

## Prevalence of *Haemophilus influenzae* and *Streptococcus pneumoniae* Carriers in Nasopharyngeal in Children Under 6 Years Old in Tehran

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**Background & Objectives:** *Haemophilus influenzae* (Hi) and *Streptococcus pneumoniae* (pneumococcus), obligate upper respiratory tract pathogens, uses phase variation to adapt to host environment changes. They are two causes of meningitis in infants. The performance of this study concerning to the emphasis of WHO on adding vaccination against these two bacteria in national vaccination program, could be counted as a good basis for studying changes of colonization and possible serotypes of these two bacteria after vaccination.

**Methods:** In this study 110 nasopharyngeal samples isolated from healthy children under 6 years old at Children's Medical Center in Tehran from summer 2011 to spring 2012 and nasopharyngeal swab were cultured on Blood agar and chocolate agar with 260 microg/ml bacitracin. Primary identify of performed by biochemical testing and xv and optochin discs. PCR was used to confirm the result.

**Results:** The results showed that 19 cases (17%) of the children were carrier of Hi (42% females and 58% males) and 23 cases (20%) were positive for pneumococcus (52% females and 48% males). Out of 19 Hi strains and 23 pneumococcus strains 71%, 60% isolated from 1-3 year old children, 15%, 20% isolated from 4-6 year old children and 14%, 20% isolated from under 1 year old children, respectively. From the 110 children studied, 80 cases (72%) suffered from upper respiratory infections and 12 cases (28%) carrier of both bacteria.

**Conclusion:** The prevalence of Hi and pneumococcus carriers was similar to the studies carried out in other unvaccinated countries. Age and upper respiratory infections were variables associated with Hi and pneumococcus carrier status. These bacteria were prominent infections in this age group and the most carriers are 1 to 3 years old and this rate is decreased with increasing age. Our results suggest that there is a strong relationship between exposure to upper respiratory infections and the carriers.

**Keywords:** *Haemophilus influenzae*; Nasopharynx; Carriers; *Streptococcus pneumoniae*