

# Can we prevent vasovagal reactions in young inexperienced whole blood donors?

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# Study of interventions to optimise success of whole blood donation (“EPISoDe”)

Interventions:      500 ml water drink      ) After health  
                                 330 ml water drink      ) screening  
                                 Ball squeezing with donation arm (placebo)      )  
                                 Routine care (control)

- Electronic questionnaire based on Blood Donor Reactions Inventory
  - Informed consent after donor screening
  - Sent within 7 days
  - 1 reminder if no response
  - Replies within 28 days
  - Each donor once only (per intervention)
- Use of routinely recorded data (computer system eProgesa)



Sanquin

## Our cohort

- Young (< 30 years old)
- Whole blood donation
- New (1st donation) and “novice” (2nd, 3rd and 4th donations)

Inclusion December 2014-August 2016

After data cleaning:

8,300 eligible donors registered

6,921 responses (83%)

# Representative study sample

		Whole country: eligible during study	Study groups
Donors (total)*		77813	8300
Female		54127 (70%)	6032 (73%)
1st donation		29197 (38%)	3422 (41%)
Age (y)	18	7855 (10%)	4322 (12%)
	19-22	35019 (45%)	3951 (48%)
	23-30	34939 (45%)	3373 (41%)
Hb mmol/l (g/dl)		M 9.5 (15.3) F 8.4 (13.5)	M 9.5 (15.3) F 8.5 (13.7)
EBV (L)#		M 5.5 F 4.2	M 5.5 F 4.2

\*Counted per attendance

#Estimated Blood Volume, available for 96% of donors

## Self-reported VVR

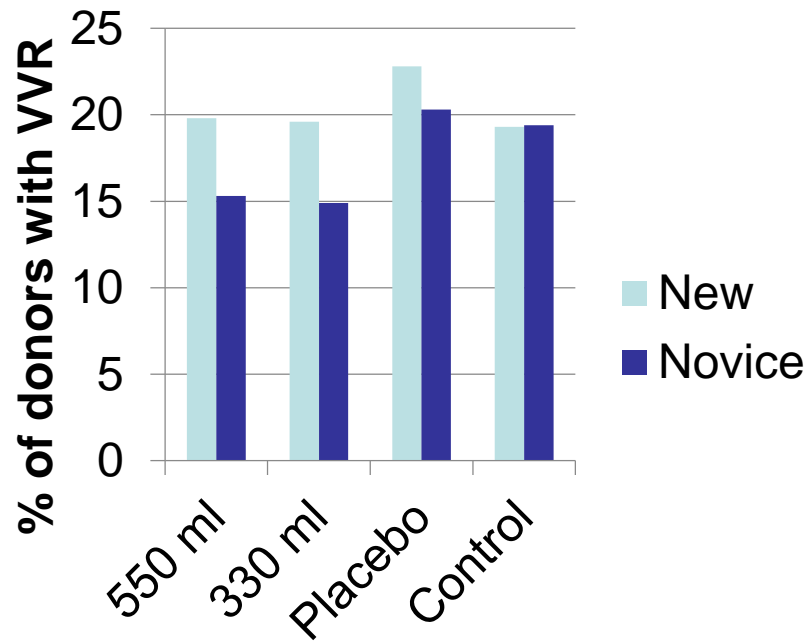
(n=6921 donors who responded to the questionnaire)

For novice donors:

Water vs control# OR **0.77, 0.63-0.94#**

Placebo vs control# OR 1.12, 0.89-1.41#

# adjusted for sex, Hb and Estimated Blood Volume

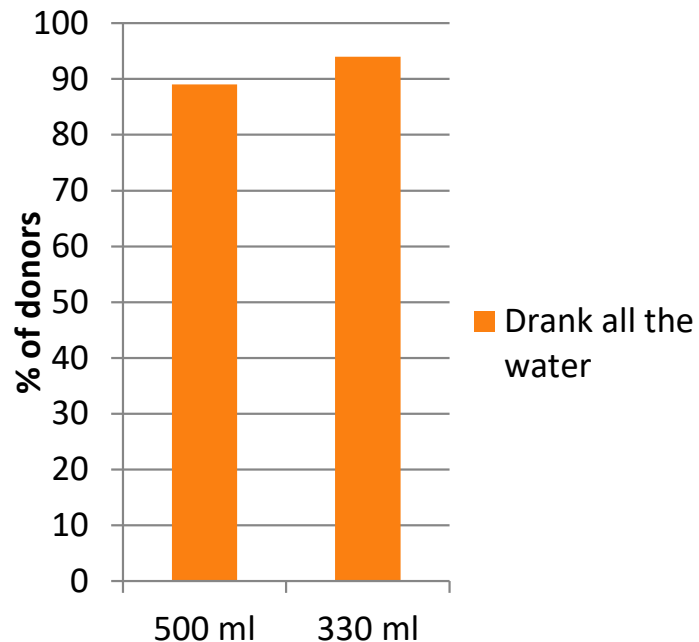


# Compliance

**Compliance** recorded on 98% of forms  
92% drank whole bottle (3943 donors)

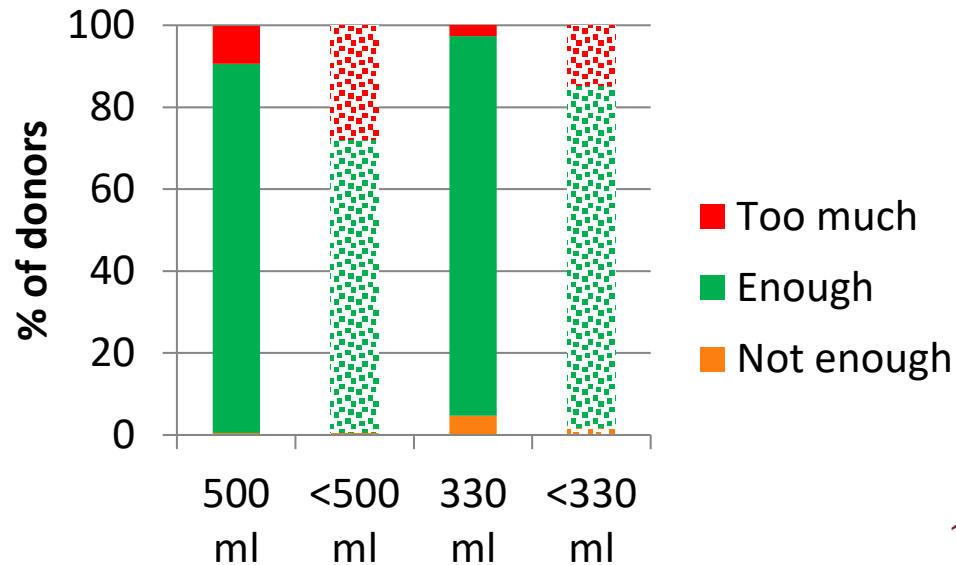


3422 returned questionnaire (87%)  
VVR 14.3% of 500 ml group  
14.5% of 330 ml group

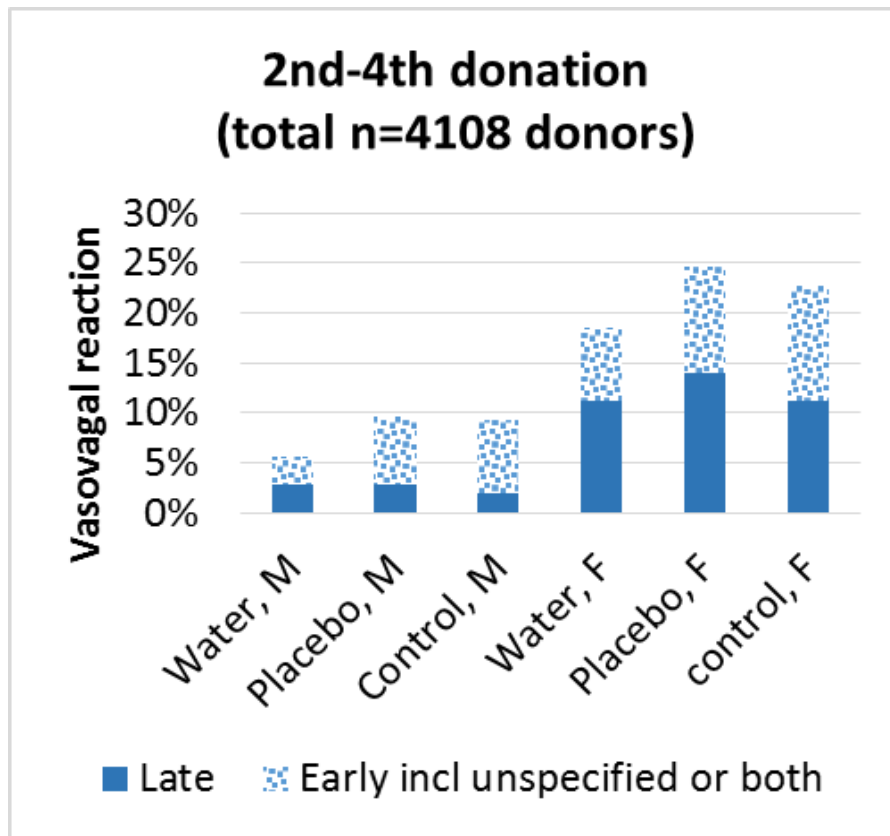
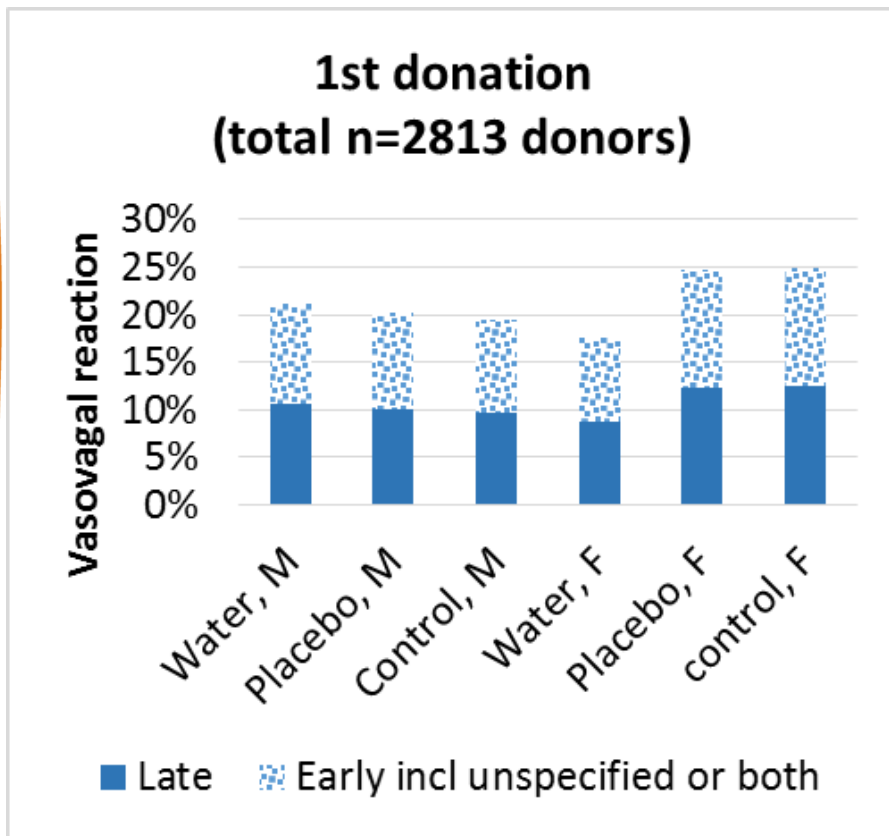


# Satisfaction (n=3691 responders)

- 11% stated that 500 ml was too much
- 3.3% said that 330 ml was too much ( $p < 0.001$ ), 4.5% said it wasn't enough



# Late reactions: no effect of intervention





## Discussion

- No effect on VVR in first time donors – could be result of standard extra care for new donors
- 23% reduction of VVR in novice donors
- No difference in VVR between 330 and 500 ml
- Strengths: large study size
  - Placebo and control group
  - Compliance recorded
  - High response to questionnaire
- How does it work?

# Next step: implementation!

## Acknowledgements

- All collection centre staff for informing donors, handing out the intervention and completing study forms
- Sandra van Nieuwmegen, Femmeke Prinsze and Winesh Kanhaisingh for help with study administration and data preparation
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