The current and future disease burden of hepatitis B virus in the general population and among five year-olds in the Eastern Mediterranean Region

INTRODUCTION
- Accurate national estimates of chronic hepatitis B (CHB) are needed to devise national and regional strategies in the Eastern Mediterranean Region (EMRO).
- Systematic reviews and meta-analyses published in the last 5 years have signaled a global decrease in prevalence compared to earlier estimates [1-3]. While these findings reflect the implementation of the many vaccination programs around the world among infants, these analyses do not specifically factor in vaccination rates over time.

AIM
- This study quantifies the prevalence of CHB in the EMRO region among the general population and five year olds, from 2016 through 2030, using historical prevalence estimates combined with country level modeling while accounting for the impact of prophylaxes practices and treatment on CHB prevalence as well as morbidity and mortality.

METHOD
- A literature review was conducted for hepatitis B surface antigen (HBsAg) prevalence among the general population (by age) and e-antigen prevalence among women of child bearing age.
- Additional data sources were identified manually through references in other articles, government and NGO reports and communication with local experts in more than half of the EMRO countries.
- A dynamic country-level transmission and disease burden model was used to estimate the impact of vaccination, hepatitis B immune globulin, treatment of mothers as prophylaxis, treatment in the general population, aging, disease progression and mortality in the infected population in each country with data.
- Regional averages were applied to populations of countries without available data, and results were then aggregated to form regional estimates.

RESULTS
- While total CHB infections are expected to decline over the next 15 years in the EMRO region, advanced morbidity and mortality are projected to increase as the infected population ages. Slowing or stopping the disease progression with treatment could reduce the projected disease burden.
- A CHB prevalence of 0.5% among five year olds and an expected decline of only 6% suggest that higher perinatal prophylaxes coverage is needed to further reduce the prevalence among children, particularly in the countries with limited three dose coverage and lack of birth dose.

CONCLUSIONS

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REFERENCES