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**VPD's Load Burden Summary Report in Pakistan
from May 2023 - June 2024**

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This report contains figure and data-based analysis of the Load Burden of Vaccine Preventable diseases from May 2023 - June 2024. Data source for the report is DHIS-2 and IDS&R.

The summary report includes data from the following regions of Pakistan:

1. KPK
2. Sindh
3. Balochistan
4. AJ&K
5. Gilgit Baltistan

Vaccine-preventable diseases are curable through vaccination. Nine diseases have been categorized as Vaccine Preventable Diseases (VPDs) internationally, which are as follows:

KPK

The total number of VPDs recorded in KPK during the mentioned period was 181,871. Out of the total disease count, the incidence rate of Pneumonia remains at the peak, standing at 76% of the total.

A net of 28,909 cases of Pneumonia were recorded in Mardan district of KPK in January 2024, which is 21% of the total pneumonia cases in the province and 16% of the total disease count.

The high case incidence of pneumonia in children during this period may be attributed to favorable weather conditions for the common pathogen (*Streptococcus pneumoniae*). Additionally, large crowds during that set period in the form of social festivals, religious gatherings in the region could also be a contributing factor to the high disease rate.

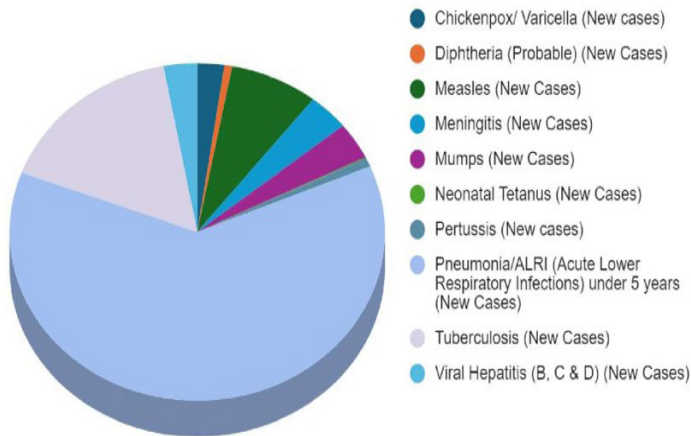
Moreover, the traditional practices of the majority of the population to limit themselves to confined closed places during winter as a defensive measure against the breezy cold weather increases the chances of pathogenic transfer

Chickenpox/ Varicella (New cases)
Diphtheria (Probable) (New Cases)
Measles (New Cases)
Meningitis (New Cases)
Mumps (New Cases)
Neonatal Tetanus (New Cases)
Pertussis (New cases)
Pneumonia/ALRI (Acute Lower Respiratory Infections) under 5 years (New Cases)
Tuberculosis (New Cases)
Viral Hepatitis (B, C & D) (New Cases)

from an infected individual to a non-infected individual, considering the fact that pneumonia is an infectious disease.

The high case incidence of pneumonia in the provided age group indicates a greater portion of the population to be infants with a possible prominent share of infants under 2 years who are not completely immunised against the disease. Otherly, the age group with the highest rate of pneumonia includes younger children whose immune systems are still developing and who primarily rely on natural passive immunity.

KPK VPD's



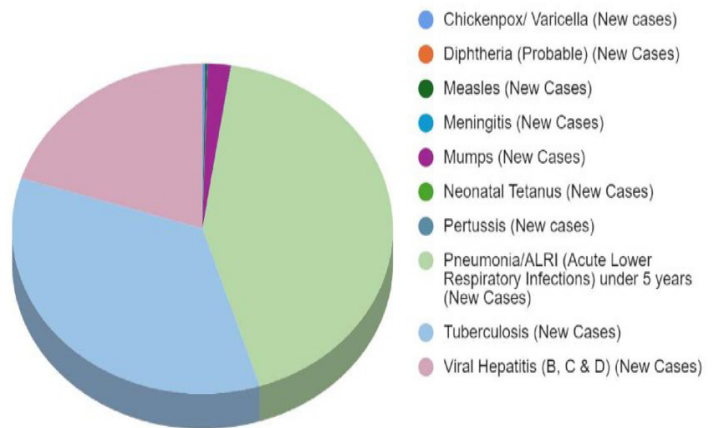
Sindh

The total number of VPD's recorded in Sindh during the mentioned period was 1,133,764. Out of the total disease count, the incidence rate of Pneumonia remains at the peak standing at 46% of the total. Dadu district of Sindh reported 50508 cases of Pneumonia from December 2023 to February 2024 which is 11% of the total pneumonia cases in the province and 5% of the total disease count. The high occurrence of pneumonia in children during this period may be attributed to favourable weather conditions for the common pathogen, (*Streptococcus pneumoniae*). Additionally, large crowds during that time could also be a contributing factor to the high disease rate considering the fact that pneumonia is an infectious disease, moreover a high population density of the region can also be considered as a reason. Keeping in view the general customs of Pakistan. Another traceable reason for this high incidence of Pneumonia could be the less acceptance rate of the regional population to vaccines, also the stereotypic beliefs about the modern day Health system and campaigns.

AJ&K

The total number of VPD's recorded in Azad Jammu & Kashmir during the mentioned period was 99,298. Out of the total disease count, incidence of Pneumonia remains at the peak standing at 85% of the total. A total of 15149 cases of Pneumonia were recorded in Mirpur district of AJ&K during February 2024 to April 2024 which is 18% of the total

Sindh VPD's

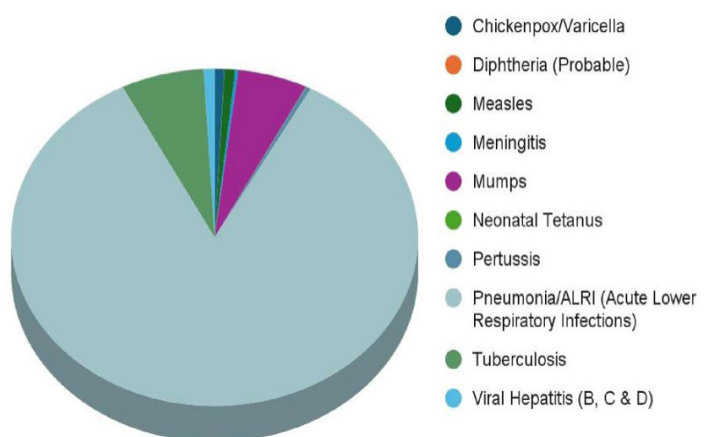


pneumonia cases in the region and 15% of the total disease count. The high positivity rate of pneumonia in children during this period may be attributed to favourable weather conditions for the common pathogen, (*Streptococcus pneumoniae*). Additionally, factors like social gatherings of multiple sorts during the mentioned time frame could also be a contributing factor to the high disease rate considering the fact that pneumonia is an infectious disease, moreover a high population density of the region can also be considered as a reason, with a prominent division of infant population whose immune system is comparatively weak and are mostly dependent on Natural Passive immunity and artificial active immunity who are not yet completely immunised against the disease. Thirdly, the nature of the terrain and extreme weather conditions in the area act as an accessibility barrier to vaccination coverage and vaccine availability to the population.

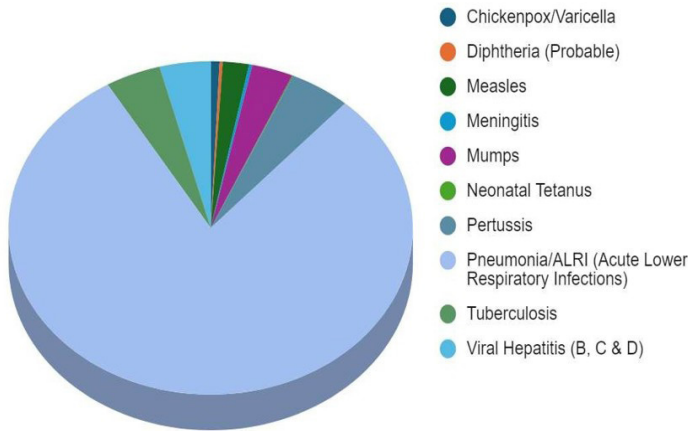
Balochistan

The total number of VPD's recorded in Balochistan during the mentioned period was 173,945. Out of the total disease count, Pneumonia remains at the peak standing at 80% of the total. 21,673 cases of Pneumonia were recorded in Zhob district of Balochistan during January - February

AJ&K VPD's

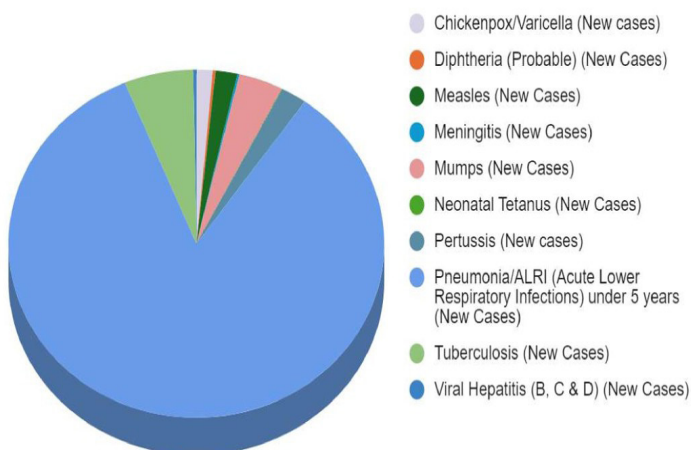


Balochistan VPD's



2024 which is 16% of the total pneumonia cases in the province and 12% of the total disease count. The high case incidence of pneumonia in children during this period may be attributed to favourable weather conditions for the common pathogen, (*Streptococcus pneumoniae*). Additionally, large crowds during that time could also be a contributing factor to the high disease rate considering the fact that pneumonia is an infectious disease, moreover a high population density of the region can also be considered as a reason for the afore-mentioned record. A probable reason for such a high case incidence of pneumonia in Balochistan would be the compromised health infrastructure of the province compared to other mentioned regions and insufficient availability of resources in the province. Secondly, the reluctance towards vaccination is relevantly higher in the region compared to other provinces thus compromising the immunisation coverage of Balochistan.

GB VPD's

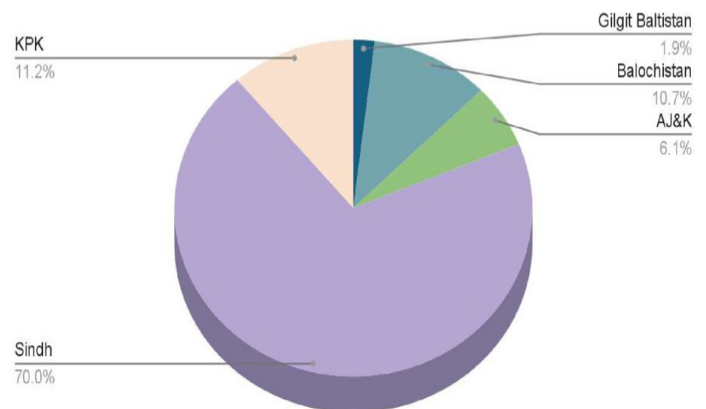


Gilgit Baltistan

The total number of VPD's recorded in Gilgit Baltistan during the mentioned period was 31,091. Out of the total disease count, case incidence of Pneumonia remains at the peak standing at 84% of the total. Approximately 4,710 cases of Pneumonia were recorded in Gilgit district of Gilgit

Baltistan during the end of 2023 and early months of 2024 which is 18% of the total pneumonia cases in the province and 15% of the total disease count. The high incidence rate of pneumonia in children during this period may be attributed to favourable weather conditions for the common pathogen, (*Streptococcus pneumoniae*). The traditional practices of the majority of the population to limit themselves to confined closed places during winter as a defensive measure against the extreme, snowy cold weather, increases the chances of pathogenic transfer from an infected individual to a non-infected individual considering the fact that pneumonia is an infectious disease. Moreover, the high infant population density of the region can also be considered as a reason. Considering the weather conditions during the period of high case incidence, much of the region is covered in snow, with blocked roads and severe weather. This makes it challenging for residents to access treatment for infected individuals and obtain vaccines.

VPD's



Conclusion

The total Number of Vaccine Preventable Diseases reported from May 2023 - June 2024 from, KPK, Sindh, Balochistan, AJ&K and Gilgit Baltistan were 1,619,969. Approximately 70% of the net Disease count contributed from Sindh, followed by KPK who contributed a total of 11% to the Total Disease count. 19% of the VPDs were collectively reported from Balochistan, AJ&K and Gilgit Baltistan. Pneumonia accounts for 53% of all reported vaccine-preventable disease cases in the mentioned regions. This high incidence is largely due to several factors, including favourable weather conditions for pathogens, high infant population density with developing immunity, and regional barriers to vaccine accessibility.