ABSTRACT

Measles, a highly contagious viral infection, continues to pose a significant public health challenge in many regions, including Sheikhupura District in Punjab, Pakistan. This cross-sectional study explores the resurgence, prevalence, and associated factors related to measles among children in Sheikhupura. Employing a comprehensive research approach, we conducted an in-depth analysis of measles cases over a two-year period. Univariate, bivariate, and Backward Stepwise Likelihood Ratio analyses were utilized to uncover key insights into measles incidence and its determinants. Findings reveal a noteworthy surge in measles cases, particularly in the year 2021, suggesting evolving healthcare practices and public health initiatives. The district's higher incidence rate is attributed to its larger population and robust healthcare infrastructure. Males and children aged 0-3 years emerged as disproportionately affected groups, underscoring their heightened vulnerability. Despite relatively high vaccination coverage, pockets of unvaccinated populations were identified, emphasizing the need for targeted interventions. Timely investigations were prevalent, with cases typically investigated within two days. A substantial number of cases were categorized as "Discarded," indicating alternative underlying causes. Bivariate analyses unveiled significant associations between various independent variables and the final classification of measles cases. Age group, the number of measles vaccine doses, specific symptoms, and the duration between onset, investigation, and reporting displayed significant correlations. Conversely, factors like year, quarter, reporting hospital, tehsil, and gender showed no significant associations. Backward Stepwise Likelihood Ratio analysis further refined these associations, highlighting age groups, gender, vaccine doses, and reporting delays as pivotal factors influencing measles cases. This study contributes valuable insights into the resurgence of measles in Sheikhupura, shedding light on its prevalence and associated factors, and provides a foundation for targeted public health interventions in the region.