

Strategies to Reduce the Burden of Respiratory Syncytial Virus Infections in Children in Portugal: Results from the Focus Group RSV Think Tank

Estratégias para Reduzir o Impacto das Infecções por Vírus Sincicial Respiratório em Crianças em Portugal: Resultados do Focus Group RSV Think Tank

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INTRODUCTION

Respiratory syncytial virus (RSV) is the primary cause of acute lower respiratory infections (ALRI) in children under five years of age,^{1,2} with bronchiolitis being the most common clinical presentation.³ This virus affects people of all ages,² and it is estimated that by the time children reach the age of three, virtually all would have been infected at least once.⁴ Despite the higher likelihood of complications in infants younger than six months or with risk factors, such as prematurity and pulmonary or cardiac disease, the disease progression is unpredictable and can cause severe illness in healthy children.³

In Portugal, the annual seasonal epidemics of RSV historically occur during the autumn and winter months.⁵ During this period, RSV may be responsible for more than 80% of ALRI in children aged under one year,² as well as the main cause of hospitalizations.⁶ This has significant consequences for health expenditure, resource management, stress levels of healthcare professionals, and quality of healthcare services.⁷⁻⁹ Conversely, the associated RSV diseases have a high burden on families, both economically and emotionally.⁸ The economic costs are associated with direct out-of-pocket payments, such as medical appointments, hospital/clinic visits and treatments, and indirect costs capturing absenteeism from work and loss of produc-

tivity, which represent a high cost for society.⁸

Despite the high burden of RSV in Portugal,¹⁰ the country lacks an adequate prevention strategy. Thus, the 'RSV Think Tank initiative – *Inspirar à mudança*' was created to address this issue. This initiative comprised a multidisciplinary panel of Portuguese experts (n = 20), including pediatricians, neonatologists, public health physicians, nurses, economists, parent associations, and decision-makers, which participated in three discussion sessions focusing on different topics: RSV burden, challenges, and barriers (session 1); economic and psychosocial burden (session 2); future strategies (session 3).

With the aim of improving the management of RSV infections in Portugal, we collated the 10 most important actions to be implemented in Portugal that were developed during the RSV Think Tank, which are grouped into three categories: literacy actions, non-pharmacological preventive actions, and pharmacological preventive actions. These are summarized in Table 1, and detailed in the Appendix 1 (<https://www.actamedicaportuguesa.com/revista/index.php/amp/article/view/20620/15361>).

Literacy actions

The lack of literacy regarding RSV is widespread. Based

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Table 1 – Summary of the literacy actions, non-pharmacological preventive actions and pharmacological preventive actions developed by the experts during the RSV Think Tank initiative

	Objective	Actions
Literacy actions	Increase the literacy of parents/caregivers and the general public regarding respiratory infections, particularly RSV.	Disseminate information about RSV through physical, digital, and media campaigns.
	Promote the literacy of parents/caregivers, through the provision of reliable information during the appointment.	Develop an informative brochure about RSV that is given to parents during appointments.
	To directly intervene in communities, increasing the health literacy levels of society and stimulating the adoption of health-promoting behaviours.	Increase the role of municipalities in promoting health literacy and disease prevention among the general population..
	Promote knowledge about respiratory infections, particularly RSV, and preventive measures, among educators and teachers in schools and day-care	Implement specialized training in schools and day-care centres for educators and teachers about respiratory infections.
	Increase parents'/caregivers' knowledge about respiratory infections caused by RSV and promote behavioural changes through healthcare professionals.	Update the "Boletim de Saúde infantil e juvenil" by adding specific discussion topics for each age group regarding respiratory infections.
	Promote healthy habits and disease prevention among educators/teachers, parents, and children, equipping the new generation with the necessary tools to become promoters of their health.	Create a multidisciplinary team between Primary and Secondary Care, Municipalities, and Schools to work on school health promotion.
Non-pharmacological preventive actions	Reduce the spread of respiratory infections in daycare centres.	Facilitate the bureaucratic process associated with parental absenteeism from work due to their child's respiratory infection.
	Reduce premature babies' contact with other children during an early and high-risk period for respiratory infections and complications. Ensure minimal financial impact on parents during this period.	Increase the duration of maternity/paternity leave for premature babies' parents.
Pharmacological preventive actions	Prepare the country for the discussion, analysis, decision-making, and implementation of preventive technologies being developed against RSV infection, to promote a prompt decision-making process by political entities based on scientific evidence.	Create a national task force dedicated to RSV or restructure the existing task force (DGS).
	Reduce the clinical, economic, and psychosocial impact of RSV infections, directly, equitably, and universally, promoting the reduction of the incidence of moderate to severe disease, with a significant impact on the reduction of hospitalizations and emergency department visits in all children.	Implement a preventive method against RSV for all children.

on our experience, there is limited knowledge regarding the burden of RSV on families, the healthcare system and potential long-term health effects on children. We consider this the main factor for the inefficient management of RSV respiratory infections in Portugal.

In order to improve the management of RSV, it is essential to increase awareness among parents, educators, policymakers, and society at large. Prioritized actions include the development of informative materials to be given to parents during medical appointments, increasing the role of local authorities in promoting health literacy and educating teachers, parents, and caregivers about preventive measures, as well as modifiable risk factors, such as smoke exposure. The promotion of individual protective measures, especially at home and in the school and childcare setting,

is essential to help prevent the spread of respiratory viruses and therefore reduce the burden of RSV.

Increasing literacy about symptoms and the natural progression of RSV infections will help reduce the psychological impact on parents and minimize the burden on healthcare services. When parents recognize the natural progression of these infections, they do not feel the need to rush to an emergency service, resorting to other healthcare sources for guidance, such as the contact center of the National Health Service (SNS24), pediatric appointments and primary care.

Educators and healthcare professionals have a crucial role in promoting literacy and disseminating information to parents and children. However, in the current healthcare landscape, healthcare professionals often do not have the

time to promote parental literacy. Therefore, policymakers should prioritize the development of communication strategies and training programs to support healthcare professionals, starting at an undergraduate level, and create conditions for their implementation (e.g., longer appointments or allocated times for health literacy dissemination).

Non-pharmacological preventive actions

The lack of prioritization of RSV infections on health policies has led to the absence of measures to empower families to manage these infections effectively. For example, there are bureaucratic obstacles that sometimes force caregivers to adopt behaviors that increase the spread of RSV, putting vulnerable populations at risk (e.g., taking a sick child to daycare due to difficulties in obtaining a timely absence from work certificate).

Priority actions have been developed to enable families to effectively prevent the spread of RSV, such as simplification of the process to obtain an absence from work certificate, elimination of the medical certificate required for childcare return and increasing the duration of maternity/paternity leave for parents of premature babies, who are at greater risk of severe disease, especially in the first two years of life.

Pharmacological preventive actions

The management of RSV infections is at a turning point. The availability of new preventive methods urges the development of a technical and scientific decision-making mechanism focusing on RSV to evaluate the best preventive strategy for the Portuguese population. This can be achieved by creating a national working group dedicated to RSV or restructuring the existing working group in the Portuguese Directorate General of Health (DGS). This will help to ensure quick policy decisions and the development of an adequate implementation strategy with sufficient time for operational preparation, thus ensuring a successful implementation and equitable access.

The implementation of a universal preventive measure for all children has the potential to significantly reduce the number of RSV infections, emergency department visits, hospitalizations, absenteeism, and emotional and economic impact on families.

CONCLUSION

There is a high number of RSV infections in the pediatric population in Portugal, leading to short- and long-term respiratory problems in children. This burden is high, having a negative economic and emotional impact on families and a high cost for society due to absenteeism and lost productivity. Additionally, the high number of RSV infections causes a strain on the healthcare system, particularly during season-

al outbreaks, leading to increased healthcare spending and increased stress and exhaustion levels among healthcare professionals.

Given that the current prevention strategy is insufficient, there is a consensus about the need to prioritize the fight against RSV infections in Portugal. To this effect, we developed a set of actions to reduce the burden of this virus, including educating parents/caregivers, educators, and the society at large about RSV, and developing a technical-scientific decision-making mechanism in Portugal to evaluate, determine and implement the best pharmacological preventive strategy.

The success of the actions developed will depend on whether the prevention of RSV becomes a priority for policymakers. This is of the utmost importance, as investing in the prevention of RSV could lead to a more efficient use of healthcare resources, thus contributing to a more sustainable healthcare system.

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AUTHOR CONTRIBUTIONS

All authors contributed equally to this manuscript.

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in 2013.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

COMPETING INTERESTS

ARD, ES received payments from Sanofi to their company, MOAI Consulting, for the organization of the RSV Think Tank initiative, compilation of the main results of the initiative and medical writing of the present article.

RM received grants or contracts from the EU Commission for the PANDEM2 Project; received medical writing fees, payment for expert testimony and support for attending meetings from Pfizer; was president of Associação

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