Accelerating Safer Administration of Medicines to Children in Low Resource Settings

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INTRODUCTION

Small dose volumes of medication administered to children may lead to a greater risk of inaccurate dosing and associated dose-related adverse effects. For oral and respiratory route of medication administration, the type and design of administration device are crucial in ensuring the required dose is measured and/or administered to paediatric patients.

The research conducted in high-, middle- and low-income countries has highlighted a huge gap between the needs of patients and what is available in the market. To address these challenges, it is important to understand the pharmacotherapy needs of children in low resource settings and find solutions that accelerate the development and adoption of easily-accessible and user-friendly administration devices.

On 4th March 2024, a workshop dedicated to promoting safe and effective use of oral and respiratory administration devices in low resource settings was held at Scitech Centre in Mumbai, India, in partnership with the Indian Pharmaceutical Association (IPA), European Paediatric Formulation Initiative (EuPFI). the Society of Paediatric Medicines and Healthcare Initiative (PMHI), and Thetabeta Analgorithm Pvt Ltd (TBA).

WORKSHOP AIMS & OBJECTIVES

01 To give an overview of the main challenges associated with the administration of oral and respiratory medicines to paediatric patients

02 To review factors (e.g. users, environment, design and technical factors) that have an impact on accurate administration of doses routinely prescribed to paediatrics

03 To share current practices and challenges associated with the development, control and supply of oral and respiratory administration devices

04 To describe the requirements and regulations industry must comply with and how industry develops, selects or assess administration devices

05 To exchange ideas on what can be improved to achieve a safer administration of medicines to paediatrics

06 To create awareness about the importance of such devices in improving healthcare for children in low resource settings

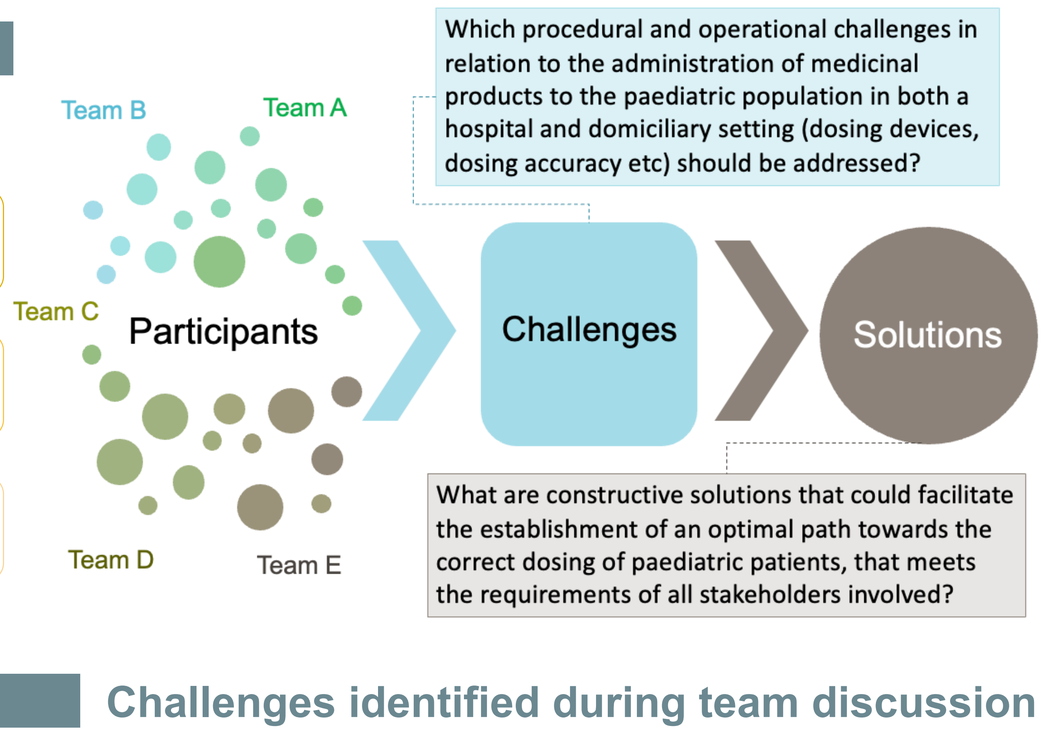
METHOD

Workshop Agenda

01
- Stakeholders' perspectives on challenges associated with the administration of oral and respiratory medicines to paediatric patients

02
- Breakout session, group feedback and discussion

03
- Overview of regulatory expectations and requirements of paediatric administration devices



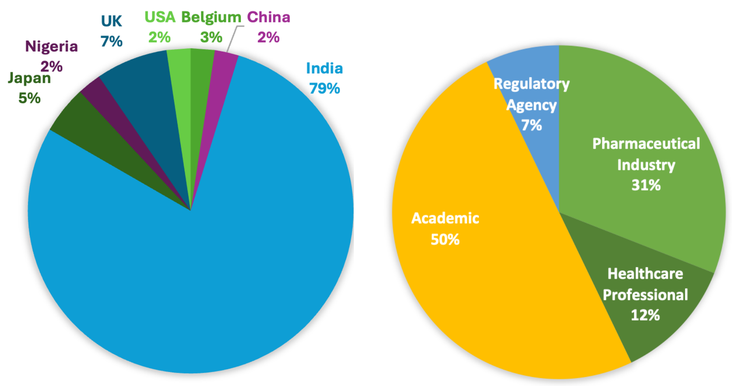
Participants were divided into 5 teams such that each team had balanced representation from each key stakeholder group. The teams were presented with the challenge and solution statements as shown in the figure on the left.

The teams were given 30 minutes to discuss and draw up one or more solution proposals onto flip charts. Then each team was given 5 minutes to present back to the other teams.

Voting was the used to ascertain the participants' preferences for the proposed solutions. A table summary of all proposed solutions was presented on a flip chart with different stakeholder group being the column header. The attendees were instructed to tick next to their preferred solutions under their corresponding stakeholder group.

RESULT

Forty-two participants, including the speakers and organisers, attended the workshop. There were four major stakeholder groups: Academic, Healthcare Professionals (HCPs), Pharmaceutical industry and Regulatory Agencies. Participants were from seven countries, majorly India.



Stakeholder presentations

Global landscape
- significant variations in users' experiences with administration devices for oral and inhaled paediatric medicines across different countries

Industry perspectives
- Low end-user engagement during design in India
- Current priority is to reduce parents' burden

HCP perspectives
- Inadequate public awareness about paediatric medication safety in India

Regulators perspectives
- Medical device regulations in India needs enhancement

Challenges identified during team discussion

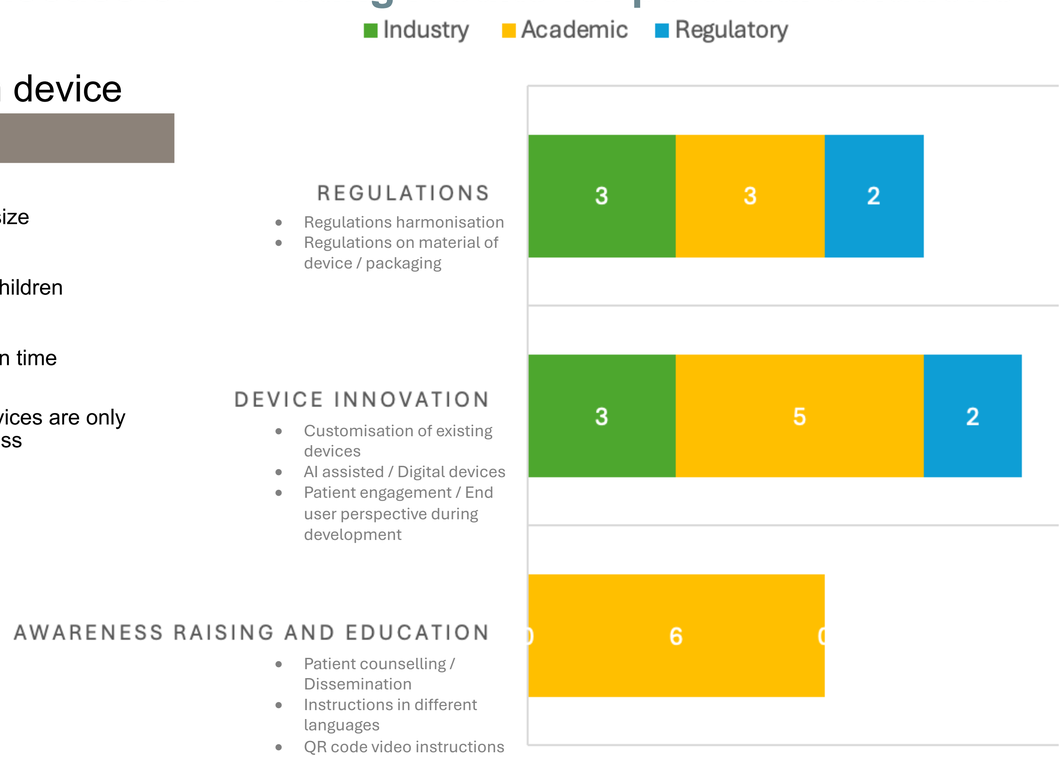
Oral administration devices

- Inaccuracy in dosing small volumes
- Imprecise graduation intervals
- Spillage
- Loss during transfer
- Difficulty in cleaning
- Mishandling
- Fear induced by syringe shape
- Hold up volume

Respiratory administration device

- Restriction in mask size
- Low acceptance in children
- Longer administration time
- Stigma that such devices are only used for serious illness

Voting results for potential solutions



CONCLUSION

OPPORTUNITY The workshop provided an opportunity for direct dialogue between researchers, policy makers, HCPs and industry leaders, and for participants to learn about other stakeholders' perspectives.

GENERAL CONSENSUS There is a pressing need for advocacy regarding the availability of suitable dosing devices for paediatrics, especially in low resource settings. It is crucial for all key stakeholders to unite their efforts to address this issue effectively.

ADVOCATION Industries must take an active role in developing devices, healthcare professionals should advocate for their appropriate usage, regulators should ensure compliance and parents must play their part in ensuring the correct dosing takes place by using suitable devices.

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