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Prevalence of Noncommunicable Diseases in District Shangla, Khyber-Pukhtoonkhwa, Pakistan

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Abstract

Shangla is one of the most beautiful valley of Khyber Pukhtoonkhwa and also most neglected in health facilities every year majority of population suffered from such diseases, for minor ailment people travel to cities of hundred miles. Preliminary the noncommunicable diseases are utmost problem in the valley. Current study highlighted the prevalence of noncommunicable diseases in district Shangla to assure the health safety and treatment facilities as reporting cases per year. A retrospective study was designed from during the year of 2016 (1st Jan 2016 to 1st Dec 2016). The one year reported cases were gathered from the different areas of the district health facilities and the information were collected on the prescribed proforma and data were analyzed by different tools and techniques. Thirteen different diseases and conditions were reported in which the most prevalent disease was urinary tract infections 2.342%, hypertension0. 609%, peptic ulcer diseases 0.523%, Diabetic Mellitus 0.195, Asthma 0.279%, Dental carries 0.212%, Otitis Media 0.061%, Depression 0.022%, Cataract 0.275%, Traffic accidents 0.416% and fever due to other cases were 1.102% fortunately no any case of epilepsy and snake bite reported in the whole district health care facilities centers. The situation is too worst in the valley the data represented the whole population of the district and such alarming situation because majority people do not have access to the health facilities and main problem is low education rate.

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Introduction

Pakistan is ranked as sixth most populated country in the world, about 50% of the population suffer from one or more of these NCD's (Jafar TH, Haaland BA *et al.* 2013). Mortality rate due to NCDs are now more than deaths due to communicable disease. The Global load of Diseases data of 2010 put forward the results that the NCDs and injuries are reason for 77% age consistent deaths in Pakistan (Lozano R, Naghavi M *et al.*, 2010). Near 40 million people in Pakistan suffer from high blood pressure, 32 million from cardiac disease, from obesity 24 million, from high cholesterol 18 million, 8 million from diabetic mellitus and approximately 50 million due mental health disorders. The mortality rate are fairly alarming, everyday 2000 Pakistanis losing their lives to a preventable NCD's.

The disability numbers are just as bad with about 100 people suffering from amputations daily owing to diabetes and trauma, and another 100 going on dialysis every day, commonly due to diabetes associated renal failure the burden is expected to increase by 10-15% over the next 10 years projected that between 2010 and 2025, 3.87 million Pakistanis will lose their lives to NCDs like cardiovascular diseases, cancers and chronic respiratory diseases. (Lozano R, Naghavi M *et al.* 2010). The International Diabetes Federation gives an estimate of 12% prevalence in Pakistan, with a total of 8.8 million people with diabetes in 2000. (International Diabetes Federation. Diabetes atlas 2000. Brussels: IDF, 2000).

NCDs were accountable for 60% of all deceases golabally and effect Disability-Adjusted Life-Years (DALYs) (Palaniappan, Selvarajan *et al.* 2015). 80% of NCD deaths happen in low- and middle-income countries (LMICs) of which nearly 30% are folks under 60 years of age. Predictions for 2020 specify that Africa and other LMICs will have the major proliferation in NCD mortality (Palaniappan, Selvarajan *et al.* 2015). The increase in NCDs is supplemented by a full economic impact. The estimated economic cost for 2011-2025 triggered by the four major NCDs in LMICs is more than US$7 trillion (Kano, Hotta *et al.* 2013).

This crisis of NCD globally threatens the success of both health and non-health development objectives. As proven by the United Nations (UN) High Level Meeting of the General Assembly on the Control and prevention of NCDs held in September 2011 (Mamudu, Yang *et al.* 2011) and the validation of the UN Political Declaration on the Control and prevention of NCDs (Assembly 2011). policymakers in LMICs recognise the critical need for action on NCDs. Cardio- vascular disease, type 2 diabetes, cancer, chronic lung disease, and depression are the major non-communicable diseases now reaching epidemic proportions in the former socialist states and low-income regions of the world (Parkin, Bray *et al.*, 2001).

According to national reports gathered by WHO's South East Asia regional office, of the total deaths in South Asia, the proportion attributable to selected non-communicable diseases ranged from about 7% in Nepal to 40% in the Maldives in 1998 (Parkin, Sitas *et al.* 2008). Chronic obstructive airway diseases (emphysema and chronic bronchitis) and asthma, resulting from indoor and outdoor air pollution, account for a large proportion of the burden of chronic respiratory diseases. (Jindal, Aggarwal *et al.*, 2001) (Gupta, Gupta *et al.*, 2002).

Morbidity from respiratory diseases accounts for 65 million cases and about 580 000 deaths in India. (Bloom and Canning 2000, Yakoob, Jafri *et al.*, 2005) (Monteiro, Moura *et al.*, 2004). Additionally, low-income countries have the extra burden of substantially higher levels of NCD risk factors that are typically associated with poverty, including use of biomass fuels and coal for cooking and heating, which are risk factors for chronic obstructive pulmonary disease and lung cancer (www. benignsol. com/health/ documents/5/33). Studies in high-income countries, especially those outside Asia, have shown that NCD mortality is higher in people with low education, income, or social class. (Pappas, Queen *et al.* 1993, Marshall, Wang *et al.* 2015) those in marginalized ethnic groups (Chapin 1924, Harper, Lynch *et al.* 2007) and those living in poor and deprived communities (Hahn and Eberhardt 1995, Murray, Kulkarni *et al.* 2006).

WHO typically refers to four major ones for NCDs: poor diet, physical inactivity, tobacco use, and harmful alcohol use (Tobias, Blakely *et al.* 2009).

Education matters, effect is at least partially attributable to the better health literacy that results from each additional year of formal education. Improved health literacy has been linked to better health outcomes and will reduce the rate of NCD as opposite the prevalence of communicable diseases.

Materials and methods

Study Design

One year retrospective study was conducted in district shangla during 2015 (Jan-Dec) to determine the prevalence of known communicable diseases in district shingla KPK, Pakistan.

Study setting

Data were collected from different healthcare facilities of shangla the information were extracted from patient medical files and from saved data of computer based at DHQ hospital alpurai. Total district were visited and the project was completed with tough challenges as hilly areas access were too hard. Total population according to 1998 census district change has total 5 sub divisions and mainly the population distributed two in towns the total population distribution presented in table 2.

Study population

All those patient who were visited to the healthcare center i.e DHQ, THQ, BHU, RHC and dispensaries their written and electronic information were gathered (Table 1).

Table 1. Total Number of Health Facilities in Shangla.

Shangla, KPK	Classification of health facilities				
	DHQ	THQ & CH	RHC	BHU	Total
Total Number of facilities	1	4	0	15	20
Total Number of facilities surveyed	1	4	0	5	10

Data Analysis

The collected data was arrange and entered through Microsoft Excel 2016 and data was analyzed and presented by graphs and tables.

RESULTS

Shangla ranked second last in the provinceas due to poverty and low education rate and the people are unfortunes for their health and education as situation is more prone and dangerous for future because total number of facilities includes DHQ,THQ,BHU,RCH and CD as shown in the Table 1. According to the total population of the district which includes 2 main towns,Alpurai and Puran and puran have two sub divisions as Tehsil Martung and Chakaiser and alpurai have Tehsil besham as subdivision the total number of cases reported are divided by the total population.

Table 2. Total Population Distribution of District Shangla. (Wikipedia source).

Population Distribution	Population	Indicators	Value
Total population of the District	5,75,947	Total Urban population	0
Total Population of Tehsil Alpuri	1,85,125	Total Rural population	5,75,947
Total Population of Tehsil Puran	3,90,822	Density of Population (persons per sq.km)	363
Total Population annual growth rate	2.82%	Gender ratio (number of males over 100 females) at birth	96

A. Tehsil Alpurai

In whole district total 13 diseases were reported during the year 2016. Cases in Tehsil Alpurai eight diseases were reported and their incidence upon population of the town are; Urinary tract infections 7618 (4.11%), Hypertension 1766 (0.95%), Diabetic Mellitus 823 (0.44%), Dental caries 691 (0.37%), Peptic ulcers diseases 1513 (0.81%), Asthma 355 (0.19%) Otitis media 281 (0.15%), Depression 100 (0.05%), Road traffic incidents 2460 (0.001%) and fever in other cases 1212 (0.65%) were recorded. The Fig. number 1 shows the reported cases in different areas of tehsil alpurai district shangla.

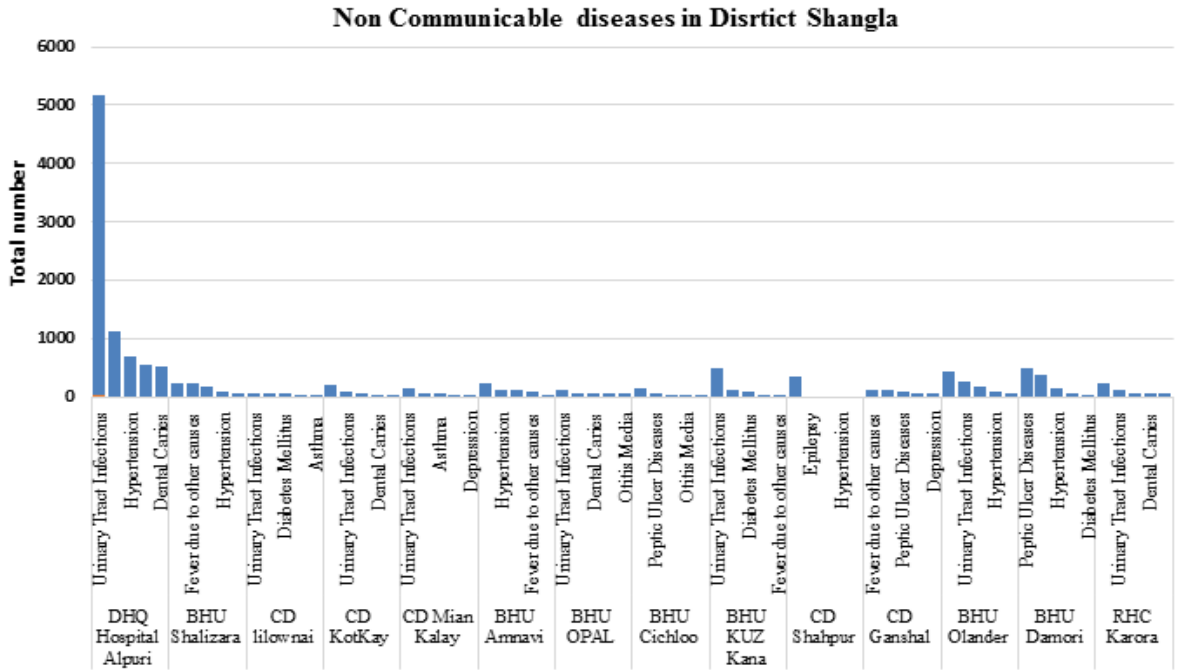

Fig. 1. Total Number of Different Diseases Reported in Tehsil Alpurai 2016.

B. Tehsil Puran

The second big division of the ditrict is tehsil puran which have further sub division of Martung and chakaiser. The prevalence of different diseases are; Urinary tract infections 3030 (0.77%), Hypertension 1220 (0.312%), Dental caries 172 (0.04%), Peptic ulcers diseases 65 (0.01%), Asthma 130 (0.03%) Otitis media 73 (0.01%), Depression 28 (0.007%), Road traffic incidents 607 (0.15%) and fever in other cases 3733 were recorded. The Fig. number 2 presents the reported cases during the year in different areas of tehsil puran district shangla.

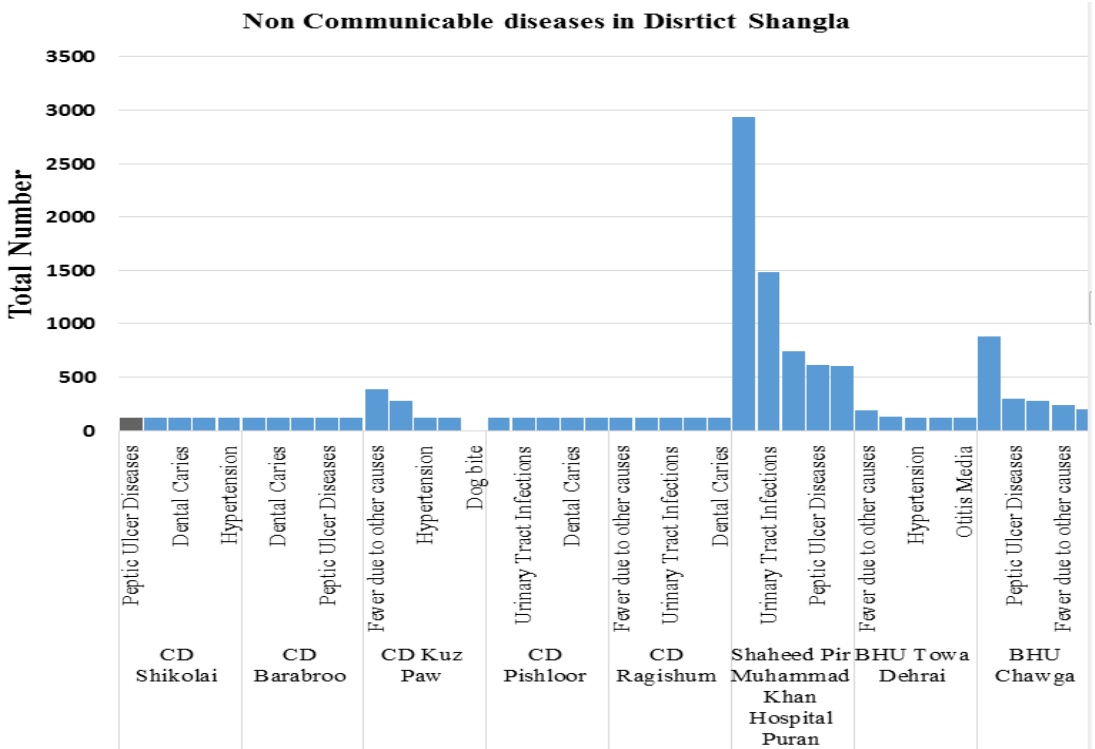

Fig. 2. Total Number of Casese Reported in Tehsil Puran 2016.

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; Urinary tract infections 934 (1.24%), Hypertention 137 (0.18%), Diabetic Mellitus 300 (0.4%), Dental caries 415 (0.55%), Peptic ulcers diseases 557 (0.74%), Road traffic incidents 264 (0.32%) and fever in other cases 171 (0.22) were recorded. recorded. T

he graph 2 represents the reported cases during the year in different areas of chakaiser district shangla.

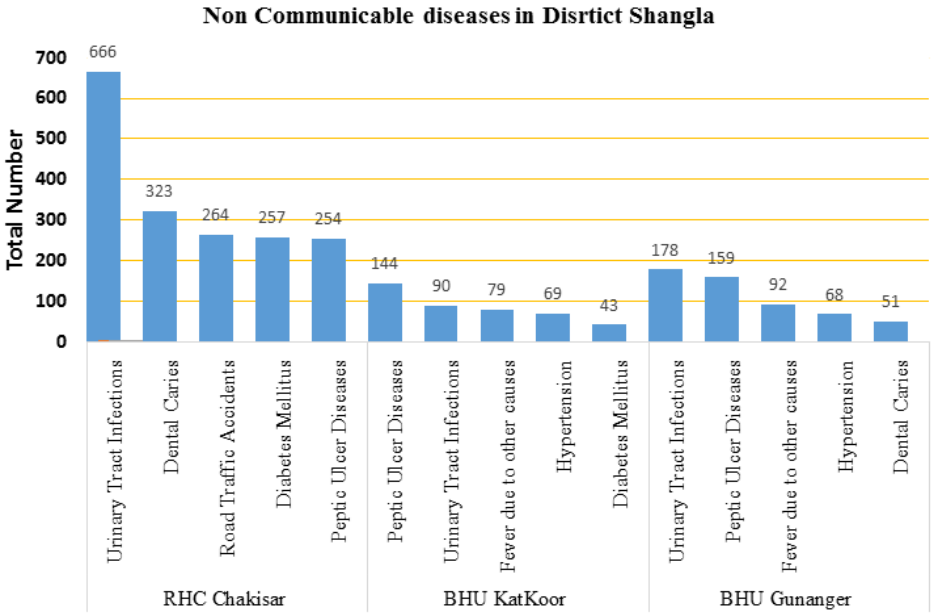

Fig. 3. Total Number of Casese Reported in Tehsil Chakaiser in 2016.

B(ii) Tehsil Martung sub-Division

Chakaiser is the sub division of tehsil puran and have total population 79000 and the prevalence of Urinary tract infections 417(0.52%), Hypertention 423(40.53%), Peptic ulcers diseases 78(0.098%), Asthma 413(0.52%) Otitis media 192(0.24%), Depression 102(0.12%), and fever in other cases 908(1.14%) recorded. the Fig. 4 below shows the reported cases during the year in different areas of martung district shangla.

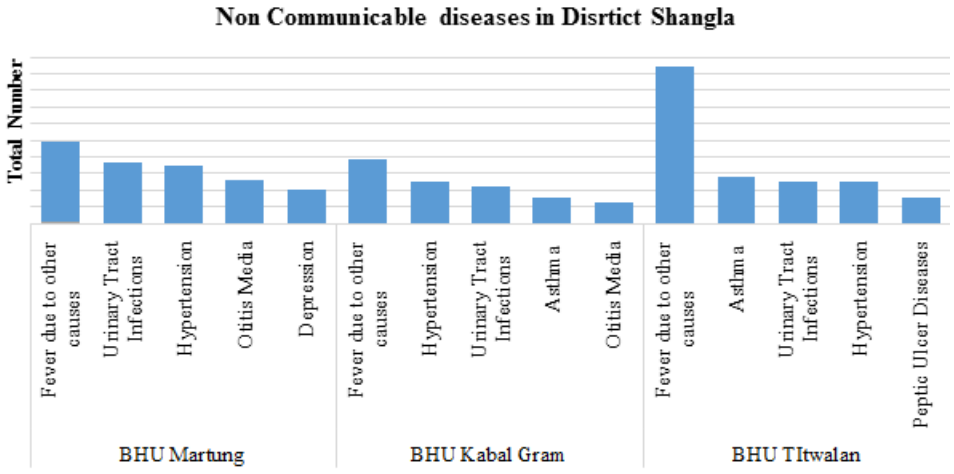

Fig. 4. Total Number of Different Diseases Reported in Tehsil Martung 2016.

C. Tehsil Besham sub-division

Besham is the sub division of tehsil alpurai now un officially separated town The rate of different diseases are urinary tract infections 1901 (2.37%), Hypertension 385 (0.48%), Dental caries 14 (0.0001%), Peptic ulcers diseases 77 (0.09%), Asthma1122 (1.40%), Depression 160 (0.2%), Cataract 1586 (1.98%), Road traffic incidents 1281 (1.60%) and fever in other cases 236 (0.002%) were recorded. The Fig. 4 below shows the reported cases during the year in different areas of martung district shangla.

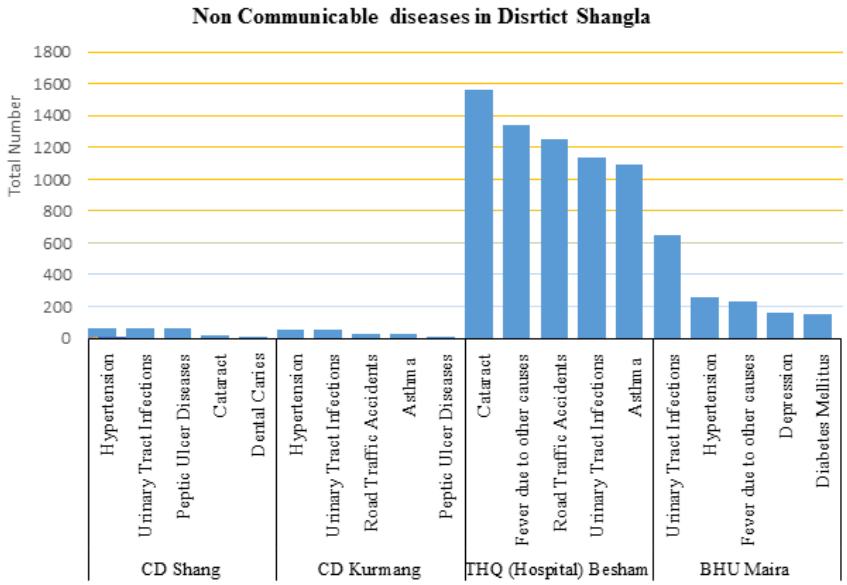

Fig. 5. Total Number of Casese Reported in tehsil Bsham in 6.

Table 3. Prevalence of Non-Communicable Diseases in District Shangla.

S. No	Name of diseases	Total of cases reported	Percentage%
1	Urinary tract infections	13483	2.342
2	Hypertension	3508	0.609%
3	Diabetes mellitus	1123	0.195%
4	Dental carries	1221	0.2121%
5	Peptic ulcer diseases	3012	0.523%
6	Asthma	1607	0.279%
7	Otitis media	354	0.061%
8	Depression	128	0.022%
9	Cataract	1586	0.275%
10	Road traffic accidents	2398	0.416%
11	Epilepsy	0	0%
12	Snake bite	0	0%
13	Fever due to other cases	6352	1.102%

Discussion

Non communicable diseases in Pakistan are increases day by day as compared to other Asian countries. in 2014 WHO conducting research study that showed 52.1% males and 53% females die of NCDs in Pakistan below the age of 70 as elated to any other country, the death ratio of male to female in India was 62% and 52.2%, in China it was 39.7% and 31.9%, in Bangladesh 49% and 49.6%, in Sri Lanka 48.8% and 35.8% and in Thailand it was 45.5% and 38.7%, separately. These records indicate that Pakistan has a larger percentage of deaths due to NCDs (WHO 2014). We can say that it is alarming situation and may be mainly because there is partial awareness and practically no struggles are made to prevent such diseases. In another study of two years, 9892 midstream samples from patients were cultured in Aga khan university Hospital, Karachi in which a noteworthy percentage of 23.5% showed bacterial growth (Khurshid, M. *et al.* 1989).

The rate of hypertension is 0.6% in this study which is not too much high regarding to other areas of the country (Jafar, T. H., *et al* 2003). A cross-sectional study based on data collection conducted in various locations of countryside central Punjab, Pakistan in the duration between 2008 to 2015 examined a total of 13,722 patients in which rough occurrence of hypertension observed was 35.1% and age-standarized prevalence was 34.4% (Mushtaq, M. *et al.* 2014). Chan, Wu *et al.* in 2001 stated that the Urinary tract infection (UTIs) are the most communal infections detected in a hospital set and second commonest infections accounting for nearly 25% of all infections seen in general population.In another distant study accompanied in the rural part of northern areas of Pakistan, the prevalence of hypertension was found to be 14% (Shah, S *et al.*, 2001) In our one year study the incidence rate of peptic ulcer disease is 0.5% only in district shangla kpk, while the Prevalence of peptic ulcers is greater in third world countries where it is projected up to about 70% of the population, whereas developed countries show a maximum of 40% ratio. A study revealed linked with duodenal ulcers accounted for 53% (Laine, L,R. Hopkins, *et al.,* 1998) (Yakoob, Jafri *et al.*, 2005). As opposite, the communicable diseases are also worth studying likely studies were done in 2017 which shown the prevalence of HBV, HCV and HIV are vulnerable in Khyber Pukhtoonkhwa especially in blood donors (Tariq. A *et al.,* 2016) (Tariq. A *et al.,* 2017).

Conclusion

A non-communicable disease (NCD) is a medical condition or disease that is not spread by infectious agents. This term refer to chronic diseases situation which remains for longer periods of time and progress sluggishly. The included risk factors for NCD are, a person's lifestyle and background are known to proliferate the prevalence of certain non-communicable diseases. NCD is too prevailed due to environmental factors like nutrition, sunlight, pollution, and lifestyle choices. District Shangla is backward area of KPK having a very poor health care facilities that need the attention of health department to provide optimum facilities for the eradication of non-communicable diseases.

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