

Respiratory Organisms among Patients with and without Respiratory Illnesses during COVID-19 Pandemic. (ROPRICoP)

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BACKGROUND

Common respiratory viruses and bacteria still circulate and potentially contribute to hospital admission during COVID-19 pandemic. We investigated the prevalence of pathogens among patients with symptomatic respiratory illnesses, during the second wave of COVID-19 in Central Sarawak compared to the asymptomatic population.

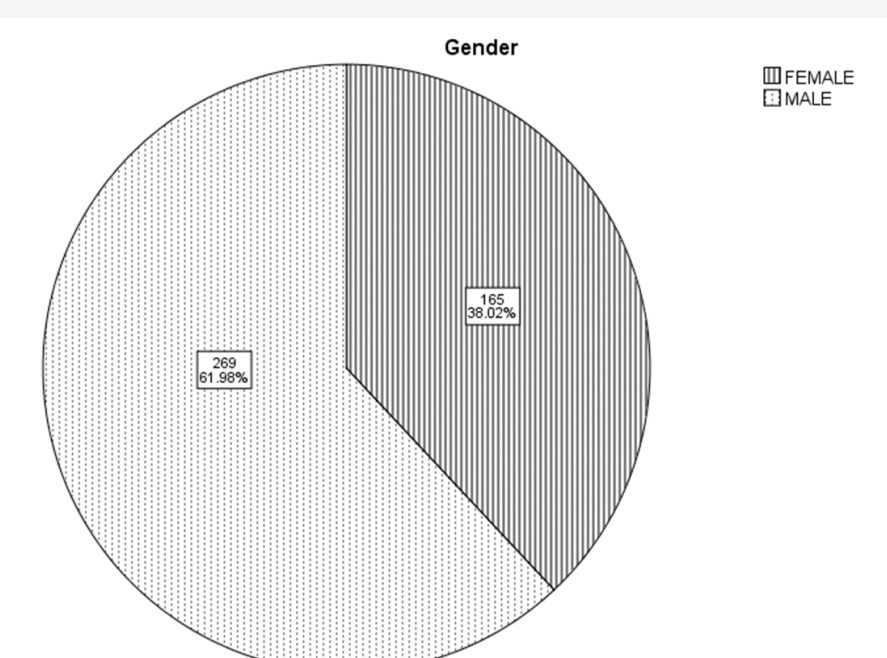
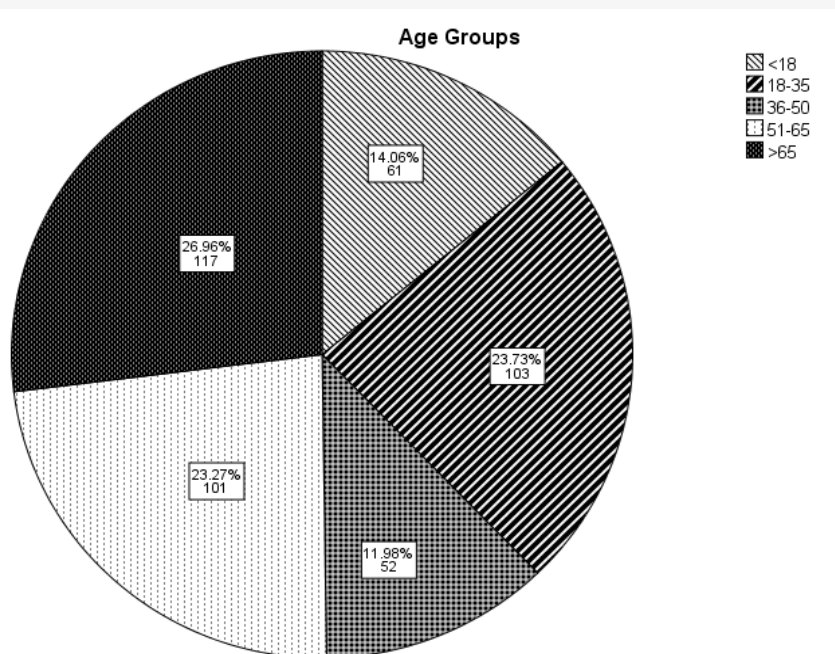


METHODS

We conducted a case-control study using archived nasopharyngeal swab (NPS) specimens from severe acute respiratory illness (SARI) and influenza-like illness (ILI) patients and surveillance population in Sibul Hospital and Bintulu Hospital between 15 March and 30 June 2020. The specimens were examined for common respiratory viruses and bacteria using a commercial PCR assay.

FINDINGS

Of 434 NPS specimens, 269 (62.0%) were female; 61 (14.1%) were below 18 years old, while 27.0% (n=117) patients were older than 65 years old.



FUNDINGS

Majority of the patients were symptomatic (306, 70.5%). Symptomatic patients were more likely to have positive virus results with an odds ratio (OR) of 4.46 (95% CI: 1.87, 10.64, p < 0.001). In contrast, there was no significant difference in the prevalence of bacteria in both groups of patients (p > 0.005). The three commonest viruses detected were human rhinovirus, adenovirus, and respiratory syncytial virus (RSV); for bacteria they were Streptococcus pneumoniae and Haemophilus influenzae.

Category	Symptomatic, n (%)	Asymptomatic, n (%)	X ² (df)	Odds ratio (95% CI)	p-value*
	N = 306	N = 128			
Virus					
Positive	55 (18.0)	6 (4.7)			
Negative	251 (82.0)	122 (95.3)	13.188 (1)	4.46 (1.87, 10.64)	<0.001
Bacteria					
Positive	149 (48.7)	56 (43.8)			
Negative	157 (51.3)	72 (56.3)	0.885 (1)	1.22 (0.81, 1.85)	0.347

CONCLUSION

Amidst the ongoing COVID-19 pandemic, there was a high prevalence of pathogens among patients with symptomatic respiratory illness and asymptomatic population during COVID-19 pandemic. Virus-positive patients, specifically RSV and adenovirus, were more likely to get symptoms during the COVID-19 pandemic. Bacteria from nasopharyngeal swabs appear to be commensal rather than pathogenic.

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