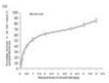

Conclusion: Stable Fe_3O_4 nanoparticles were successfully synthesized. In vitro assay showed that at the highest dose of iron oxide (6.5pg/mL), the growth of H1N1 virus was inhibited significantly compared with the control samples, Indicates that Iron oxide nanoparticles have potential for use as antiviral activity.

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Design of a study to examine contact mixing and acute respiratory infection in Ballabgarh, Haryana

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Background: Data on contact mixing are critical to understanding the spread of epidemics and pandemics that may disproportionately affect developing countries, but few studies have estimated contact mixing in these settings. We describe the design of a planned contact mixing study nested within an ongoing acute respiratory infection (ARI) study in Ballabgarh, Haryana. The contact mixing study aims to 1) describe the social contact patterns of individuals in this rural Indian population, where caste, gender, and age hierarchies are hypothesized to influence interactions, and 2) examine the impact of contact heterogeneities on influenza and general ARI risk after controlling for age.

Methods & Materials: Along with weekly household visits to capture ARI and influenza episodes in all residents in a sample of 900 households, we will capture information on social contacts over a sampled day from all individuals in these households. A structured questionnaire of social contacts (conversational within 3 feet or physical) over the past 24 hours will be administered in a face-to-face interview with each respondent. Respondents will report age and sex of contacts, along with the total duration of encounter(s), place of contact (at home, work, school, during transport, or other), and location of the contact of maximum duration (geocoded).

Results: In a pilot study conducted in July 2015 that served to establish feasibility, 77 individuals reported 922 contacts during the previous 24 hours. Assortative mixing (mixing with similar people) by age and sex was apparent. Females made fewer contacts than males (one-way ANOVA $F(1, 75) = 4.89$; p=0.030) and had more contacts within the home than outside compared with men ($F(1, 75) = 5.42$; p=0.023). We will present analyses from the planned study, including age contact matrices, and draw preliminary conclusions on mixing in households and other locations in this rural Indian population.

Conclusion: One limitation of our study is that the validity of self-reported contacts may vary by age and gender. This novel study in India will, however, lay the foundation to explore social mixing patterns using passive and technological data collection methods, as well as for mathematical and computational explorations of influenza transmission and interventions to reduce disease burden.

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Social media for infection control and prevention

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Background: India is a vast country with diversities and various infectious diseases. Large number of Indians uses social media.

Objectives: To elicit the view of college students on their participation for infection control and prevention.

Methods & Materials: A questionnaire survey was circulated among 200 college students to elicit their willingness to learn and support infection control and prevention through Social media. The questionnaire consisted of willingness to learn on disease outbreaks, symptoms, and health care advice; report to authorities and participate in prevention aspects.

Training on selected aspects of infection among all students of higher education was checked through respective web sites.

The data was analysed statistically.

Results: Of the 200, 180 were familiar with social media and were willing to participate on all aspects of infection control and prevention. They were also willing to pass on the infection related information to others nearby and far away through social networking and support the governmental programmes for prevention. There were no structured training programmes on selected aspects of infection among all students of higher education.

Conclusion: College students are interested in infections and infection control, and in social media. Hence, every student shall be informed and empowered on basics and prevention aspects of infectious diseases through National Social Services, Youth Red cross or other several social service systems prevalent in respective colleges, in an uniform manner and monitored by University Grand Commission (UGC), as infection related aspects do not receive due attention. For effective control and prevention of infection in India, activities and participation of students and colleges on infection control have to be incorporated in the assessment of the college by various Accreditation councils or Assessment systems. Accordingly