Targeted Mass Drug Administration of Antimalarials to control Malaria in Lakonia, Greece, 2013-2014

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1. Hellenic Ctr for Disease Control & Prevention, Athens, Greece, 2 ABSTRACT

Background
Malaria re-emerged in Greece since 2005 after >35 years, with sporadic locally acquired P. vivax malaria cases detected in 2011 in Lakonia (SW-Greece) with an estimated exposure of the population to the risk of malaria.

Methods
Carefully planned and supervised TMDA was used in an area with large number of migrant farm workers (mainly from Pakistan) living and working in the epicenter of the 2011 malaria outbreak in Lakonia targeting hypnozoites in combination with other interventions controlled the re-emergence of malaria in this focus in Greece.

RESULTS
During transmission period 2013, 902 eligible migrants mostly from Pakistan, Afghanistan and Bangladesh resided in the epicenter of the 2011 malaria outbreak in Evrotas Lakonia.

- 862 (95%) completed the course
- 35.4% reported at least one side effect of chloroquine (headache, dizziness)
- 11.5% reported at least one side effect of primaquine (abdominal discomfort, haemolysis case recorded in a patient with initial false normal G6PD)
- 41 (4.5%) were lost to f/u
- 11.5% reported at least one side effect of primaquine (abdominal discomfort); one haemolysis case recorded in a patient with initial false normal G6PD
- 0 (0.3%) refusal rates
- Between June 2013 and 2014 260 eligible migrants were identified
- 232 (89%) completed the course with no refusals
- 17 had moderate/severe G6PD deficiency; not offered treatment.

During transmission period 2014, 260 eligible migrants were identified

- 232 (89%) completed the course with no refusals
- 27.5% in 2014 of the treated migrants reported at least one complaint with no severe side effects in the treated population.
- 14.2% in 2013 and 17.5% in 2014 of the treated migrants reported at least one complaint with no severe side effects in the treated population.

CONCLUSIONS
- No cases of P. vivax malaria, locally acquired or imported, were detected in Evrotas Lakonia in transmission periods 2013 and 2014.
- Carefully planned and supervised TMDA proved a safe public health measure, with no severe side effects in the treated population.
- TMDA in combination with PH interventions such as ACD, IRS and LLINs, as well as intensified vector control measures, effectively controlled the re-emergence of malaria in this focus in Greece within one transmission period.

INTRODUCTION
Greece was endemic for malaria (both P. falciparum and P. vivax) since the ancient times. After an intensive anti-malarial campaign especially post WWII, Greece became malaria free in 1974.

- Locally acquired P. vivax cases re-emerged since 2009 in various areas in Greece. In 2011 an outbreak of P. vivax was detected in Lakonia, with 36 locally acquired cases, with another 10 cases in 2012.

- The area was a known hotspot for malaria eradication and currently a large number of migrant farm workers (mainly from Pakistan) live and work there.

- A number of PH measures were implemented such as Proactive Case Detection (PACD) with fever screening, Reactive case detection (RACD) after new cases, insecticide residual spraying (IRS) and distribution of Long-lasting Insecticide Treated Nets (LLINs) to migrants.

METHODS

- An intersectoral group of experts from the Hellenic CDC proposed the use of empiric prophylactic mass administration of one full anti-malarial course for P. vivax (chloroquine x 2 days + primaquine x 14 days) to all migrants in the epicenter of the outbreak in Lakonia targeting hypnozoites and interrupting of local transmission.

- TMDA was implemented by field teams of 1-2 health professionals (HPs) with a mediator.

- Informed consent and G6PD levels were obtained before treatment.

- Medicines were provided for free under Directly Observed Treatment (DOT) protocol.

- Side effects were monitored daily with structured pharmacovigilance forms.

- An empiric antimalarial course of chloroquine (15mg/kg po x 2) plus primaquine (0.25mg/kg po) for 14 days was selected targeting hypnozoites.

- Malaria re-emerged in Greece since 2005 after >35 years, with sporadic locally acquired P. vivax malaria cases detected in 2011 in Lakonia (SW-Greece) with an additional 10-locally acquired cases in 2012. Public health measures were implemented targeting mass detection (PACD) with fever screening, IRS and TMDA in the event of any malaria case, Indoor Kitchen Spraying (IRS) distribution of long-lasting insecticide treated nets (LLINs) and targeted mass administration (TMDA) to migrants from malaria endemic countries living in Greece.

- 28 (10.7%) were lost to f/u
- 17 (6.2%) reported at least one side effect of chloroquine (headache, dizziness)
- 11.5% reported at least one side effect of primaquine (abdominal discomfort, haemolysis case recorded in a patient with initial false normal G6PD)
- 41 (4.5%) were lost to f/u
- 11.5% reported at least one side effect of primaquine (abdominal discomfort); one haemolysis case recorded in a patient with initial false normal G6PD
- 0 (0.3%) refusal rates
- Between June 2013 and 2014 260 eligible migrants were identified
- 232 (89%) completed the course with no refusals
- 27.5% in 2014 of the treated migrants reported at least one complaint with no severe side effects in the treated population.
- 14.2% in 2013 and 17.5% in 2014 of the treated migrants reported at least one complaint with no severe side effects in the treated population.