

Learning from the Red Line program in India on the labelling of antibiotics: a qualitative interview study exploring experiences of the general public, pharmacists, and policy-makers

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Introduction

- Previous research in LMICs shows that communities are often not able to distinguish antibiotics from other commonly sold medicine. [1]
- The Red Line campaign, launched in India in 2016, introduced a 'red line' and 'Rx' marking on the packaging of prescription only medicines (POMs) including antibiotics (Figure 1). The campaign had three objectives: (1) improve the identification of POMs, (2) curb self-medication, and (3) increase awareness on antibiotics. [2]
- The aim of this qualitative study was to explore experiences from the general public, pharmacists and policy-makers with Red Line to understand the awareness about the campaign and how the campaign was perceived and implemented.



Figure 1: Example of Red Line campaign material.

Methods

- Semi-structured interviews were conducted between June and August 2021. Interviews were held online in view of the SARS-CoV-2 situation.
- Participants were identified through convenience sampling within the network of the researchers.
- Interview topics included: POMs, medicines packaging, information on medicines, the Red Line campaign and antibiotics.
- The interviews were audio recorded and then transcribed. The transcripts were coded in Atlas.ti software and a thematic analysis was applied.

Results

- Fifteen interviews were conducted with participants from different states across India: 5 general public members (Uttar Pradesh, Maharashtra, West Bengal, Rajasthan), 5 pharmacists (Tamil Nadu) and 5 policy-makers (Kerala).
- The interview data suggest an overall low awareness on the meaning of the red line on medicine packages among the study participants. Interestingly, it was established that over the past years the red line evolved into a red box on the medicine packaging.
- While some participants believed that a 'red warning' would catch people's attention, others worried that the red line could be overlooked as medicine packages are typically full of information. Other factors that hinder the visibility of the red line on the packaging included variations in medicine dispensing practices (e.g., only blister pack and no medicine box) as well as patient's medicine storage habits (e.g., removal from original packaging).
- Suggestions for future implementation efforts included the involvement and training of pharmacists and prescribers and regulation reinforcements.
- The data also suggest a lack of awareness and confusion about what POMs and antibiotics are, and on how to identify them.
- Finally, ideas were shared by participants on how to improve POM and antibiotic identification.
- Examples of representative quotes are shown.

'Redline... I didn't know that was for prescription-only medicine' (general public 1)
'I don't know if every pharmacist would know about this' (pharmacist 2)
'Actually no, only after you contacted me, I tried to sort of lookup about it' (policy-maker 4)

'I think the [=patients] would notice the red line.' (pharmacist 4)
'The only person seeing these drugs and strips are chemists or pharmacists. For them it is really helpful, there is no doubt about that. It could be helpful for them. They are the people who we can easily target' (policy-maker 3)
'But the red line, I might just confuse it with some design. If I am not made aware of the red line, I will just consider it a part of the design and nothing else.' (general public 5)
'If you go to a pharmacy you may get in strips and all, it is not being given in the original packaging as such. It will vary from pharmacy to pharmacy' (policy-maker 1)

'First phase will be educating the pharmacist and implementing the rule very strictly. Second, will be about educating the public' (policy-maker 1)
'Maybe, community nurses or pharmacists can help with that... going to each and every house to create awareness about the new implementation about the drugs.' (pharmacist 3)

'Even educated people sometimes mistake... many medicines are mistaken for antibiotics. They tend to think any powerful medicine is an antibiotic.' (policy-maker 4)
'Unless the doctor tells me, this is your antibiotic course, I would not know what the medicine is.' (general public 2)
'I think antibiotics are the ones that doctors give to us, right... the normal physician?' (general public 3)

'Like we add Rx to, we may add Abx, if it is an antibiotic. That will create awareness saying that this particular term meaning that it is an antibiotic, that will be much more easier for a pharmacist also to identify before dispensing. And all healthcare professionals, it will be helpful' (pharmacist 1)
'Colour coding and the shape of the medicine can definitely become a language for communicating that this is an antibiotic or this is a serious medicine or a light medicine. So, I am sure the shape and the colour of the medicine itself can help' (general public 1)

Conclusion

- **Most of our participants were not aware of the meaning of the Red Line labelling on the packaging of prescription only medicine. Also, the Red Line labelling (line or box) can be overlooked which limits its impact.**
- **These lessons are valuable to improve and guide future interventions on the labelling of antibiotics to improve their identification, dispensing and use.**