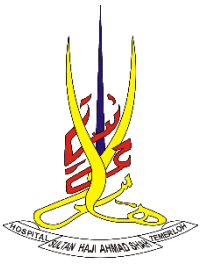


# Healthcare Worker's Intention to Donate Blood: An Application of the Theory of Planned Behaviour



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## INTRODUCTION & OBJECTIVE

Despite the growth in total blood donation, there is a deficit between the amount of blood needed and collected.<sup>1-3</sup> In this study, we included the constructs from the psychological model, Theory of Planned Behaviour (TPB), concerning blood donation to understand the factors that motivate healthcare worker's intention to donate blood.

The TPB model has the potential to predict blood donation behaviour. The predictive value was ranged from 51-81%.<sup>4-6</sup> Regular blood donation, especially by the healthcare workers (HCWs), can contribute to a sustainable base of safe blood supply. HCWs are a potential pool of eligible but yet under-explored donors.<sup>7</sup> Understanding the various factors contributing to the voluntary blood donation intention among healthcare workers is crucial to enhance donor recruitment programs.

**This study aimed to identify factors explaining the intention to donate blood among HCWs in HTAA and HoSHAS.**

### Operational Definition for TPB constructs:

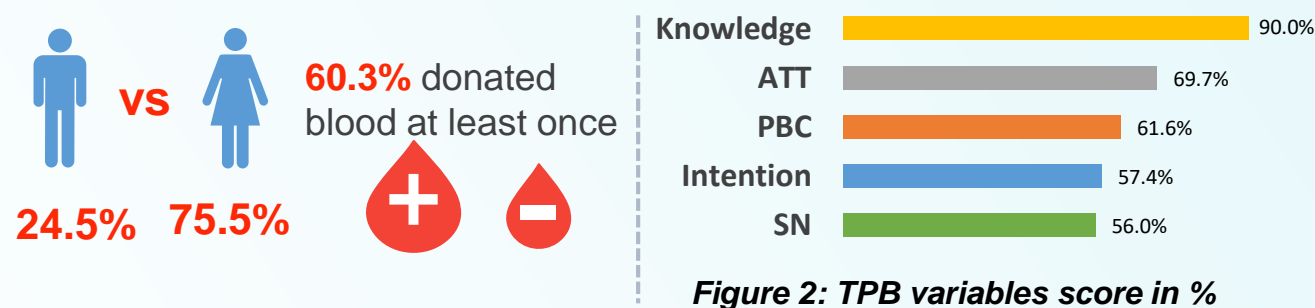
**Attitude (ATT):** the degree to which a person has a favorable or unfavorable evaluation of donating blood

**Subjective Norm (SN):** perception of social pressure (i.e., family, someone important, or friends) in performing blood donation

**Perceived Behavioural Control (PBC):** Perceived ease or difficulty in performing blood donation

## RESULTS

### 1 Respondent's profile and TBP variables description



### 2 Multiple linear regression (MLR) analysis revealed that the four strongest factors associated with intention to donate blood and one interaction term between age and SN

Table 1: Associative factors of intention to donate blood among HCWs

Variables	Multiple linear regression (MLR)	
	b(95%CI) <sup>b</sup>	P-value
<b>Age group</b>		
21-40 years old	18.3 (8.87, 27.66)	< 0.001
41-60 years old (ref)	1	
<b>Gender</b>		
Male	-	-
Female (ref)		
<b>Past Behaviour (Ever donate blood before?)</b>		
No	-7.16 (-10.61, -3.71)	<0.001
Yes (ref)	1	
<b>Knowledge</b>		
ATT	-	-
SN	0.50 (0.36, 0.65)	<0.001
PBC	0.71 (0.61, 0.80)	<0.001

Notes: Ref = reference group, <sup>a</sup>Crude regression coefficient, <sup>b</sup>Adjusted regression coefficient, Forward stepwise MLR method applied. Multicollinearity were unlikely. <sup>c</sup>There is significant interaction term between age group and subjective norm, (P-value = 0.021) in the final model. Model assumption are fulfilled. Coefficient of determination (R<sup>2</sup>) = 0.691.

### Final model equation with interaction term:

$$Y'_{\text{Intention}} = -18.1 + (18.3)X_{\text{age group}} + (-7.16)X_{\text{ever donate blood}} + (0.50)X_{\text{SN}} + (0.71)X_{\text{PBC}} + (-0.18)X_{\text{age group} * \text{SN}}$$

### 3 We run a stratified regression analysis and found that the regression coefficient for SN was significant for both age group models.

**Stratified analysis according to age group, the equations were reduce to the following:**

**When age group = 41-60 years old (age group = 0):**

$$Y'_{\text{Intention}} = -18.1 + (-7.16)X_{\text{ever donate blood}} + (0.50)X_{\text{SN}} + (0.71)X_{\text{PBC}}$$

**When age group = 21- 40 years old (age group = 1):**

$$Y'_{\text{Intention}} = 0.2 + (-7.16)X_{\text{ever donate blood}} + (0.32)X_{\text{SN}} + (0.71)X_{\text{PBC}}$$

## METHODS

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The methods are summarized in Figure 1:

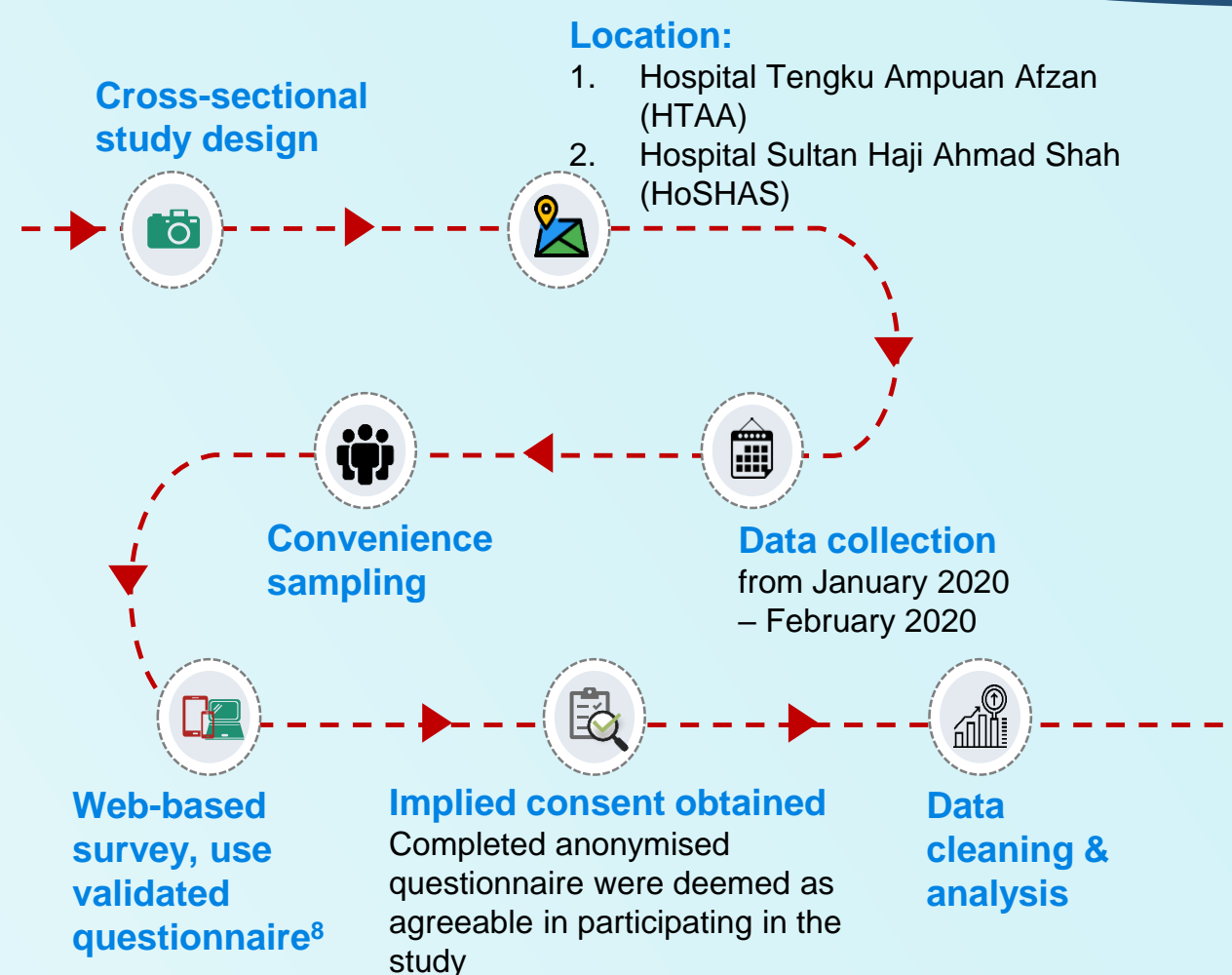


Figure 1: Flow of the study

The TPB variables score (i.e., ATT, SN, PBC, and intention) were calculated based on the standardisation of scale to 100 percent.<sup>9</sup> The response rate for this study was **70.8% (n = 400)**.

## DISCUSSION

- Younger age group, past behaviour, SN and PBC are associated with the intention to donate blood in which similar studies were done<sup>3,6,10-11</sup> using the TBP model. The model explained 69.1% of the variance of intention to donate blood, which was consistent with other TBP studies on blood donation<sup>5,6,10</sup>.
- Those who are knowledgeable in blood donation and gender does not influence the intention to donate blood<sup>3</sup>. ATT was found not significant, which was inconsistent with other studies.<sup>10,11</sup> It could be that there are other external factors (i.e., donation anxiety, self-identity, or moral norm) which affect the ATT<sup>12</sup>. Age moderates the SN level in blood donation intention. In this sample, the younger age group with lower SN tends to have greater intention compare to the older age group.
- Limitation:** convenience sampling, cross-sectional study and self-reported past behaviour. We cannot imply causality.

## CONCLUSION

- Knowledge regarding blood donation is sufficient among the study population. However, their intention towards it is moderately satisfactory.
- HCW's intentions are associated with age, past behaviour, and perceived behavioural control regarding blood donation.
- Future research can be designed to promote efficient and effective intervention that would ultimately increase the blood donor recruitment and retention to the targeted population (younger age group HCWs) and their relatives or peers.

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