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COMPARISON OF VACCINATION SCHEDULE BETWEEN INDIA AND BELARUS

Introduction

Immunization is a global health success story, saving millions of lives every year. We now have vaccines to prevent more than 20 life-threatening diseases, helping people of all ages live longer, healthier lives. Immunization currently prevents 3.5 million to 5 million deaths every year from diseases like diphtheria, tetanus, pertussis, influenza and measles. Immunization is key to primary health care, an indisputable human right, and one of the best health investments money can buy. Vaccines are also critical to the prevention and control of infectious disease outbreaks. They underpin global health security and are a vital tool in the battle against antimicrobial resistance.[1]

Goal

To compare and evaluate the vaccination schedules of India and Belarus, focusing on the differences in vaccine types, dosing schedules and coverage.

Material and methods of research

This study is a systematic review and meta-analysis of research conducted in previous years. We conducted a systematic search in Major scientific database including, google scholar, PubMed, WHO, science direct.

The results of the research and their discussion

As the incidence of vaccine-preventable diseases have declined because of the widespread use of immunizations. The childhood immunization schedule immunizes children in a manner consistent with demonstrated efficacy, safety, and feasibility but also permits some degree of flexibility to accommodate individual preferences and logistic [2]

Both countries India and Belarus utilize a mix of vaccine types which are inactivated, live attenuated, subunit and recombinant vaccines. Differences in dosing schedule can be seen as in India BCG is given at birth, hepatitis B is given at birth, 6 weeks and 14 weeks, pneumococcal conjugated vaccine (PCV) is given at 6 and 14 weeks. Oral polio vaccine first dose is given at birth, second at 1 month and the third at 2 months. It is observed that oral polio vaccine is most common in India than in Belarus. In Belarus Inactivated polio vaccine (IPV) is administered in four doses at 2, 3, 4, months and 7 years consecutively is administered for children under 2 years of age. In India JE –1 is given between 9–12 months, Rota virus at 6 weeks, 10 weeks, 14 weeks. Comparatively in Belarus BCG is given at 3–5th day of infant; pneumococcal vaccine in 2,4,12 months. Meningococcal vaccination in India is given at 9 months and booster vaccine is administrated in 12–13 years, MenACWY and MenB. The meningococcal vaccine is not available in Belarus.

The Government of Belarus has announced it has introduced the human papillomavirus (HPV) vaccine into its national immunization calendar for the first time, allowing adolescent girls to receive the inoculation free of charge starting in 2025 [3]. Currently, HPV vaccines in India are only available under prescription by private practitioners. HPV vaccination uptake

in India is low due to its high cost, misinformation regarding safety and effectiveness, and discouraging cultural perceptions for vaccines [4]

In India 2013, 2 out of 9 (22%) vaccines in the national immunization schedule achieved coverage of 90% or more. Vaccine coverage ranged from 20% to 91%. In 2023, 10 out of 13 (77%) vaccines in the schedule achieved coverage of 90% or more. Vaccine coverage ranged from 63% to 93%. Since 2004, estimates have been made for 8 new vaccines. PCV3 is the newest vaccine reported (2018), which achieved 83% coverage in 2023.[5]

Vaccine coverage in Belarus in 2013, 9 out of 10 (90%) vaccines in the national immunization schedule achieved coverage of 90% or more. Vaccine coverage ranged from 23% to 99%. In 2023, all 11 (100%) vaccines in the schedule achieved coverage of 90% or more. Vaccine coverage ranged from 95% to 98%. Since 2005, estimates have been made for 3 new vaccines. IPV1 is the newest vaccine reported (2015), which achieved 98% coverage in 2023. [6].

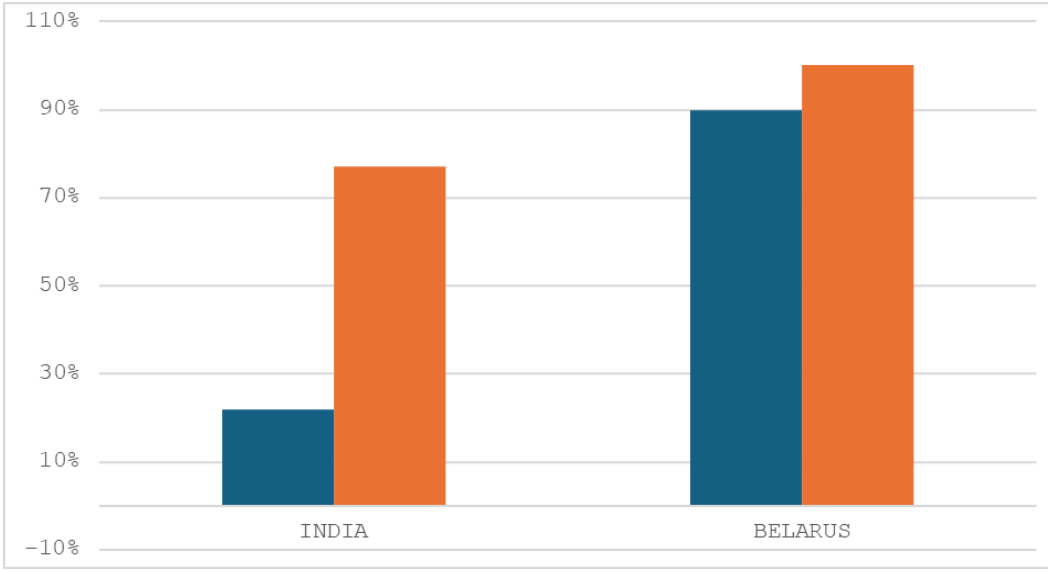

Figure 1 – The above bar graph represents vaccination coverage of India and Belarus in the years 2013 and 2023 consecutively

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Conclusions

The comparison of vaccination schedules for children in India and Belarus reveals considerable differences in vaccine types, dosing schedules, and coverage rates. India provides a broader range of vaccines compared to Belarus, reflecting its diverse healthcare needs and public health strategies. However, Belarus stands out with a robust vaccination program, achieving an impressive overall coverage rate that exceeds 95%. This high coverage is largely due to its streamlined dosing schedule and effective public health policies that ensure timely immunization for children.

To improve child health outcomes in India, it is crucial to address existing barriers to vaccination. This can be achieved through enhanced community engagement, targeted educational initiatives, and strengthening the healthcare infrastructure to make vaccines more accessible. By learning from the successes of Belarus and adapting its strategies to fit the unique context of India, the country can work towards achieving higher vaccination coverage. Ultimately, this effort aims to significantly reduce the incidence of vaccine-preventable diseases among children, ensuring a healthier future for the younger population.

LITERATURE

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