

Are you *HIRT?* (Hemophilia Injury Recognition Tool)

Perceptions from young men with mild hemophilia in Canada on the use of the mobile app for injury self-management

JoAnn Nilson¹⁻², Kathy Mulder³, Kristy Wittmeier³⁻⁴, Candice Schachter², Richard Lomotey⁵, Cathy Arnold² and Sarah Oosman²

1. Saskatoon Health Region 2. University of Saskatchewan 3. Winnipeg Health Region 4. University of Manitoba 5. University of Pennsylvania



Introduction / Background

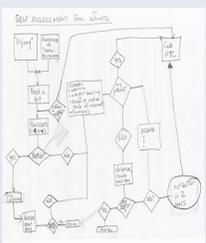
Mild Hemophilia

What has been noted by health care workers:

- Neglected diagnosis
- Diagnosis made later in life
- Young men don't always attend clinic
- Many do not recognize signs of injuries needing medical attention

Perceptions of young men with mild hemophilia:

- Resistant to acknowledging their condition
- Rely on their experiential learning
- Will call their family or siblings for advice, not the HTC
- Don't like "lectures"
- Often participate in aggressive non-hemophilia approved activities



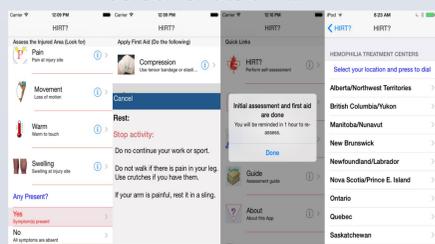
A care pathway was converted to an app, *HIRT?*

- A participatory iterative process was used guided by the KTA cycle
- Young men with mild hemophilia, health care professionals and computer science experts were included

HIRT? contains:

- Parameters of injury assessment
- Recommended first aid
- Reminders to reassess (1 hour, 1 day & 3 days)
- Direct link to Canadian Hemophilia Treatment Centers
- Detailed assessment guide

Screen shots of *HIRT?*



HIRT? has been available from both Apple store and Google play since December 2014.

Objective

To investigate the perceptions of young men with mild hemophilia (YMWMH) on the influence of *HIRT?* on their self-management skills after a musculoskeletal injury.

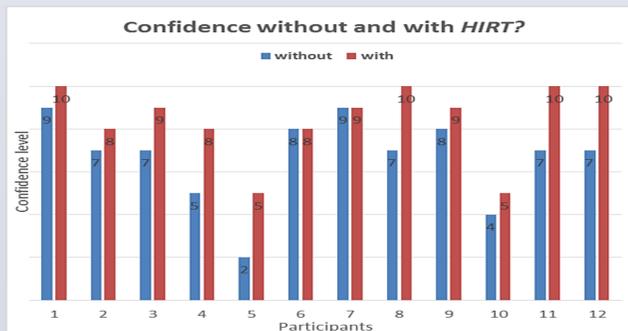
Convergent Parallel Mixed Methods Design



Participants

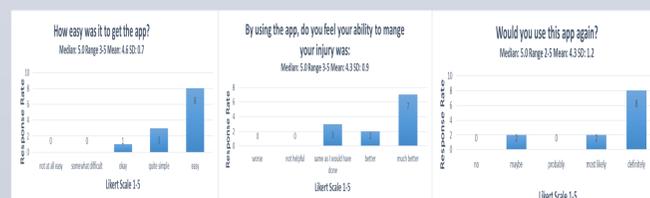
	N = 12			
Age at Study	17-34 years	Median 27	Mean 26.7	
Age at Diagnosis	0-19 years	Median 6.5	Mean 7.3	
Diagnosis	A = 9	B = 3		
Factor Level	11-20% = 6	>20% = 2	Unknown = 4	
Most recent treatment	< 12 months = 4	2-4 years = 5	5+ years = 3	
Where treatment received	ER = 7	HTC = 2	Local health clinic = 1	Home = 2
Education	Grade 12=3	Technical=3	U. degree=2	M or PhD=4
Physical Activity	Active=9	Physical job=1	Inactive=2	

Results: Quantitative



Perceived Confidence Levels (0-10)
Wilcoxon signed rank test: significant p=0.004

Seven injury self-management variables with and without the app: McNemar's test showed no significant Difference (assess, ignore injury, use ice, compression, elevation or rest, call the HTC).



Results: Qualitative (Five Themes)

Accessible:

- "I always have my phone handy"
- "At your fingertips"
- "Harder to misplace"

Useful:

- "You could assess from the crime scene wherever you get injured"

Useful to me

- "It gave a check list"
- "Reminders of what to look for"
- "Reassurance of not missing anything"

- "I have simply memorized it"
- "I do it out of instinct"

Not useful to me

- For those "less experienced", "new to hemophilia", "living in remote areas", "parents of children with hemophilia"

Useful to others

Alarms

- "Because you get busy and forget to look at it"
- "You just rub off the pain and go back to work"

Credible

- Many indicated the information was trustworthy, "like it is all the stuff I already know"

Confidence

- "It is like having someone reaffirm what you already know"
- "It's like having a second person assessing the injury, with more information about what you may do"
- "I think it allows you to have done your homework"

Clinical Implications:

- Provided a resource to fill a gap in knowledge for YMWMH
- It has been developed with the young men resulting in a useful tool
- Evaluation demonstrated that *HIRT?*
 - Significantly improved perceived confidence levels in YMWMH for injury self-management
 - Those newly diagnosed acknowledge the benefit of the assessment and first aid
 - Alarms added value in assisting with prompting re-assessment for those who may forget about an injury
 - Those experienced with bleeds appreciated the HTC contacts and assessment guide

Conclusions:

HIRT? the mobile app, has demonstrated the potential to have a clinically important influence on perceived injury self-management for YMWMH in Canada. *HIRT?* demonstrated that it is accessible and easy to use. The mobile app increased perceived confidence to identify and manage bleeds. In turn, it may assist to decrease the delay in identifying bleeds and facilitate earlier communication with the health care team when YMWMH sustain a musculoskeletal injury.

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Educational and Communication Models
JoAnn Nilson

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