Factors associated to death in patients with confirmed diagnosis for influenza A/H1N1. State of Sao Paulo, Brazil, April to October, 2009


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Background: In April, 2009, a new subtype of influenza A/H1N1 virus emerged from the American continent, spreading worldwide. Until the end of October, 2009, WHO reported more than 440,000 influenza A/H1N1 laboratory-confirmed cases, registering more than 5,700 deaths. Studies point out that population groups who develop higher severity and mortality are: children less than two years of age, young adults, patients with chronic diseases and pregnant women.

Methods: An exploratory analysis was performed to identify factors associated with death among confirmed cases of influenza A/H1N1, considering the residents and other people treated in healthcare facilities in SP, from EW 16 to 41. Data were collected from the Information System of Notifiable Hazards – Influenza Online. Association between remarkable expositions and death caused by influenza A/H1N1 was investigated by unadjusted odds ratio estimation, with 95% confidence intervals, employing the Epilinfo software.

Results: In SP, since EW 16, 31,589 influenza A/H1N1 suspected cases were reported, from which 5,242 (16.6%) were confirmed and fulfilled the criteria for Severe Acute Respiratory Disease. Among these, 372 cases resulted in death, 3,619 were discharged from hospital and 1,251 are still under investigation. The following variables showed association with death caused by influenza A/H1N1: chronic cardiopathy OR = 3.00 (IC95% = 2.05-4.40); chronic renal failure OR = 3.85 (IC95% = 2.02-7.33); immunosuppression OR = 4.93 (IC95% = 3.35–7.25); tobacco abuse OR = 1.52 (IC95% = 1.03-2.26); chronic metabolic disease OR = 6.36 (IC95% = 4.27–9.48); diarrhea OR = 1.56 (IC95% = 1.16-2.10); residence in the metropolitan area of Greater Sao Paulo in relation to the interior of state OR = 1.37 (IC95% = 1.11-1.70). Variables which did not present association with death were: lack of previous vaccination against influenza OR = 1.65 (IC95% = 0.93-2.93) or pneumococcus OR = 1.22 (IC95% = 0.44-3.39); chronic pneumopathy OR = 1.14 (IC95% = 0.80-1.61); haemoglobinopathy OR = 1.74 (IC95% = 0.60-5.04).

Conclusion: Widespread knowledge of influenza A/H1N1 epidemiology, its complications and risk factors for death is extremely important to support the implementation of strategies to prevent and control this disease in high-risk groups. Comparison of data found in the assessed population with other similar studies is recommended.

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