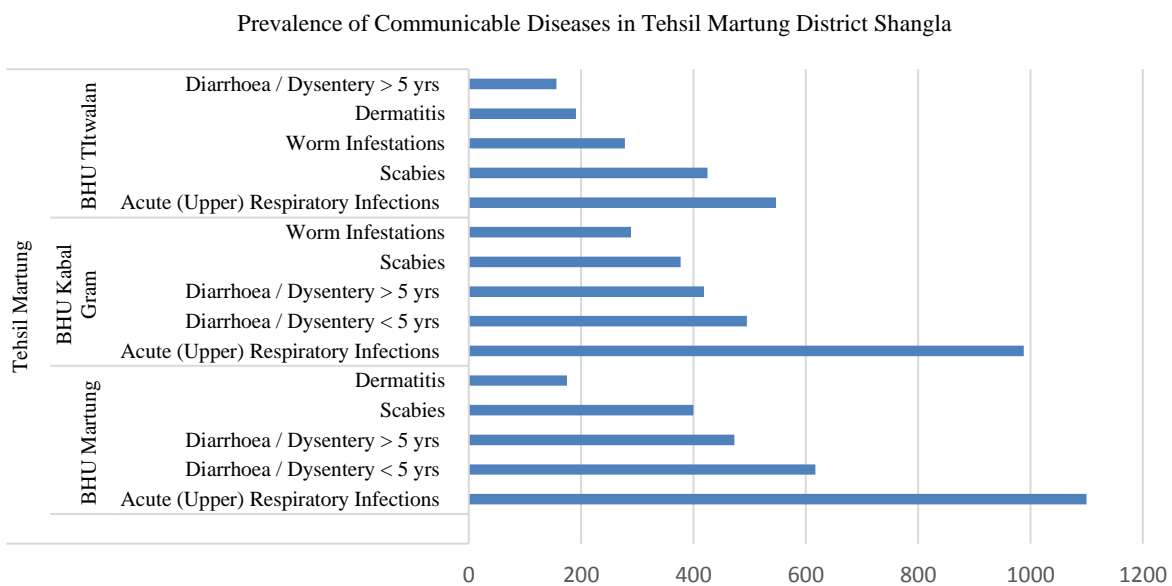


Fig. 4. Prevalence of Communicable Diseases in Tehsil Martung District Shngla.

C. Tehsil Besham sub-division

Besham is the sub division of tehsil Alpurai now un officially separated town and have total population 79000. The rate of different diseases are upper respiratory tract infections 8341(3.33%), Diarrhea and dysentery in less than 5 years 3198(1.40%), Diarrhea

and dysentery in more than 5 years 2312 (1.32%), scabies 2175(0.52%), Measles 3 (0.46%) worm infestations 475(0.71%), enteric typhoid fever 701(0.07%) and cases were recorded. The Fig. 4 below shows the reported cases during the year in different areas of martung district shangla.

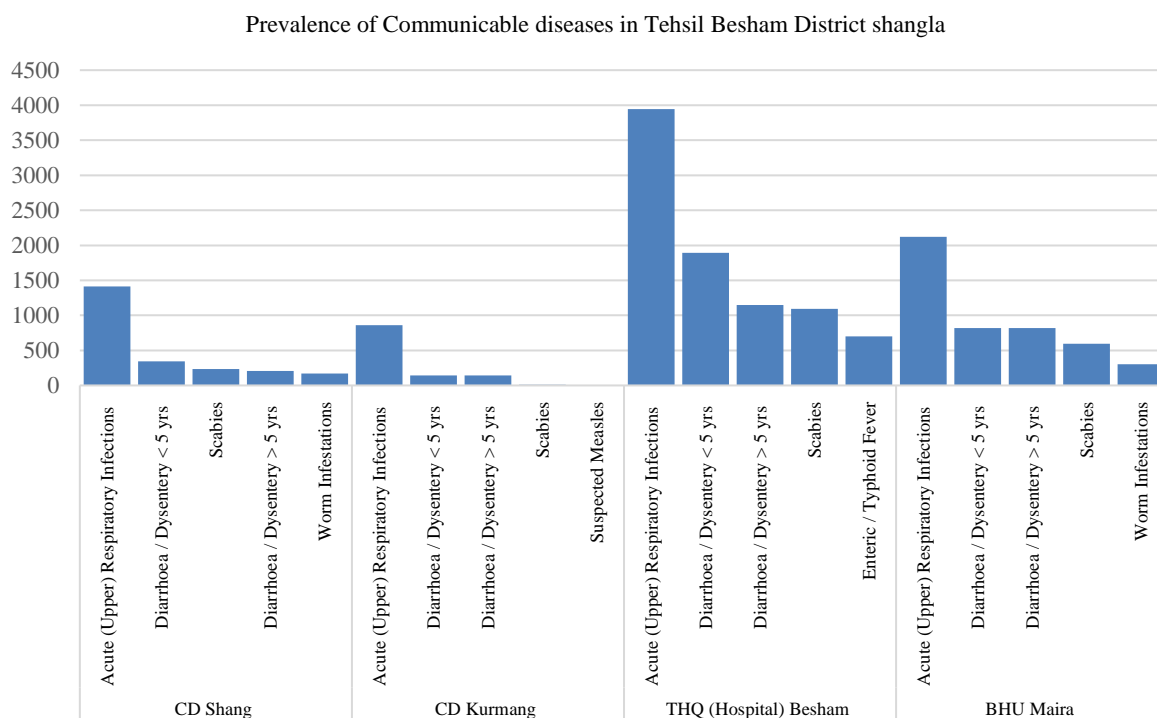


Fig. 5. Prevalence of communicable diseases in Tehsil Besham District Shangla

Table 1. Demographics of the population

| Population | Percentage | Total | Population Groups | Standard (%) | Estimated Population |
|----------------|------------|----------|--|--------------|----------------------|
| Age < 1 year | 2.70 | 35,978 | Women 15-49 years | 22.00 | 322,490 |
| Age < 5 years | 13.40 | 1,96,426 | Married women of child bearing age (CBA) | 16.00 | 234,538 |
| Age < 15 years | 41.97 | 6,15,224 | Pregnant women | 3.40 | 49,839 |
| - | - | - | Expected births | 2.90 | 42,510 |

Table 2. Communicable diseases in District Shangla

| S. No | Name of Disease | Total No. of Cases Reported | Percentage (%) |
|-------|--|-----------------------------|----------------|
| 1 | Acute upper respiratory tract infections | 63,914 | 11.097% |
| 2 | Diarrhea/dysentery < 5 years | 18,368 | 3.189% |
| 3 | Diarrhea/dysentery > 5 years | 13,977 | 2.426% |
| 4 | TB suspects | 2,425 | 0.421% |
| 5 | Suspected viral hepatitis | 1,664 | 0.288% |
| 6 | Worm infestations | 5,185 | 0.900% |
| 7 | Scabies | 7,146 | 1.240% |
| 8 | Suspected malaria | 517 | 0.089% |

| | | | |
|----|--|-------|----------|
| 9 | Pneumonia <5 years | 1,114 | 0.193% |
| 10 | Suspected measles | 3 | 0.00005% |
| 11 | Dermatitis | 1,217 | 0.211% |
| 12 | Chronic obstructive pulmonary infections | 101 | 0.0175% |
| 13 | Enteric /Typhoid fever | 1,201 | 0.208% |

Discussion

The sample size of this study clearly does not cover the intact population of Khyber Pakhtunkhwa Pakistan, it is objectively a precise image of the population of district shangla KPK Pakistan, as major communicable diseases reported cases were studied

and presented. In 2014 Santibanez and his colleagues conducted study and noted that many outbreaks occurring at mass gatherings resulted in the international spread of communicable diseases which are triggered by bacteria, viruses, fungi and other parasites become the foremost reasons of mortality and morbidity, as well as social and economic disturbance for millions of people. In spite of the safe and operative interferences, many people are incapable to follow the essential prevention methods and treatment. Absence in productivity, missed educational breaks and health care of extraordinary costs caused by infectious diseases unswervingly affect families and communities (Chin, J. 2000).

Communicable diseases are more common in third world countries, people have the least resources towards integrated health care, prevention tools and medications. According to World health Organization (WHO), Pakistan lines eighth on the list of 22 high-burden tuberculosis (TB) countries in the world. The results of researches, in 2007, an estimated 297,108 people in Pakistan developed TB. A study shows that the Communicable diseases are associated with malnutrition and factors promoting disease transmission relate to synergistically leading to high incidence rates of diarrhea, respiratory infection, malaria, and measles Connolly, M. A, *et al.*, 2004).

A study done by Tariq ahmed and his colleagues in 2016 and shown the incidence rate of communicable diseases like HBV, HCV and HIV are vulnerable in Khyber Pukhtoonkhwa especially in blood donors, 1.1% HBV positive and 0.5% HCV positive e (Tariq Ahmed *et al.*, 2016) also worth studying likely another study were done in 2017 (Tariq Ahmad *et al.*, 2017). Armstrong-Schellenberg *et al.* conducted a study in 2003 who concluded to make policy for providing same physical and financial help for the treatment of communicable disease to decrease the level of inequality in medium and high level providers in public health centers. Instalment payments, treatment vouchers, altruistic payments and exemptions from payment amongst others could be improved financial access (Onwujekwe *et al.*, 2002).

Conclusion

Communicable disease (CD) is a medical condition or disease that is spread by infectious agents. This word refer to, diseases situation which remains for longer or shorter periods of time and develop lethargically. The comprised risk factors for CD are, a person's lifestyle and background are known to multiply the prevalence of certain communicable diseases. CD is too prevailed due to environmental factors like nutrition, sunlight, pollution, and lifestyle choices. District Shangla is retrograde area of KPK having a very poor health care facilities that required the attention of health department to provide optimum facilities for the prevention of communicable diseases.

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