META-REGRESSION ANALYSIS OF WORLDWIDE HERPES ZOSTER INCIDENCE

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Background

HERPES ZOSTER INCIDENCE
IMPACT OF AGE, GENDER AND TIME
OBJECTIVE OF THE STUDY

Many studies have been conducted worldwide to estimate Herpes Zoster (HZ) incidence rates and temporal trends.

HZ incidence has been reported to increase with age, be higher in females compared to males, and increase over time.

We systematically reviewed and synthesized studies of HZ incidence rates in the general population using meta-analysis models.

Methods

Conducted to estimate HZ incidence from a published worldwide systematic literature review (SLR) including only individuals aged 50 years and older.

Meta-regression was used to explore variability in incidence rates that could be explained by a combination of study-specific characteristics in the base model: age, gender, continent and year of data collection.

The impact of adding additional covariates was also assessed: case detection method*, case definition†, study design‡, incidence type§, patient type‖, and latitude to the base model.

Results

The estimated age x gender interaction suggests that the difference in incidence between males and females is greater in younger ages (e.g. 50-59), whereas in older age groups (e.g. 80+) incidence rates are similar between males and females.

Conclusion

There was much variance in study methodology and outcomes.

Heterogeneity of incidence rates was greatest across studies conducted in Asia.

Incidence rates were shown to vary by age, gender, continent, and over time.

It was estimated that 15.5 million HZ cases occurred in 2020 worldwide in individuals aged 50 years and older, which in the absence of vaccination, is projected to increase to 18.8 million by 2030.

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Funding: GlaxoSmithKline Biologicals SA; Acknowledgments: Benjamin Briquet, Eveline Bunge, John Diaz-Decaro and Mohamed Naime. Business & Decision Life Sciences c/o GSK (Coordinator: Maxime Bessières)
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Supplementary Table

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β, beta-coefficient; SE, standard error; Lower, lower 95% confidence interval; Upper, upper 95% confidence interval.

Supplementary Information

The authors would like to thank Benjamin Briquet, Eveline Bunge, John Diaz-Decaro and Mohamed Neine for their input into the study protocol and analysis. Business & Decision Life Sciences platform provided editorial assistance and publications coordination, on behalf of GSK. Maxime Bessières coordinated publications development and provided editorial support.

AC, DVO and DC are employed by/hold shares in the GSK group of companies. BN and KF are employed by Evidera which received financial support by the GSK group of companies during the conduct of the study. BY reports grants and personal fees from the GSK group of companies outside the submitted work. HV report grants from the GSK group of companies during the conduct of the study and outside the submitted work.

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