

## PP 6

### Blood group AB is associated with dengue and dengue haemorrhagic fever in the Northern Province of Sri Lanka

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#### Introduction

Association between blood groups and dengue and dengue haemorrhagic fever (DF / DHF) have been described previously.

#### Objective

To investigate the association between blood groups with dengue fever (DF) / dengue haemorrhagic fever (DHF).

#### Design, setting and methods

Blood samples were collected from 465 suspected patients with DF/DHF, admitted to the medical and paediatric wards of Teaching Hospital, Jaffna from 2010 to 2012. A standard haemagglutination assay recommended by the National Blood Transfusion Services was used to group the blood samples. Dengue NS1 and anti-DENV IgM / IgG ELISA were used to confirm dengue. The distribution of blood groups ABO in Jaffna was obtained from the donors' blood group pattern from January to October 2015 and that was considered as the distribution of ABO blood groups for the population.

#### Results

Out of 405 patients with confirmed DF/DHF, the trend in AB blood group experiencing DF/DHF was higher than other blood groups ( $\chi^2 = 39.86$ , d.f. = 3,  $p < 0.001$ ). Individuals with blood group AB appear to have 2.53 times likely to experience DHF and blood group O is less (0.62 times) affected by DHF ( $\chi^2 = 12.97$ , d.f. = 2,  $p < 0.005$ ). Other blood groups with DF / DHF did not show a significant deviation from their representation in the general population (Table 1).

**Table 1. ABO blood groups in the general population and the chances of these blood groups experiencing DF / DHF**

Blood group	Patients group (n=405)		ABO blood group among the donors (general population) (n=5348)
	% of DF (n=176)	% DHF (n=229)	
A	25.76 (59)	24.43 (43)	19.95 (1067)
B	26.6 (61)	32.95 (58)	31.11 (1664)
AB	16.59 (38)	16.47 (29)	6.51 (348)
O	31 (71)	26.13 (46)	42.43 (2269)

#### Conclusions

The AB blood group is largely affected by DF / DHF compared to the distribution of this group in the general population. The blood group O was less affected by DF / DHF compared to its' proportion in the general population.