Understanding barriers to routine G6PD testing prior to Primaquine treatment
Preventing relapse in *P. vivax* or *P. ovale* malaria

The G6PD status of patients should be used to guide administration of primaquine for preventing relapse.

*Good practice statement*

When G6PD status is unknown and G6PD testing is not available, a decision to prescribe primaquine must be based on an assessment of the risks and benefits of adding primaquine.

*Good practice statement*

Treatment policy PQ

- not applicable
- PQ not recommended under any circumstances
- PQ recommended with no specific mention of G6PD screening or monitoring
- PQ recommended but only after G6PD screening affirms normal status
- PQ recommended as weekly dose of 0.75mg/kg for 8 weeks without G6PD screening
- non-endemic countries for *P. vivax*
- non-endemic countries recommending PQ without G6PD screening
- PQ recommended without G6PD screening but with monitoring
Aim

- To determine key barriers to the introduction of routine G6PD testing prior to PQ based radical cure
Methods

• **Semi structured, questionnaire guided interviews** with:
  – Policy decision makers
  – Healthcare deliverers

• Interviews were **tape recorded**, transcribed & translated

• Transcripts were **coded for specific areas of interest and analysed for content**

• Interviewees were **purposively selected** based on
  – involvement in malaria related decisions (policy decision makers)
  – work experience with malaria and current exposure to malaria patients in current position
Methods

• Interviewer and language in which interview was conducted:
  
  – **Bangladesh**: local investigator, English
  
  – **Cambodia**: local investigator, Khmer
  
  – **China**: local investigator, Mandarin
  
  – **Malaysia**: US investigator, English
Summary of findings

- Knowledge of treatment guidelines ➔ Good
- Self reported adherence to treatment guidelines ➔ Good

- 3 key barriers identified:
  - The risk of PQ induced haemolysis was considered low
  - *P. vivax* was considered benign and / or of low incidence
  - The cost effectiveness of routine G6PD testing was unclear
What problems are associated with primaquine treatment in vivax malaria?

- Haemolysis, but only in theory.

“It is known that haemolysis can happen in case of G6PD deficient person, but I have not seen such patient yet…” (Health care provider, Bangladesh).

“In fact, sometimes, when I see vivax patients I start primaquine right away. I just give it while waiting for test results, it won’t kill the patient. Nothing happens.” (Health care worker, Malaysia)
Results & Discussion

Is vivax malaria a problem in your country?
- Often not

“Malaria now is only reported in some border areas and with some imported cases… since the National Malaria Elimination Campaign was launched in 2010.” (Policy maker, PR China)

“Firstly it is a public health problem. Though vivax does not cause severe malaria as we all know, yet sufferers loose work hours, family earnings and health.” (Health care provider, Bangladesh)
What is acceptable cost of G6PD testing?
-Low, ideally less than a malaria RDT

“The price of [the] test should be subsidized…[so that] Cambodia can buy [the test]. …The G6PD test must have price cheaper than price of malaria test” (Policy maker, Cambodia).

“It [G6PD testing] should be free of cost like malaria RDT. People will not pay extra money to test G6PD when they are getting free [malaria] RDT and free treatment.” (Health care provider, Bangladesh).
Malaysia: Decreasing incidence of *P. vivax*

- Awareness of pre-elimination conditions and associated problems was higher
  - PQ treatment and G6PD testing was more accepted

- Knowledge on severity of *P. vivax* greater
  - Drive to eliminate disease was higher

- G6PD testing funded through the public system (no cost)

- Healthcare deliverers considered the current system effective
  - No need for an alternative to the FST
Conclusion

• Cost effectiveness analyses are needed to persuade policy makers
  – Studies will require data from a variety of endemic settings

• Change needs to be introduced top down.

• High adherence / good knowledge of treatment guidelines
  – implementation at field level is feasible with sufficient training
    and convenient test assay
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