Policy Brief

Is this pill an antibiotic or a painkiller? Improving the identification of antibiotics for better use

Key messages

- The ABACUS project collected extensive knowledge on antibiotic use and access practices in six African and Asian countries. An important finding is the confusion among communities and medicine suppliers about how to identify antibiotics from other commonly sold medicines such as painkillers.

- We present recommendations to ensure targeted education on key distinctions between antibiotics and painkillers and improve awareness of the problem of medicine misidentification among policymakers, regulators, and researchers.

- Recognising and distinguishing medicine is fundamental to ensuring their proper and safe use. Therefore, improving the identification of antibiotics holds immense potential for improving health literacy, patient involvement, patient safety and overall health outcomes.

Background and context

- Antibiotic resistance is a serious public health threat that calls for global efforts to improve the responsible use of antibiotics. Global reports on antibiotic resistance show that studies are needed in low-income and middle-income countries (LMICs), where local data are scarce and resistance is widespread. The majority of antibiotics are used in community settings, where both misuse and overuse are frequent.

- Here, we present the findings from the AntiBiotic ACcess and Use (ABACUS) consortium, which explored antibiotic access and consumption practices across communities in 6 countries. The study sites reflect different world economy classifications in Asia and Africa including Low Income (Mozambique), Low Middle Income (Ghana, Bangladesh and Vietnam) and Upper Middle Income (South Africa and Thailand) countries (Figure 1).
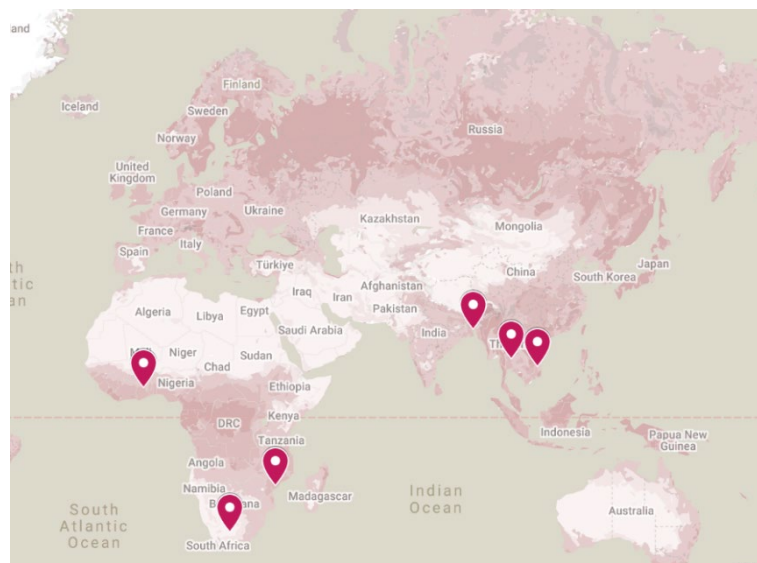

Figure 1: Map showing the 6 ABACUS study sites in Africa and Asia.

Details of the research

- **Antibiotic access and use practices** were investigated through a mixed-method study conducted across 6 sites in Asia and Africa. A common theme identified in Africa and Asia was self-medication as it was being considered to be less time consuming, cheaper and overall more convenient than using public health services. The results also indicate confusion among medicine suppliers and community members regarding how to recognise an antibiotic; antibiotics are mistaken for other commonly used medicine such as painkillers. In particular, medicines dispensed as capsules are often considered to be antibiotics by community members and medicine suppliers, despite the fact that many antibiotics are not dispensed as capsules and, importantly, other classes of medicines are commonly sold as capsules.

- Ways to **improve the identification of antibiotics** were subsequently explored using different methodologies including a qualitative study across the same six countries, consultations with high-profile experts and systematic literature searches. Altogether community members, medicine suppliers and experts supported the development of an identification system for antibiotics. Being able to distinguish antibiotics from other commonly sold medicines was broadly recognised as an important public health objective.

Implications of the research

- Patients frequently use the appearance of medication, like colour, markings, shape, or packaging, to easily convey information about their medicines to healthcare providers or other community members especially when reading or remembering medication names is difficult for them.

- Potential benefits of introducing a visual cue to improve the identification of antibiotics are summarised in Figure 2:
    1. Help communities, suppliers and health care providers to access relevant information on the antibiotic;
    2. Improve communication between patients, suppliers, and healthcare providers which in turn is key for sound medical and stewardship practices;
    3. Strengthen measurement of the consumption of antibiotics in the community;
    4. Improve the impact of public health campaigns.

- Global initiatives to improve responsible antibiotic use will not work optimally if the antibiotics cannot be recognised easily and linked to the relevant public health messages. Recognising and distinguishing medicines, both in appearance and packaging, is fundamental to ensuring their proper and safe use. Therefore, improving the identification of antibiotics holds immense potential for improving health literacy, patient involvement, and patient safety.
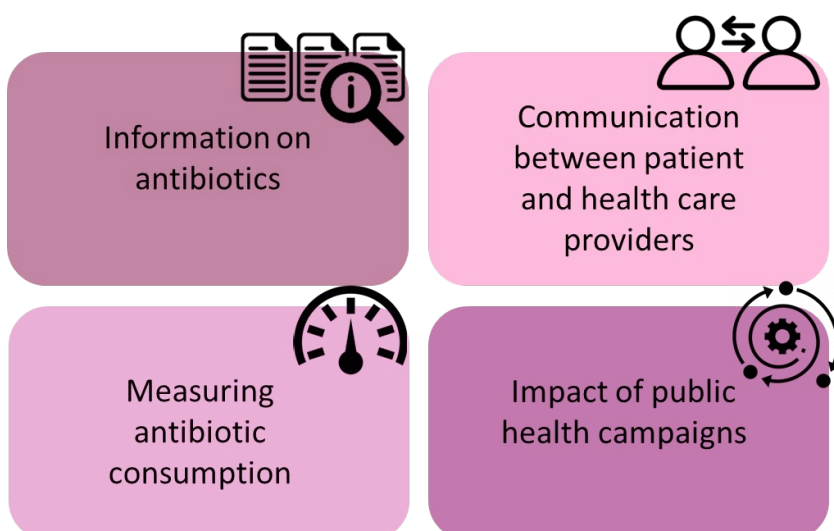

Figure 2 : Expected effects of new identification system for antibiotics by communities, medicine suppliers and health care providers.

Recommendations

- **Responsible antibiotic and medicine use messaging**

  We recommend the development of educational and awareness materials to disseminate crucial information regarding responsible antibiotic use. These materials should educate communities and medicine suppliers about the fundamental distinctions between antibiotics and frequently used pain relievers such as paracetamol and tramadol. The goal is to empower individuals with knowledge on when to appropriately use these medicines and when not to, as well as to inform them about potential side effects.

- **Improving antibiotic identification**

  We advocate for active engagement with national and regional medicine agencies and regulatory bodies to explore how to introduce an antibiotic labelling system to improve the identification of antibiotics by both communities and suppliers. The system should involve access to relevant information about the medicine and clear and simple instructions for safe use. An antibiotic labelling system holds the promise of enhancing health literacy, patient involvement, and patient safety by providing visual cues to both users and healthcare providers.

- **Greater awareness of the problem of confusion about different types of medicine**

  We recommend integrating this topic into national and regional health research and policy agendas. By doing so, we intend to elevate awareness of this problem among policy makers, researchers and the general public. This approach will facilitate the collection of valuable data to assess the true extent of the medicine confusion issue.

References and further reading

Brief video:

- Identify an antibiotic - YouTube

Scientific publications:

- Do et al. 2021, Lancet Global Health: Community-based antibiotic access and use in six low-income and middle-income countries: a mixed-method approach - The Lancet Global Health

- Monnier et al. 2023, Lancet Global Health: Is this pill an antibiotic or a painkiller? Improving the identification of oral antibiotics for better use - The Lancet Global Health

About the ABACUS consortium

- This policy brief was drafted by Dr. Annelie A. Monnier and Prof. Heiman F.L. Wertheim (Radboud University Medical Center, Nijmegen, the Netherlands) on behalf of the ABACUS II consortium. Contact person: Prof. Heiman Wertheim, Department of Medical Microbiology and Radboudumc Center for Infectious Diseases, Radboudumc, Nijmegen 6525 GA, The Netherlands; Heiman.Wertheim@radboudumc.nl; +31 243619041

- Members of the ABACUS II consortium: Heiman F.L. Wertheim, Annelie A. Monnier (Radboud University Medical Center, Nijmegen, the Netherlands); Paul N. Newton, Céline Caillet, Proochista Ariana, Taniya Sharmeen (University of Oxford, Oxford, United-Kingdom); Kwaku-Poku Asante, Samuel Afari-Asiedu (Kintampo Health Research Center, Kintampo, Ghana); Khátia Munguambe, Esperanca Sevene, Helena Boene, Olga Cambaco (Manhiça Health Research Centre, Manhiça, Mozambique); Wasif Ali Khan, Mohammed Abdul Matin (International Centre for Diarrhoeal Disease Research, Dhaka, Bangladesh); Toan K. Tran, Chuc T.K. Nguyen, Tuyet A. Phuong (Hanoi Medical University, Hanoi, Vietnam); Sureeporn Punpuing, Malee Sunpuwan, Wipaporn Jarruruengpaisan (Mahihol University, Thailand); F. Xavier Gómez-Olivé, Georgina Pujol-Busquets Guillén, Sizzy Ngobeni, Floidy Wafawanaka (University of the Witwatersrand, Johannesburg, South Africa); Nga T.T. Do, H. Rogier van Doorn (Oxford University Clinical Research Unit, Hanoi, Vietnam).

- Funding: Wellcome Trust (grant number: 219403/Z/19/Z).