

# Impact of risk perception on attitudes towards blood donation among men who have sex with men

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Abstract ID 25

## Introduction

Despite the ongoing need to monitor transfusion risks, great challenges in blood safety are related to surveillance of emerging agents, which requires increasingly modern and sophisticated diagnostic tests, as well as the awareness of the blood donor population towards individual risk behaviors that impair transfusion safety, which should modulate the decision to donate blood. It is well recognized that an individual's attitude has a direct influence on their blood donation intention. The impact of transfusion risk perception on attitudes towards blood donation, on the other hand, has never been investigated. The objective was to investigate the impact of risk perception on attitudes towards blood donation among Brazilian men who have sex with men (MSM) who donated blood.

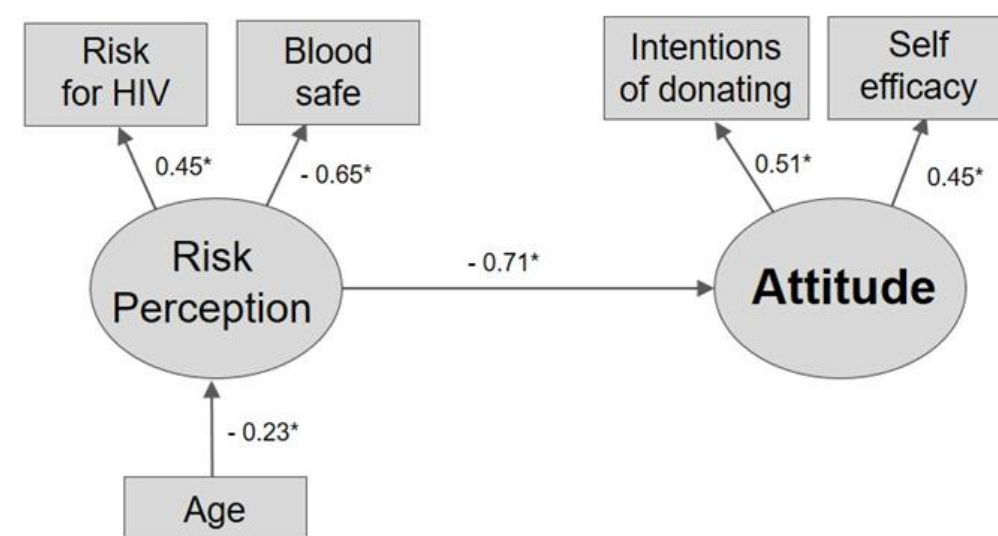
## Methods

- Cross-sectional study - open web survey (REDCap Platform)
- Eligibility criteria: male, self-reporting as an MSM, ≥ 18 years old, living in Brazil, and speaking Brazilian Portuguese.
- Data collection: Online questionnaire disseminated using social media ads on platforms Whatsapp, Twitter and Facebook
- Data analysis: Structural Equation Modeling (dependent variable: attitudes toward blood donation). The evaluation of the risk perception on attitude was based on the statistical significance of causal paths ( $\beta$ ) evaluated by Z-tests ( $\alpha=5\%$ ).
- Approved by the Research Ethics Committee of the Ribeirão Preto Medical School (CAAE 06415519.7.0000.5440)

## Results

**Table 1.** Characterization of the sample of men who have sex with men (MSM) according to blood donation history, Brazil, 2021

Variables	Response categories	Total sample	Never donated	Previously donated	Cramer's V (p value)
		N=764 n (%)	n=459 n (%)	n=305 n (%)	
Age group	18 to 24 years old	335 (43.8)	227 (49.5)	108 (35.4)	0.18 (<0.01)
	25 to 31 years old	319 (41.8)	186 (40.5)	133 (43.6)	
	32 to 38 years old	86 (11.3)	34 (7.4)	52 (17.1)	
	39 years old or older	24 (3.1)	12 (2.6)	12 (3.9)	
Educational level	Elementary school	6 (0.8)	6 (1.3)	-	0.14 (<0.01)
	Completed high school or incomplete university	323 (42.3)	215 (46.8)	108 (35.4)	
	Completed university	435 (56.9)	238 (51.9)	197 (64.6)	
Current monthly income	Has no monthly income	77 (10.1)	51 (11.1)	26 (8.5)	0.15 (0.01)
	Less than minimum wage (US \$263)	76 (9.9)	52 (11.3)	24 (7.9)	
	1 – 2 times minimum wage	219 (28.7)	141 (30.7)	78 (25.6)	
	3 – 4 times minimum wage	179 (23.4)	102 (22.2)	77 (25.2)	
	5 – 8 times minimum wage	125 (16.4)	70 (15.2)	55 (18.0)	
	9 – 15 times minimum wage	49 (6.4)	21 (4.6)	28 (9.2)	
	16+ times minimum wage	22 (2.9)	9 (2.0)	13 (4.3)	
Don't know	5 (0.7)	4 (0.9)	1 (0.3)		
Did not want to answer	12 (1.6)	9 (2.0)	3 (1.0)		



**Table 2.** Blood donation-related questions, men who have sex with men (MSM) who had previously donated, Brazil, 2021 (n=305).

Variables	Response categories	All MSM blood donors n=305 n (%)	Previously lied about risk behavior in the clinical screening interview*		Cramer's V (p value)
			No (n=81) n (%)	Yes (n=218) n (%)	
Number of lifetime donations	1	97 (31.8)	34 (42.0)	60 (27.5)	0.15 (0.10)
	2 to 5	155 (50.8)	36 (44.4)	116 (53.2)	
	6 to 10	39 (12.8)	9 (11.1)	30 (13.8)	
	More than 10 donations	14 (4.6)	2 (2.5)	12 (5.5)	
Last donation	Less than 6 months ago	43 (14.1)	10 (12.3)	32 (14.7)	0.07 (0.47)
	Less than 1 year ago	23 (7.5)	4 (5.0)	19 (8.7)	
	More than 1 year ago	239 (78.4)	67 (82.7)	167 (76.6)	
Willing to answer detailed questions about sexual behavior before donation	Yes	197 (64.6)	59 (72.8)	134 (61.5)	0.11 (0.16)
	No	80 (26.2)	15 (18.6)	64 (29.3)	
	Do not know	28 (9.2)	7 (8.6)	20 (9.2)	
Intends to return for new donations	Yes	196 (64.3)	44 (54.3)	147 (67.4)	0.23 (<0.01)
	No	46 (15.1)	8 (9.9)	38 (17.4)	
	No longer able to donate	63 (20.7)	29 (35.8)	33 (15.2)	
Donated blood in order to be tested for infections	Yes	31 (10.2)	6 (7.4)	25 (11.5)	0.06 (0.39)
	No	273 (89.5)	75 (92.6)	192 (88.1)	
	Did not want to answer	1 (0.3)	0 (0.0)	1 (0.4)	
Believes that they are able to donate blood whenever and wherever allowed (self-efficacy) <sup>#</sup>	Yes	214 (70.2)	52 (65.0)	157 (72.0)	0.07 (0.26)
	No	91 (29.8)	28 (35.0)	61 (28.0)	
Believes that their behaviors put them at risk for HIV infection	Yes	57 (18.7)	14 (17.3)	43 (19.7)	0.03 (0.74)
	No	247 (81.0)	66 (81.5)	175 (80.3)	
	Did not want to answer	1 (0.3)	1 (1.2)	0 (0.0)	
Believes that their blood is safe enough to be transfused to someone else	Yes	255 (83.6)	66 (81.5)	183 (83.9)	0.01 (1.00)
	No	21 (6.9)	6 (7.4)	15 (6.9)	
	Did not want to answer	29 (9.5)	9 (11.1)	20 (9.2)	

**Figure 1.** Structural equation model fitted with the standardized paths ( $\beta$ ) for the evaluation of the influence of transfusion risk perceptions on attitudes toward blood donation ( $\chi^2/df=0.01$ ; CFI=0.90; GFI=0.98; RMSEA=0.09; Explained variance 50%). Brazil, 2021.