The number of P patients increased in each disease group and in total by 67% from 119,614 to 138,308, while the population grew only by 5% (Table 1), resulting in a 10% increase in the morbidity rates from 3.4% to 3.7% between 2005 and 2013 in the 50+ population. GEMRA results were significant in most cases. Aging increased the RR of mortality in all cases. Year had no effect on morbidity in most cases, except to Meningsitis. As per GEMRA, aging population is the reason for the mortality rate increase.

Mortality

As per 129,344 people had CAP in 2013, which generated EUR 16.6m direct health care cost. Approximately 40% of CAP is attributable to S. pneumoniae, causing EUR 6.7m expense. [2] Based on epidemiological data, the vaccine against 13 serotypes (which has outstanding results in public health immunization programme among children in Hungary) could potentially prevent 27,544 people from the disease, which equals to EUR 3.6m expenditure (potential saving). [6] Preventing the disease, the mortality can be also reduced. CAP related mortality was 12,189 in 2013. Summary of the distribution data in Hungary. In the 50+ population 2,021 people were in the active, working-age (50-64) cohort, while the employment rate is 49% per Hungarian Central Statistical Office data, so among them 18 were employed in 2013. Based on the employment rate and GDP per capita data (EUR 10,161 in 2013), [3] the total mortality was 12,189 in 2013.

A real world data research confirmed the increase of pneumonia, meningitis and septicaemia patient number in the 50+ population, which was 16% increase in the 2005-2013 period. These three diseases affected EUR 27.1m direct health care cost in 2013, which is growing in parallel with the aging population due to lack of organized prevention programme. CAP mortality significantly increased in this period, by 57% in the 50+ population. An additional EUR 13.6m indirect cost could be attributed to case specific mortality loss of GDP on the relevant cohort. A targeted adult pneumococcal vaccination program could be a well definable and in a short-term effective goal for the Hungarian public health care, which could avoid morbidity and mortality cases, saving resources allocatable to other areas.

Conclusions

Pneumonia, meningitis and septicaemia diseases put significant direct burden to the inpatient care and medication budgets in the young and adult population. Based on empirical data from the National Center for Epidemiology, the pneumococcal vaccination program among children, which was introduced a several years ago, successfully avoids the disease in significant part of the cases. [5] However among adults (50+) due to the lack of or inappropriate prevention - the incidence of the diseases is growing and causing death in many cases.

The aims of the research are to show the burden and to project the increasing health care cost of the pneumococcal diseases in order to highlight the need for adult vaccination programmes.

References

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