



Theme: Adolescent Pediatrics

 **Population-level impact and herd effects following the introduction of human papilloma virus vaccination** (*Lancet* 2019; pii:S0140-6736(19)30298-3. doi:10.1016/S0140-6736(19)30298-3. [Epub ahead of print])

This systematic review and meta-analysis of 65 studies covering 60 million individuals from 14 high-income countries with a 9-year post-vaccine surveillance data of a 3-dose ‘girls only’ Human Papilloma Virus (HPV) vaccine programs, revealed reduction in prevalence of HPV 16, 18 by 83% (RR 0.17, 95% CI 0.11, 0.25) in girls aged 13-19 years, and by 66% (RR 0.34, 95% CI 0.23, 0.49) in women aged 20-24 years. For HPV 31, 33, 45, the reduction was 54% (RR 0.46, 95% CI 0.33, 0.66) in girls aged 13-19 years. Anogenital warts decreased by 67% (RR 0.33, 95% CI 0.24, 0.46) in girls aged 15-19 years, 54% (RR 0.46, 95% CI 0.36, 0.60) in women aged 20-24 years, 31% (RR 0.69, 95% CI 0.53, 0.89) in women aged 25-29 years, 48% (RR 0.52, 95% CI 0.37, 0.75) in boys aged 15-19 years, and 32% (RR 0.68, 95% CI 0.47, 0.98) in men aged 20-24 years. There was a decrease in CIN2+ by 51% (RR 0.49, 95% CI 0.42, 0.58) in girls aged 15-19 years, and 31% (RR 0.69, 95% CI 0.57, 0.84) in women aged 20-24 years. Cross protection with non-vaccine serotypes, herd immunity in older women and boys, and increased protection in countries with high vaccination coverage and those immunizing multiple age cohorts were demonstrated.


These results should be extrapolated with caution to low- and middle-income countries (LMIC) that harbour 85% of the global cervical cancer load. Nevertheless, this study provides compelling evidence for the efficacy of HPV vaccine programs, and for planning similar studies in LMIC. Vaccination is an important strategy to eliminate cervical cancer under WHO coordinated action plan released in May 2018.

 **Increase in e-cigarette use and dependence in adolescents** (*J Adolesc Health*. 2019;64:770-5)

Globally, there has been increase in adolescents’ e-cigarette use, also called vaping. In this longitudinal study, a cohort of 173 adolescents (age 13-18 y) using e-cigarettes was followed-up over one year using self-report questionnaires and biomarkers. Daily use increased from 14.5% to 29.8%. Model testing indicated an increase in frequency of use ($P=0.004$), dependence ($P=0.005$) and cotinine levels ($P=0.038$). Among those reporting only e-cigarette use at baseline, 28.8% reported combustible cigarette use during follow-up. Higher nicotine delivering e-cigarette devices (e.g., JUUL) became more popular over time.


E-cigarettes do not help in smoking cessation, and can result in addiction. On 29 May 2019, Indian Council of Medical

Research published a white paper on e-cigarettes recommending its complete prohibition in India in interest of public health.

 **Stress and coping among urban school-going adolescents in India** (*BMC Psychol*. 2019;7:31)

Poor stress management can lead to mental disorders and suicide. An exploratory qualitative study was conducted through focussed group discussions with 191 adolescents belonging to middle and low socioeconomic status at New Delhi and Goa. Thematic framework analysis was used to identify causes of stress, impacts and coping strategies. Common stressors included academic pressure, difficulties in romantic relationships, negotiating parental and peer influences, violence, threats to personal safety, and gender discrimination. Stress resulted in anger, rumination and loss of concentration. Adolescents mainly used emotion-focused coping strategies (e.g., distraction, escape-avoidance), and less commonly problem-focused coping (e.g., instrumental support seeking). A few used drugs and indulged in self-harm to overcome stress.

This study highlights the need to provide contextually relevant counseling to distressed adolescents, and partner with parents, peers and schools to enhance the repertoire of healthy coping skills.

 **Emotion differentiation moderates the relationship between naturalistic stress exposure and adolescent depression** (*Emotion*. 2019. doi:10.1037/emo0000630. [Epub Ahead of Print])

Emotional intelligence is integral to health and psychosocial well-being. This longitudinal study conducted in USA over 1.5 years on 233 adolescents aged 13 to 17 years explored the association between negative emotion differentiation (NED), stressful life events (SLE) and depression. NED is the ability to identify and label discrete negative emotions. NED, depression and SLE were assessed using a semi-structured interview with diagnosis-blind team coding based on the contextual threat method. Using descriptive analysis and bivariate correlation, it was determined that a low NED is depressogenic in the context of a highly stressful environment.

Labelling negative emotions is a prerequisite for learning coping skills. For distressed adolescents, especially those in conflict zones and victims of natural disasters and abuse, nurturing a high NED would prevent the onset of depression.

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