
Index

Index 1

Figures	3
Tables	3
Abbreviations	4
1 Working hypothesis and aim of the study	5
2 Introduction	6
2.1 Overview	6
2.2 Geographical background	7
2.3 Lifecycle	9
2.3.1 Adult Worms and eggs	9
2.3.2 Miracidia and aquatic snails	9
2.3.3 Intramolluscan stage and cercariae	11
2.4 Clinical impact of Schistosomiasis	12
2.4.1 Pathology and pathogenesis	12
2.4.2 <i>S. haematobium</i> : urogenital schistosomiasis	14
2.4.3 <i>S. mansoni</i> : intestinal schistosomiasis	14
2.4.4 Ectopic lesions and neuroschistosomiasis	15
2.4.5 Clinical (differential) diagnosis	15
2.4.6 Immunity and decrease of prevalence	16
2.4.7 Public Health	16
2.4.8 Impacts of schistosomiasis in young children	17
2.4.9 Neurocognition	17
2.5 Schistosomiasis treatment	18
2.5.1 Chemotherapy	18
2.5.2 PZQ for pregnant women and young children	18
2.5.3 Vaccines and Vaccinations	19
2.6 Diagnostic means for schistosomiasis	20
2.6.1 Direct diagnosis	20
2.6.2 Indirect diagnostic techniques	21
2.6.3 PCR	21
2.6.4 Radiology and Ultrasonography	21
2.6.5 Antigen detection tests	22

3	Methods	24
3.1	Study area and study population.....	24
3.2	Distribution of schistosomiasis in Madagascar.....	25
3.3	freeBILy – a study into which this sub-study was embedded.....	26
3.4	Sample size	27
3.5	Preparation	28
3.5.1	SOP’s and training and recruitment.....	29
3.5.2	Inclusion criteria	30
3.6	POC-CCA Test: Display and Interpretation.....	31
3.7	Data management and statistical analysis	33
3.7.1	Assessing the true (adjusted) prevalence: review and calculation	34
3.7.2	Simulation of positive and negative predictive values	35
4	Results	38
4.1	Adjusting the prevalence estimate to estimate the true prevalence	40
5	Discussion	43
5.1	The rapid test: accuracy, advantages and debilities	43
5.1.1	Detection of <i>S. haematobium</i> and disease mapping.....	45
5.1.2	Cross reactivities and false positives/ negatives	46
5.1.3	Screening, targeted treatment and drug monitoring	46
5.2	Test-based treatment: safety concerns	46
5.3	Prevalence assessment.....	48
5.4	Schistosoma control strategies	49
5.5	The POC-CCA test and schistosomiasis control strategies	50
6	Summary.....	53
6.1	Zusammenfassung.....	54
	List of References	55
	Acknowledgement	
	Curriculum vitae	
	Annex	