A META-ANALYSIS OF ARTESUNATE PLUS SULFADOXINE-PYRIMETHAMINE VERSUS SULFADOXINE-PYRIMETHAMINE ALONE FOR TREATMENT OF UNCOMPLICATED MALARIA IN CHILDREN.

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DECLARATION

I, Benido Impouma, declare that this research report is my own work. It is being submitted for the degree of Master of Science (Medicine) in Epidemiology and Biostatistics in the University of the Witwatersrand, Johannesburg. To the best of my knowledge, it has not been submitted before for any degree or examination at this or any other University.

 [Signature of candidate]

……30 ……day of …….September, 2004

DEDICATION

This report is dedicated to my parents Jean Impouma and Therese Impouma for all the time and resources they put to make me what I am today.

ABSTRACT

Study objectives

The objective of this meta-analysis was to review the comparative efficacy and tolerance of sulfadoxine-pyrimethamine (SP) given alone or in combination with one (SPAS1) or three (SPAS3) doses of artesunate in children with uncomplicated *P. falciparum* malaria, aged 6 months to 10 years. Specifically, it assessed cure rate, fever and parasite clearance time, gametocyte carriage and tolerability.

Methods

The methodology used was a systematic review and a meta-analysis of four randomised controlled trials. The primary endpoint was the parasitological cure rate at day 28. Secondary endpoint included the parasitological cure rate at day 14, time to fever and parasite clearance, gametocyte carriage and occurrence of adverse events.

Results

Cure rate at day 28 corrected by PCR was 2.5 times higher in the combination of SPAS3 than in SP alone (pooled OR=2.55, 95% CI 1.93 to 3.37). There was no difference in cure rate at day 28 corrected by PCR between the combination of SPAS1 and SP alone (pooled OR=1.06 95% CI 0.98 to 1.15). Fever and parasite clearance times were significantly faster in both SPAS1 and SPAS3 compared to SP alone ($p<0.001$). By day 28 all children on the combination therapy were agametocytaemic as opposed to those on SP alone ($p<0.001$). All drug regimens were well tolerated and safe.

Conclusion

The combination of SPAS3 is more efficacious than SP alone in treatment of children with uncomplicated *P. falciparum malaria*. The combination is recommended for adoption as a replacement for SP alone in areas where malaria is endemic.

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AS	Artesunate
CI	Confidence Interval
CQ	Chloroquine
OR	Odds Ratio
PCR	Polymerase Chain Reaction
RCT	Randomized Controlled Trials
SMD	Standard Mean Difference
SP	Sulfadoxine-Pyrimethamine
SPAS	Sulfadoxine-Pyrimethamine combined with Artesunate
SPAS1	Sulfadoxine-Pyrimethamine and one dose of Artesunate
SPAS3	Sulfadoxine-Pyrimethamine and 3 doses of Artesunate
WHO	World Health Organization