EFFICACY OF CHEMOPROPHYLAXIS IN PREVENTING HOUSEHOLD TRANSMISSION OF INFLUENZA - A SINGLE CENTRE EXPERIENCE IN SOUTH INDIA

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Background:

Characterizing household transmission of H1N1 influenza virus is critical for the design of effective public health measures to reduce spread[1]. The period of infectivity of influenza is 1 day prior to the onset of fever to 5 days after. The incubation period is 1 to 4 days(usually 2 days).

Our objective was to estimate the secondary attack rates within households on the basis of active clinical follow-up of household contacts of children hospitalized with influenza like illness.

Materials and Methods:

We conducted a prospective observational study in the household contacts of children (who were the index case) admitted in our hospital in Chennai, South India with influenza like illness (ILI) during Jan-Feb 2017. ILI was defined as : fever and cough and/or sore throat without another known cause . During this period ,56 children (index) were hospitalized with ILI. Out of these, the nasopharyngeal swab tested positive for H1N1 by RT- PCR in 36 cases . These cases had in all 100 household contacts (Group 1) and those who had non H1N1 ILI had in all 57 households contacts (Group 2). A household contact was defined as anyone staying in the same house . Those symptomatic at the same time as the index case were excluded

In both groups , cough hygiene and hand hygiene were taught . In addition group 1 received chemoprophylaxis with oseltamivir. Clinical data was prospectively collected by daily phone calls enquiring about fever and cough or sore throat for a period of 7 days. Secondary cases were identified by clinical criteria for influenza like illness[2]

Table 1

Age	Group 1 (N=100)	Group 2 (N=57)
0-4 years	3(3%)	2(3.5%)
5-18 years	16(16%)	3(5.2%)
19-50 years	62(62%)	36(63.2%)
≥ 51 years	19(19%)	16(28%)

Table 2

Sex	Group 1 (N=100)	Group 2 (N=57)
Male	46(46%)	30(52.6%)
Female	54(54%)	27(47.4%)

Results:

The age and sex of the household contacts are depicted in Tables 1& 2 respectively . We identified 21 secondary cases(21%) in 17 households in Group 1 and 9 (16 %) in 5 households Group 2. The mean interval between onset of primary and secondary cases was 3.16 days (median interval of 3 days) in both groups . Infectivity did not vary with age

Discussion:

The secondary attack rate in our study for H1N1 was 21% and non H1N1 was 16%. Previous studies have reported secondary attack rate of 13% to 45 % (1,2,3). When contacts are isolated and treated as late as 2 days from the onset. only 21% of secondary cases can be avoided(3) . Limitation in our study was secondary cases were identified by clinical symptoms and not confirmed by viral testing.

Conclusion:

Even when chemoprophylaxis is appropriately instituted, household transmission is substantially greater than that of non H1N1 respiratory infection.

References:

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