Psychology behind blood donation

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Sanquin blood supply

1. A donor gives blood or plasma at the Sanquin Blood Bank.
2. Blood products are stored at the 1 nearest point in the manufacturing plan.
3. Blood products are stored at the 3 nearest points in the manufacturing plan.
   - Platelet: stored up to 21 days, preserved at 22°C.
   - Fresh plasma: stored up to 5 days, preserved at 20-24°C.
   - Plasma (plasma): stored up to 24 months, preserved at -25°C or lower.
5. Sanquin supplies the blood products.
6. A patient may need one or more blood products.
7. The hospital monitors whether supplies are needed or if blood matching will be required.

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Donating blood……

Following the corporate presentation:

• ‘Based on the needs of patients Sanquin encourages donors to give blood so that the stock of blood products is maintained at adequate levels’

• ‘A donor gives blood or plasma at the Sanquin Blood Bank’

‘Easier said than done…..’
Background

Becoming a donor is a choice

Every donation is a choice

For donor management it is important to know:

Which factors influence these choices?
Why donate?

- Donating is form of pro-social behaviour
- Free gift

To donate is ‘to give’, however…..

‘no donor can be characterized by complete, disinterested altruism’

Titmuss, Lancet 1971
Why donate: Altruism?

Altruism mentioned as primary reason by donors themselves

However:
• Altruism in relation to donating blood is not distinctive between donors and non-donors
• Altruism not related to donation frequency
Why donate: Egoism?

- Reciprocal ability, ‘helping me, helping you’ (Hupfer, Transfusion 2006)

- Health screen
  (Glynn, Transfusion 2003; Ringwald Vox Sang 2007)

- Feeling ‘like a hero’
  (Oswalt, Transfusion 1977)

- Feeling proud

- Need for recognition and self-esteem
  (Steele, Transfusion 2008; Piliavin, Transfusion 1990)
Why donate: Benevolence

Donating blood is not pure altruism
Both *donor and recipient* profit (Ferguson et al., Health Psychology 2008)

Critical balance: ‘giving’ and ‘receiving’
Factors influencing the balance

- Negative donation experiences (physical, psychological)
- Temporary deferral
- Organisational factors
Negative donation experiences

Physical adverse reactions

• Vasovagal reactions: - sweating, nausea, dizziness, pallor, hypotension, and syncope
  - Incidence rate \( \leq 1\% \)

• Needle reactions: - bruises, stiffness, hematomas, sore arm
  - Incidence rate \( \leq 30\% \)

Known risk factors

- young age
- first time donor status
- low blood volume
- female sex

(Veldhuizen et al, Transfusion 2012, Van Dongen et al, Transfusion 2012)
Physical adverse reactions in experienced donors

• Does an adverse reaction increase stopping risk in experienced donors?
• Sex differences?

Methods

• N = 12,051 whole blood donors
• Reporting of adverse reaction? Yes / no
• Reaction type: vasovagal / needle / other
• Stopped within 2 years? Yes / no
• Separate analyses for men and women
Physical adverse reactions in experienced donors

<table>
<thead>
<tr>
<th>Sex</th>
<th>Needle reaction OR (95% CI)</th>
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<td>Age (per year)</td>
<td>0.95 (0.94-0.95)</td>
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- Men lower odds on reporting NR and VVR
- Increasing age, lower odds on NR and VVR
### Adverse reactions and stopping risk

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<td>1.35 (1.07-1.70)</td>
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Physical adverse reactions in experienced donors

To summarize

• Vasovagal reactions negatively affect stopping risk

• Also in experienced donors!

• Strong sex differences:
  - Women experience more adverse reactions than men
  - Stopping risk in men twice as high as in women
Implications

• Coping with adverse reactions also important for experienced donors

• Men cope differently than women?
Factors influencing the balance

- Negative donation experiences (physical, psychological)
- Temporary deferral
- Organisational factors
Psychological donation reactions

- fear of needle, or even blood
- fear for a negative reaction
- not ‘feeling up to it’
- feeling tense
- watching other donors faint

(Veldhuizen, Transfusion 2012; Hupfer, Transfusion 2006; Nilsson-Sojka, Vox Sang 2003; France, Transfusion 2007)
Temporary deferrals

- ‘Being deferred’ more important than deferral type
- Even short-term deferrals are detrimental

(Piliavin, Transfusion 1987; Zou, Transfusion 2008, Custer, Transfusion 2007)
Organisational factors

- Staff attitude
- Waiting times
- Parking space
- Invitation policy
- Pressure to donate

Factors influencing the balance

- Negative donation experiences (physical, psychological)
- Temporary deferral
- Organisational factors
Donation behaviour: Theory based research

- **Attitude**
  - ‘Donating blood is useful’

- **Self-efficacy**
  - ‘I feel capable to donate’

- **Moral norm**
  - ‘I feel responsible to donate’

- **Subjective norm**
  - ‘Others important to me think I should donate’

**Intention** → **Behaviour**
Are the same factors important in each career stage?

For all donors, irrespective of the number of life-time donations, three factors predict intention to donate again:

• For men and women:
  
  self-efficacy: ‘Yes I can’
  moral norm: ‘I feel responsible to donate’

• Only for men:
  
  Subjective norm: ‘It matters to me how others feel about me donating’
Retention: what to do?

- Convenience: opening hours etc.
- Inform donors about side-effects
- Provide care and after-care
  Especially with vasovagal reactions
- When deferred: **PROVIDE CARE**
  Contact donor after deferral period

**Use the need for recognition!**

**Also deferred donors need to be recognized**

- Regardless of their number of donations made, all donors need to feel capable: provide reassurance
- Donors need to hear they are important. Especially for men the opinion of others is important
Thank you

How can I express how much I appreciate you.
### Physical adverse reactions in experienced donors

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<th>Characteristic</th>
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<th>Men</th>
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<tr>
<td>Age (years)</td>
<td>42.5 (±12.8)</td>
<td>48.6 (±11.8)</td>
</tr>
<tr>
<td>Number of donations</td>
<td>17.7 (±15.5)</td>
<td>36.5 (±26.1)</td>
</tr>
<tr>
<td>Number stopped donors</td>
<td>1,285 (19.8%)</td>
<td>964 (17.4%)</td>
</tr>
<tr>
<td>Adverse reaction</td>
<td>808 (12.4%)</td>
<td>207 (3.7%)</td>
</tr>
<tr>
<td>Needle reaction (NR)</td>
<td>455 (7.0%)</td>
<td>113 (2.0%)</td>
</tr>
<tr>
<td>Vasovagal reaction (VVR)</td>
<td>269 (4.1%)</td>
<td>50 (0.9%)</td>
</tr>
<tr>
<td>Other</td>
<td>84 (1.3%)</td>
<td>44 (0.8%)</td>
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