

- Supplementary appendix -

The patient-perspective and feasibility of home finger prick testing to complement and facilitate large scale research in rheumatology

Besten YR and Boekel L et al.

Contents

- **Table S1.** Failed finger prick attempts. 2
- **Table S2.** Participant characteristics stratified for those with at least one, two and three finger prick attempts. 3
- **Table S3.** Comparison of self-evaluation of the finger prick between participants with a successful and failed first execution of the finger prick. 4
- **Table S4.** Success rate of the first finger prick stratified for age groups with a successful and failed first execution of the finger prick. 5
- **Figure S1.** Reasons why patients and controls prefer a finger prick or venepuncture for blood draw compared between healthcare and scientific research setting. 6
- Evaluation questionnaire finger prick. 7

Table S1. Failed finger prick attempts.				
	Patients (n =2135)		Healthy controls (n = 899)	
Total number of attempts per participant				
One	696	(33)	187	(21)
Two	515	(24)	222	(25)
Three	502	(24)	306	(34)
Four	307	(15)	152	(17)
Total number of failed attempts per participant				
One	189/2135	(9)	89/899	(10)
Two	11/1439	(0.8)	4/712	(0.6)
Three	-		-	
Four	-		-	
Failure rate per attempt				
Failed first attempt	176/2135	(8)	57/899	(6)
Failed second attempt	51/1439	(4)	31/712	(4)
Failed third attempt	14/924	(2)	8/490	(2)
Failed fourth attempt	2/422	(0.5)	3/184	(2)
Identification of failed attempt*				
Based on serum sample received at laboratory	2102	(98)	896	(99.7)
Based solely on questionnaire, no sample received at laboratory	33	(15)	3	(0.3)

Data are n (%). * The finger prick was defined as failed when the sample received at the laboratory contained less than 10 μ L of plasma, or when no sample was returned to the laboratory and participants indicated in this questionnaire that they did not succeed in collecting the required amount of serum.

Table S2. Participant characteristics stratified for those with at least one, two and three finger prick attempts.			
	At least one attempt (n =3034)	At least two attempts (n =2151)	At least three attempts (n =1414)
Participant characteristics			
Patient – no.%	2135 (70)	1439 (67)	924 (65)
Age in years – mean (SD)	57 ± 13	58 ± 13	58 ± 12
Female sex – no. %	2014 (66)	1483 (69)	996 (70)
Co-morbidity – no. %			
Chronic pulmonary disease	306 (10)	226 (11)	164 (12)
Cardiovascular disease	354 (12)	247 (12)	169 (12)
Diabetes	155 (5)	100 (5)	60 (4)
Obesity	440 (15)	303 (14)	204 (14)
Anticoagulant medication – no. (%)	375 (12)	268 (13)	174 (12)
Currently smoking – no. (%)	290 (10)	190 (9)	123 (9)

Data are mean ± SD or n (%).

Table S3. Comparison of self-evaluation of the finger prick between participants with a successful and failed finger prick attempt.		
	Successful attempt*	Failed attempt*
Execution of the finger prick – no. (%)	n = 2081	n=170
Perceived amount of collected blood		
≥ 3 drops	1920 (92)	89 (52)
< 3 drops	160 (8)	63 (37)
Nothing	1 (0.0)	18 (11)
Reason for little to no collection**		
There was no blood formation	0 (0)	3 (4)
Not enough blood to form a whole drop	54 (34)	33 (41)
Drop formation but it did not fall into the tube	85 (53)	27 (33)
Enough blood formation, but unable to collect it in the tube	40 (25)	23 (28)
Broken collection tube	0 (0)	0 (0)
Finger prick defect	0 (0)	0 (0)
Missing tools	0 (0)	0 (0)
Other reason	13 (8)	3 (4)
Assistance – no. (%) ***	n = 1845	n = 124
Assistance with execution		
Partner	456 (25)	47 (38)
Son/daughter	294 (16)	34 (27)
Parent	83 (4)	3 (2)
Roommate	15 (0.8)	1 (0.8)
Neighbour	6 (0.3)	2 (2)
Nurse	8 (0.4)	3 (2)
General Practitioner assistant	23 (1)	1 (0.8)
Rheumatologist	7 (0.4)	4 (3)
Other	0 (0)	0 (0)
Other	30 (2)	1 (0.8)
Experience – no. (%) ***	n = 1270	n = 116
Experience of the prick		
Less painful than expected	239 (19)	13 (11)
As painful as expected	921 (73)	91 (78)
More painful than expected	110 (9)	12 (10)
Experience of the complete process		
Positive	725 (57)	31 (27)
Neutral	473 (37)	52 (45)
Negative	72 (6)	33 (28)

Data are n (%). *The finger prick was defined as successful when the sample received at the laboratory contained at least 10µL of plasma. The finger prick was defined as failed when the sample received at the laboratory contained less than 10 µL of plasma, or when no sample was returned to the laboratory and participants indicated in this questionnaire that they did not succeed in collecting the required amount of serum. **This question was asked to all participant who indicated that they were unable to collect at least 3 drops of blood. ***These questions were added to later evaluation questionnaires and therefore completed by a smaller number of participants.

Table S4. Success rate of the first finger prick stratified for age groups.		
	Patients	Controls
18 – 29 years	58/64 (91)	39/42 (93)
30 – 39 years	129/138 (93)	57/60 (95)
40 – 49 years	290/314 (92)	132/135 (98)
50 – 59 years	510/551 (93)	248/263 (94)
60 – 69 years	604/650 (93)	248/272 (91)
70 years and older	368/418 (88)	118/127 (93)

Data are n (%).

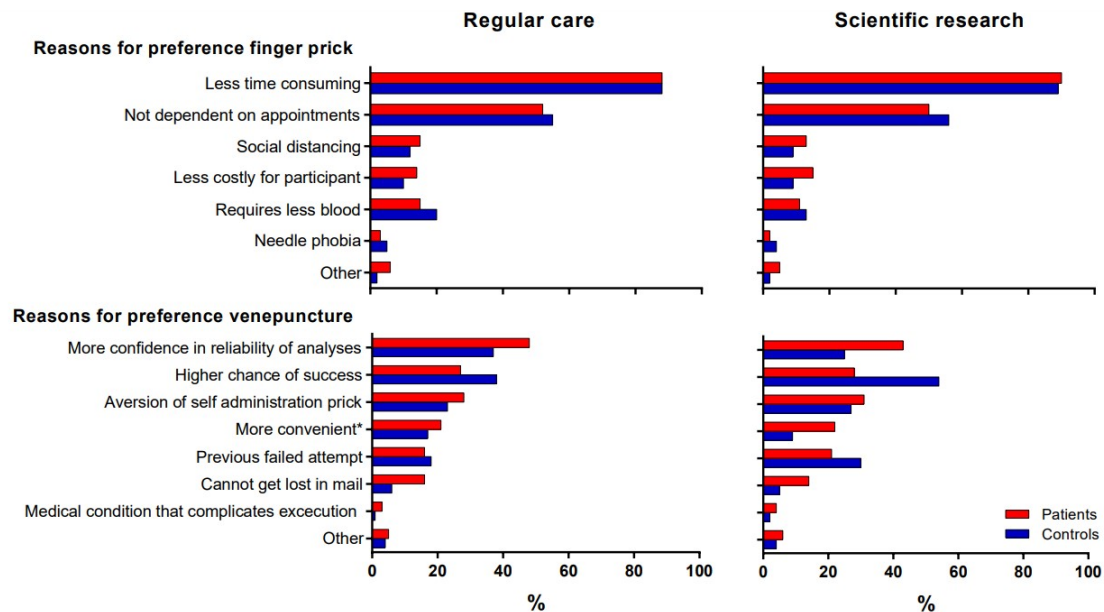


Figure S1. Reasons why patients and controls prefer a finger prick or venepuncture for blood draw compared between healthcare and scientific research setting.

**Examples of situations when a venepuncture could be more convenient for people are when they live nearby the healthcare facility or when blood draw can be combined with a healthcare appointment.*

Evaluation questionnaire finger prick

1. Were you able to collect at least 3 drops of blood in the collection tube?

- Yes
- No, but I was able to collect some amount of blood (only not the required 3 drops)
- No, I was not able to collect any amount of blood in the tube

If not “yes” to question 1:

1b. What was the reason that you were unable to collect the required amount of blood? (Participants could select multiple options)

- I did not bleed after applying the prick
- I did bleed after applying the prick, but it was not enough to form an entire drop of blood.
- I was able to create a single drop of blood, but I was unable to collect it in the tube.
- There was sufficient blood formation, but I was unable to collect it in the tube.
- The pricker was defect
- The tube was broken
- A tool was missing
- Other

2. How many prick devices included in the finger prick package did you use to draw blood?

- 1
- 2
- I used a different tool to draw blood

3. Were you assisted in executing the finger prick?

- Yes
- No

If “yes” to question 3:

3b. Who assisted you? (Participants could select multiple options)

- My partner
- My son/daughter
- My parent(s)
- My neighbor
- A nurse
- (An assistant of) a general practitioner
- A rheumatologist
- Other

4. How did you experience the entire process of blood collection via a finger prick (from receiving the test-kit until sending the tube to the laboratory).

- Positive
- Neutral
- Negative

5. How did you experience the prick?

- Less painful than I expected.
- As painful as I expected.
- More painful than I expected.

6. Do you have a preference for a particular blood sampling method for blood collection as part of scientific research?

- Yes, I prefer to use a finger prick.
- Yes, I prefer to collect blood at the local research facility.
- No, I don't have a preference.

7. Do you have a preference for a particular blood sampling method for blood collection for your individual healthcare?

- Yes, I prefer to use a finger prick.
- Yes, I prefer to collect blood at the local healthcare facility.
- No, I don't have a preference.