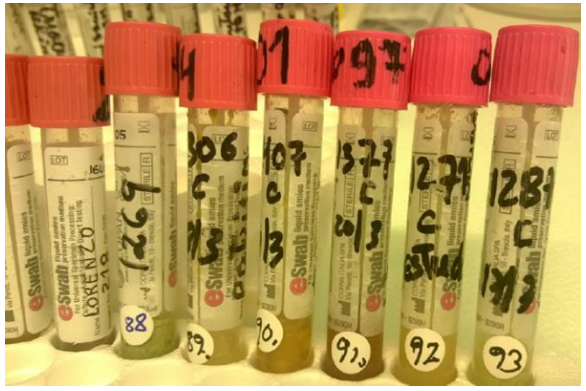

MULTIPLEX REAL-TIME PCR IN THE DIAGNOSIS OF ACUTE DIARRHEA IN CHILDREN IN LUANDA, ANGOLA

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BACKGROUND:

Diarrhea is globally the second leading cause of death in children under five, killing around 1,500 children every day. In diagnostics, molecular methods which can detect several pathogens with high sensitivity are replacing traditional assays. We aimed to investigate enteropathogens in children with and without diarrhea in Luanda, the capital of Angola.

METHODS:

We examined 200 stool samples from 101 children with acute diarrhea and 99 children without diarrhea, respectively, in the Pediatric Hospital of Luanda with multiplex real-time polymerase chain reaction (PCR; Amplidiag Bacterial GE, Stool Parasite, and Viral GE kits) searching for 17 enteropathogens.

Variable	All children	With diarrhoea	Without diarrhoea	P value
	200	101	99	
Positive PCR for any pathogen	181 (91%)	97/101 (96%)	84/99 (85%)	0.0078
≥2 group vs. 1 group of pathogens	103/181 (57%)	68/97 (72%)	35/84 (42%)	0.0001
Number of pathogens	2 (3)	3 (2)	1 (2)	<0.0001
Positive PCR for bacteria	157 (79%)	88 (87%)	69 (70%)	0.0027
Positive PCR for viruses	99 (50%)	65 (64%)	34 (34%)	<0.0001
Number of viruses	0 (1)	1 (1)	0 (1)	<0.0001
Positive PCR for parasites	49 (25%)	29 (29%)	20 (20%)	0.16
Number of parasites	0 (0)	0 (1)	0 (0)	0.18
* Number (%) or median (IQR)				

RESULTS:

The median age of children was 11 months (IQR 17). When age and malnutrition were taken into account, diarrhea associated with enterotoxigenic and enteroaggregative *Escherichia coli, Shigella*, *Campylobacter*, rotavirus, sapovirus, and *Cryptosporidium*.

CONCLUSION

Multiplex PCR detected enteropathogens in almost all stool samples of children in Luanda. However, in children with diarrhea this occurred more often; they showed more mixed infections with different pathogen species and pathogen groups than children without diarrhea.