

ARIA masterclass 2018: From guidelines to real-life implementation*

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Abstract

Over the past 20 years, ARIA (Allergic Rhinitis and its Impact on Asthma) has developed various guidelines for the treatment of allergic rhinitis (AR) and asthma multimorbidity. Over time, the ARIA initiative has evolved to ensure the highest level of best-practices adoption in real life settings. It has evolved towards Integrated Care Pathways (ICPs) using mobile technology, and has now entered a new phase in which change management is key to provide an active and healthy life to all AR patients. With that in mind, the first ARIA masterclass was held on 12th September 2018 in Brussels, Belgium. The masterclass aimed at informing clinicians about the principles of change management, providing unbiased education on diagnosis and treatments, sharing the most recent research data on AR and multimorbidities, and creating a snowball effect to increase the adoption of best practices around the globe.

This report provides an overview of the ARIA masterclass concept, summarizes the key lectures and discussions, and gives an outline of the future key development.

Key words: ARIA, allergic rhinitis, asthma, masterclass

Introduction

Respiratory allergies are on the rise and represent a serious health problem worldwide ^(1,2). It is estimated that 20-30% of the European population suffers from allergic rhinitis (AR) ⁽³⁾, with citizens from all countries, ethnic groups, and ages affected by the disease. AR influences social life, sleep, school and work productivity ^(4,5), and in turn generate substantial indirect costs for the society ⁽¹⁾.

To find solutions for this ever-growing epidemic, an ARIA (Allergic Rhinitis and its Impact on Asthma) –WHO (World Health Organization) workshop was organized for the first time in 1999, with the goal of better characterizing this allergic disease and proposing a stepwise action plan to address this socio-economic problem. Since that first meeting, the ARIA expert group has achieved numerous milestones contributing to a better management of AR and multimorbidities, including (but not limited to):

- Novel classification of AR by symptom's duration (intermittent, persistent) and disease severity (mild, moderate/severe) ⁽⁶⁾.
- Official recognition of the significance of multimorbidities in AR ⁽⁶⁾.
- Release of the first exhaustive ARIA guidelines (2008 & 2010), including an overview of evidence-based diagnostic methods, treatments, and care management ^(7,8).
- Development of a simple, guideline-based, and patient-centered mobile app. (i.e. MASK Allergy Diary) to help answering some of the unmet needs in AR and asthma ⁽⁹⁾.
- Creation of multi-disciplinary Integrated Care Pathway (ICP) for AR and multimorbidities ⁽¹⁰⁾.
- Merge with the non-profit organization EUFOREA to increase the outreach and impact of ARIA activities (www.euforea.eu).
- Proposal for a Change Management strategy to reach a worldwide reduction of AR and asthma burden ⁽¹¹⁾.

Incentive for the creation of the ARIA masterclass and key objectives

In spite of the various guidelines, pocket guides, and other digital tools developed through the ARIA initiative, many clinicians remain unexposed to this evidence-based information, or some remain uncertain of the advantages and drawbacks of the many AR treatment options available. Thus, various allergists part of the ARIA expert group have observed suboptimal management of patients around the globe, resulting in poorly controlled AR ⁽¹²⁾ and additional cost due to improper medications ⁽¹³⁾. Moreover, real-life evidence shows that most AR patients do not follow guidelines and have a very poor adherence to treatment ^(14–16).

Therefore, the ARIA masterclass was created to fill this gap and inform a large number of ambassadors, i.e. clinicians, which

will further spread the best practices at national and regional levels. The first ARIA masterclass took place on the 12th September 2018 in Brussels, Belgium, and was attended by over 200 clinicians from 21 countries (Figure 1). An educational program was designed to update the participants on the latest data from clinical trials as well as recent real-life evidences. In addition, clinicians received practical information about the best practices, including the latest diagnostic tools for optimal patients' stratification, and a presentation of all therapeutic strategies available nowadays for AR and multimorbidity. Finally, the role and benefits of novel technologies (mHealth tools) were presented. The lectures were fully recorded and are available on the EUFOREA website (www.euforea.eu).

Barriers and strategies to improve the effectiveness of care management in AR

Challenge of AR and multimorbidities

Multimorbidity has been defined as the presence of one or more additional disorders co-occurring with a primary disease, or the effect of such additional disorders ⁽¹⁷⁾. AR may be either associated with asthma (multimorbidity) or as a single disease, and these two phenotypes differ widely ^(18–20). Data provided by several birth cohorts show the trajectories of patients with allergic symptoms ⁽²¹⁾ and a presence of allergic multi-morbidity (2 or more of asthma, rhinitis and eczema) occurring in over 10% of young adults. However, multimorbidity was not associated with IgE sensitization ⁽²²⁾. The vast majority of asthmatics have rhinitis, and AR is a risk factor for new onset asthma as well as a risk factor for asthma in the next generation ⁽²³⁾. Treating AR may therefore improve asthma control although a definite conclusion cannot be reached with current data. AR was also associated with several other conditions: AR is strongly associated with conjunctivitis ^(24,25). Although not clearly demonstrated to be a risk factor for chronic rhinosinusitis, IgE sensitization appears to be a risk factor for both upper and lower respiratory tract infections ⁽²⁶⁾. AR may be associated with otitis media with effusion in children ⁽²⁷⁾. Finally, pollen-food syndrome is common in European children and adults with AR and birch pollen sensitization ⁽¹⁷⁾.

The need for better symptom control

The cardinal symptoms in AR are runny or blocked nose, sneezing and itchy nose or eyes. These can be extremely troublesome, and the consequences of such symptoms cannot be neglected, with impaired sleep quality perhaps being the most vital (experienced by 50.3% of adults and 37.3% of children with AR) ^(28–31). Consequent tiredness and poor concentration impinges on quality of life, on work and school performance and productivity ⁽⁴⁾. Unproductivity for 2.3 h per working day due to AR symptoms costs \$593 per person per year ⁽³²⁾. This is greater than that for heart disease, asthma, diabetes, hypertension and respiratory



Figure 1. Impression of the ARIA Masterclass 2018 and key objectives.

illnesses combined⁽³²⁾. Uncontrolled AR carries a high social burden in other respects: it is socially embarrassing to be seen sneezing, sniffing, or blowing the nose. Loss of smell has been also associated to severe and uncontrolled AR, both in adult⁽³³⁾ and children⁽³⁴⁾. AR is associated with psychological disturbance and is a risk factor for depressive mood in pre-adolescents⁽³⁵⁾. Practical issues exist: untreated AR can impair driving ability⁽³⁶⁾, and this is worsened if inappropriate treatment such as sedating antihistamines are used⁽³⁷⁾.

Currently many AR sufferers report poor symptom control and are willing to pay for a treatment for allergic rhinitis which works quickly and provides complete symptom relief^(38,39). Additionally, allergen immunotherapy (AIT) holds curative potential for allergic diseases and therefore represents an important treatment strategy to tackle the global rise of allergies^(40,41). The right combination of both AIT & pharmacotherapy holds the potential to i) control patients' symptoms, and ii) change the course of the allergic disease⁽⁴⁰⁻⁴⁴⁾. Another important issue is the need for continuous or on-demand treatment both in asthma^(45,46) or in rhinitis. In that direction, ICP provide a multi-stakeholder approach to the management of AR with pharmacists⁽⁴⁷⁾ and GPs⁽⁴⁸⁾.

Patient participation and shared-decision making

In the digital era, where all information is readily accessible on the smart phone, we are moving from the "guideline era" to a "patient partnership era" for change management⁽¹¹⁾. We also call it shared-decision making, participatory medicine, health consumerism, or patient-centered care, which traduces an experience of transparency, individualization, recognition, respect, dignity, and choice in all matters in health care⁽⁴⁹⁾. Less dictating about compliance and adherence, and more collaborative with the patient. mHealth is an important solution to meet the growing demand for care. Mobile applications increase health

literacy, bridge patient-physician communication, and increase patient participation. The problems now reside in the lack of research and testing the application before going live as well as patient willingness to use the apps over time^(50,51). Personal counselling of the patient by a professional is still critical. One important example is guided self-management, which dramatically reduced asthma exacerbations during the Finnish asthma (1994-2004) and allergy (2008-2018) programmes^(52,53). Note that in paediatric care, such mutual partnership is often more complicated, because legal and ethical issues regarding children are barely defined. In addition, children of different ages have different levels of competence regarding self-care and health. Since chronic diseases span over different stages of a child's development, shared-decision making must be constantly re-evaluated to the changing levels of autonomy and needs of a growing child. Nonetheless, parents or caregivers should be included in the process of shared-decision making. Altogether, in the modern health-care, patients have now more rights but also more responsibility of their own health.

Next-generation care pathways in AR and multimorbidities The transformation of the health care system for integrated care needs support via organizational health literacy. ARIA Phase 4 proposes a change management strategy to increase self-medication and shared decision making in rhinitis and asthma multimorbidity⁽¹¹⁾. MASK (Mobile Airways Sentinel Network) is a new development of the ARIA initiative^(14,15,24). It has developed and validated IT evidence-based tools. These tools can inform patient decisions on the basis of a self-care plan proposed by health care professionals. In collaboration with professional and patient organizations, POLLAR (Impact of Air Pollution on Asthma and Rhinitis, EIT Health)⁽⁵⁴⁾ is proposing real-life care pathways which are centred around the patient and use

mHealth monitoring of environmental exposure. Patient participation, health literacy and self-care are all included through technology-assisted “patient activation”, implementation of care pathways by pharmacists and next-generation guidelines assessing the recommendations of GRADE guidelines using real-world evidence (RWE). The EU political agenda is of major importance in supporting healthcare transformation⁽⁵⁵⁾ and MASK has been recognized by DG Santé as a Good Practice in the field of digitally-enabled, integrated, person-centred care.

The value of Real World Evidence

Because AR is often associated with various multimorbidities, randomized controlled trials (RCTs) cannot cover all forms of disease nor all phenotypes of patients⁽⁵⁶⁾. RCTs are, by their nature, designed to answer narrowly defined scientific questions while controlling as many variables as possible^(57–59). While necessary for drug registration, this approach offers little insight into the acceptability and practicality of implementing new interventions into clinical practice. RWE should therefore complement data already gathered from well-designed RCTs. However, in order to be considered, such real-life evidence needs to be both published and of sufficiently high quality. For example, in the case of AIT, RCTs are not suitable for rare allergens, since not enough patients may exist in individual indications⁽⁶⁰⁾, they may not provide sufficient safety data^(61,62) or may not provide pharmacoeconomic data^(63,64). Real-life studies fundamentally differ from RCT studies because they do not influence or change the normal patient-physician interaction in any way and incorporate the variability of everyday life, yielding results that are generalizable to a much broader patient population^(65,66). The variability intrinsic to this type of study means they are limited in establishing a direct cause and effect relationship. However, bias can be minimized by identification of confounding factors and use of rigorous analytical methods⁽⁵⁷⁾. Validated outcome measures such as Visual Analogue Scales (VAS) have been applied to real-life studies^(67,68) and mobile health technologies like MASK are broadly available^(15,69).

Conclusion

A recent short study revealed that allergic allergy specialists behave like patients⁽⁷⁰⁾, showing a real disconnection between physician's prescription and patient's behavior for the treatment AR. Indeed, the majority of allergists prescribe medications for the entire pollen season, but the vast majority of patients use their medications on-demand when their symptoms are not well controlled⁽¹⁵⁾. The goal of the ARIA masterclass was therefore to intend a reconnection between physicians and patients, by promoting a patient-centered approach, with a therapeutic strategy tailored to the patient needs but also to their preferences. The use of ICPs and mHealth can facilitate this change in care management. In turn, this would results in better

symptoms controls for patients, and a substantial reduction of indirect cost for the society.

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