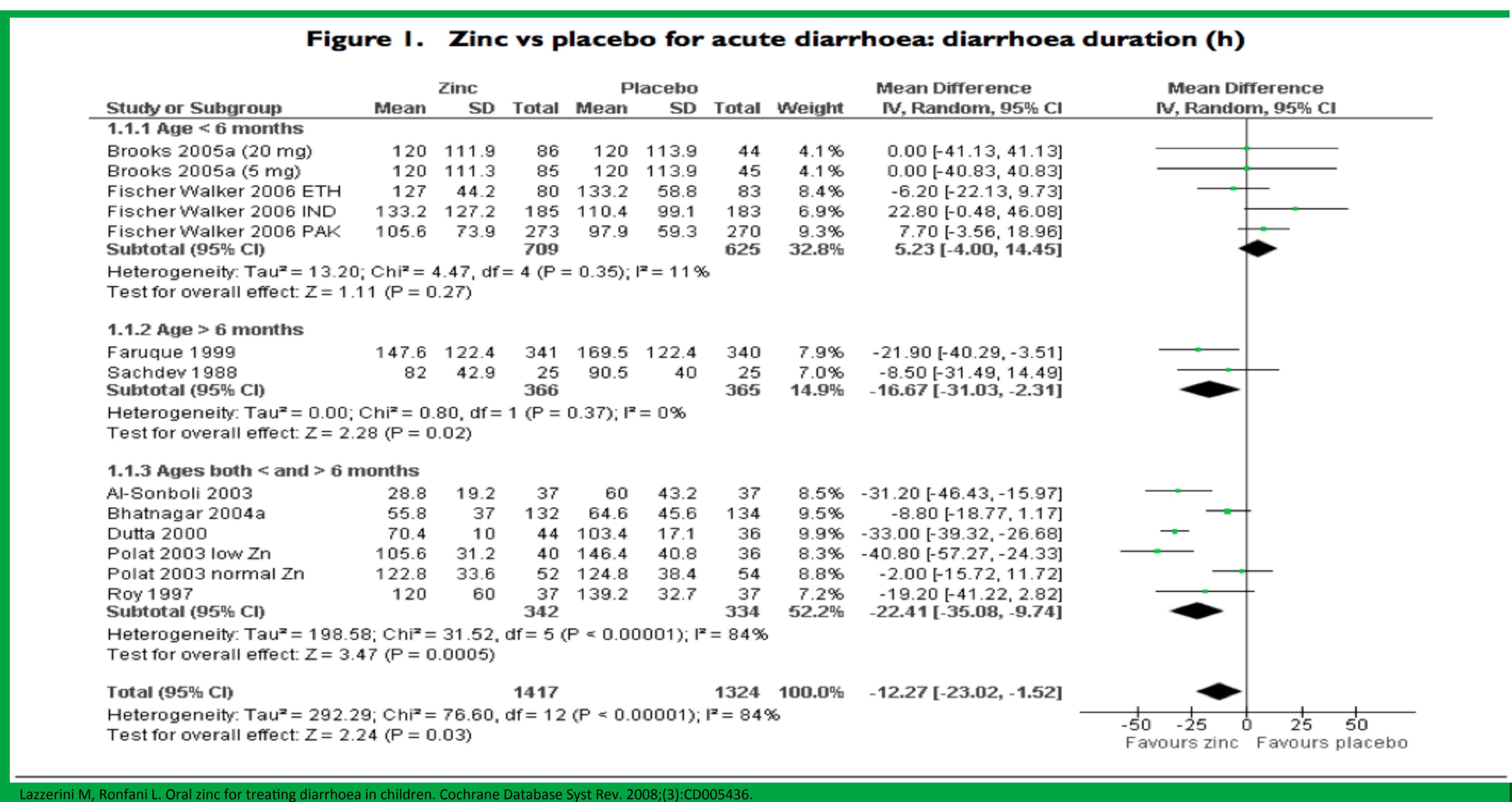


DEMONSTRATION OF THE EFFECTIVENESS OF ZINC IN DIARRHEA OF CHILDREN AGED 2 MONTHS TO 5 YEARS IN LAUSANNE CHILDHOOD HOSPITAL

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Background

The effectiveness of zinc in childhood diarrhea has been demonstrated in developing countries. It helps to decrease the duration and severity of diarrhea. There is currently no sufficient data to justify its use in developed countries, where there is a priori no zinc deficiency.



Objective, settings, design

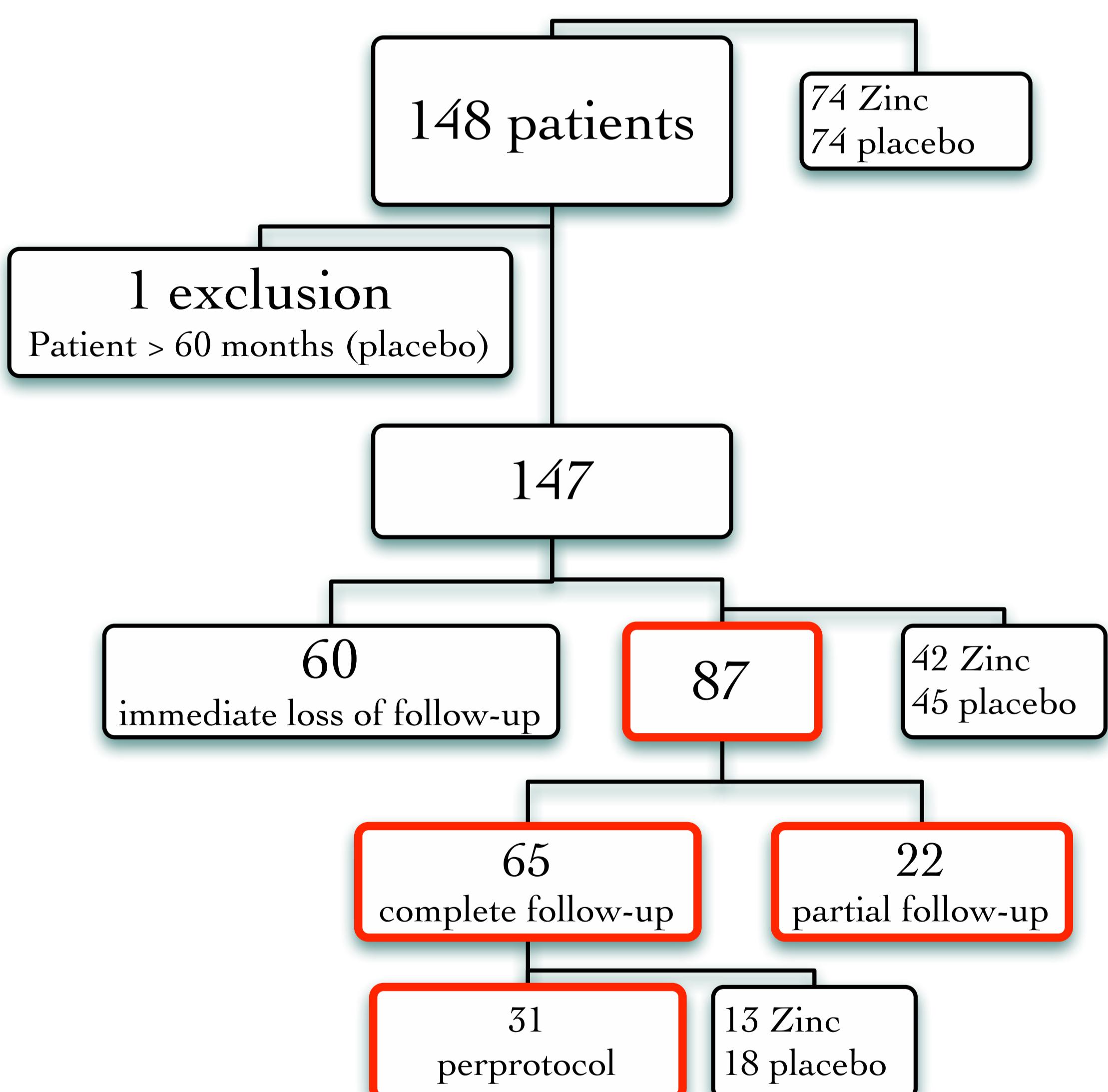
- Objective:** to evaluate the efficacy of zinc in the treatment of children diarrhea in a developed country
- Design:** prospective randomized clinical trial with placebo control
- Setting:** Pediatric emergency department in a tertiary care center in Lausanne, between October 2010 and October 2013

- Objective:** to evaluate the efficacy of zinc in the treatment of children diarrhea in a developed country
- Population:** children 2 months-5 yo consulting in the emergency department

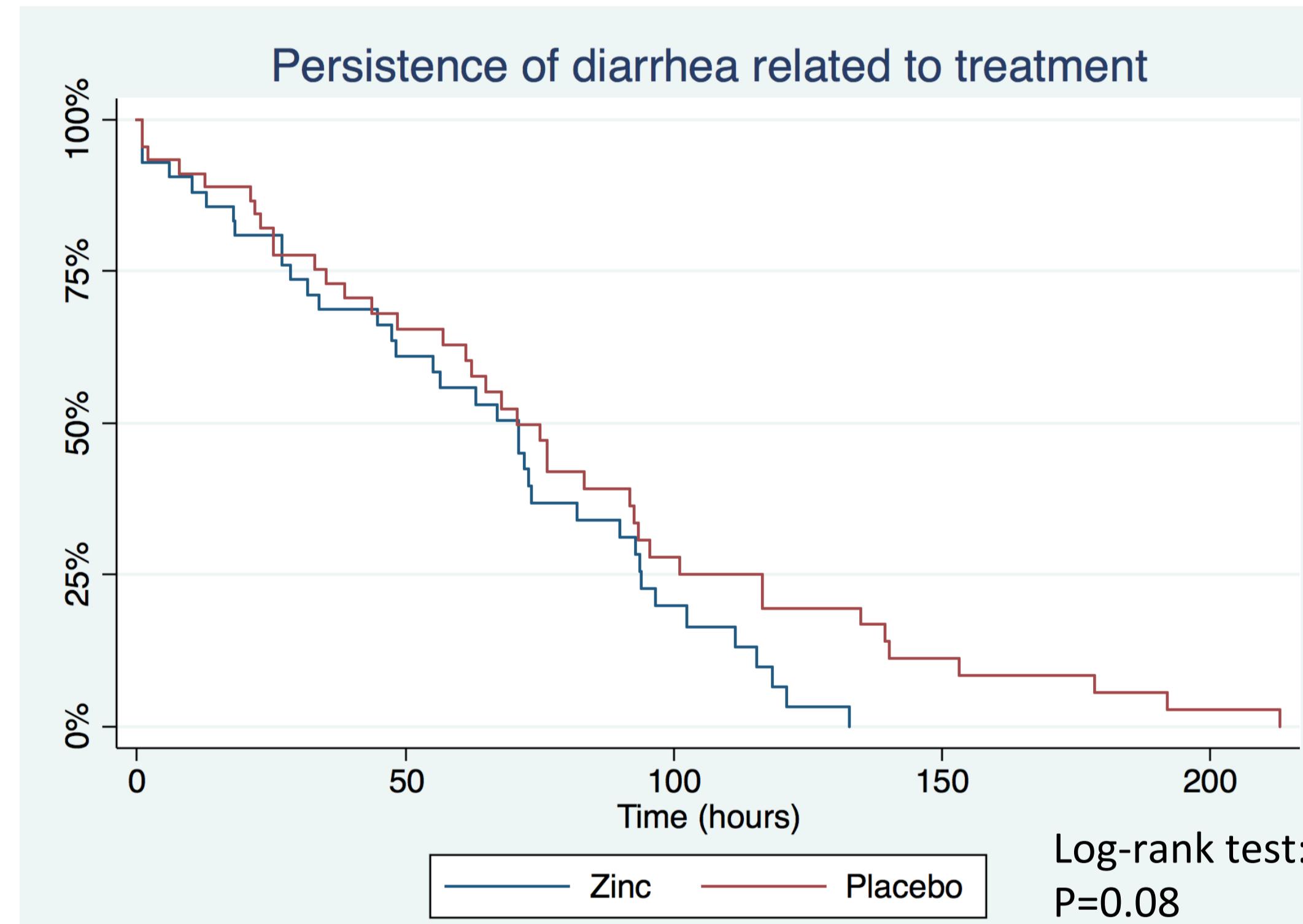
- with diarrhea (>3/day for less than 72 hours)
- Intervention:** zinc sulfate 10 (<6 months) or 20 mg (> 6 months) 1x / d for 10d in dispersible tablets

- Controls:** placebo in the same dispersible tablets
- Outcome:**
 - Duration of diarrhea
 - Severity of diarrhea (frequency)

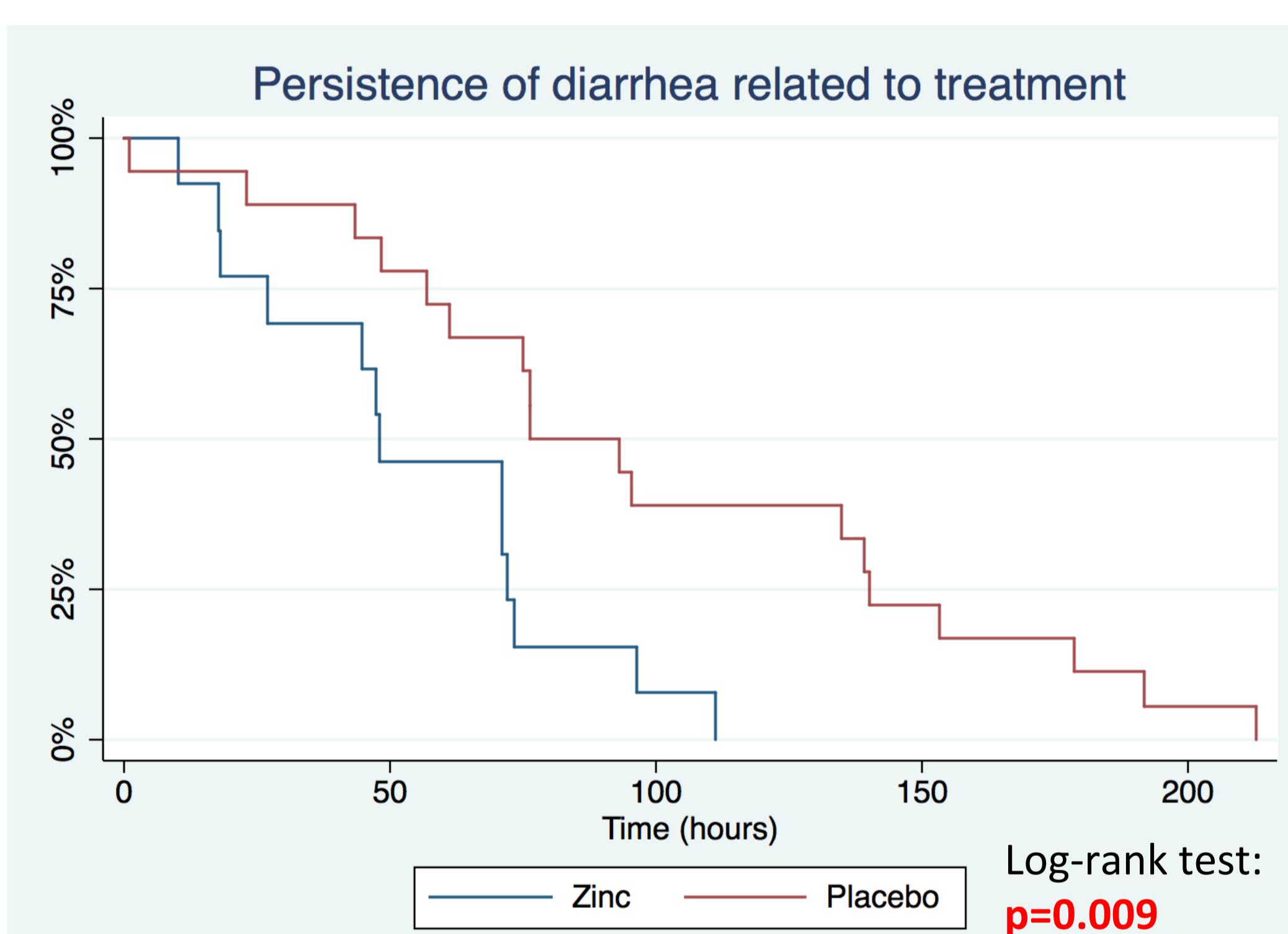
Population



Intention-to-treat analysis



Perprotocol analysis



Duration and frequency of diarrhea related to treatment				
Characteristic	All subjects	Zinc	Placebo	P
Persistence of diarrhea at 72h, n/total (%)	36/79 (56)	17/39 (44)	19/40 (47)	0.5
Persistence of diarrhea at 120h, n/total (%)	10/76 (13)	2/37 (5)	8/39 (20)	0.05
Duration of diarrhea, median hours (IQR)	67 (27-94)	65 (27-89.3)	(25.5-101.2)	0.5
Number of diarrhea between day 2 and 4 of treatment, median (IQR)	7 (3-9) N=65	5.5 (2.5-9.5) N=32	8 (3-9) N=33	0.7

Duration and frequency of diarrhea related to treatment				
Characteristic	All subjects	Zinc	Placebo	P
Persistence of diarrhea at 72h, n/total (%)	16/31 (52)	4/13 (31)	12/18 (67)	0.05
Persistence of diarrhea at 120h, n/total (%)	8/31 (26)	1/13 (8)	7/18 (39)	0.06
Duration of diarrhea, median hours (IQR)	71 (43.6-95.6)	47.5 (18.3-72)	(52.8-137)	0.03
Number of diarrhea between day 2 and 4 of treatment, median (IQR)	8 (3-9) N=29	3 (1-8) N=11	9 (7-9) N=18	0.02

Conclusion

- Zinc treatment is associated with a decrease in diarrhea frequency and severity in children aged 2 months to 5 years old in a developed country
- However, poor compliance results in a questionable clinical significance (intention-to-treat analysis)
- A different dosage form should be considered (oral rehydration solution?)