Assessment of acute traumatic pain: the critical role of the scale anchor

Presenter: Flo Slomp, MSc, Doctoral Candidate in Medicine, U of A

Authors: FJ Slomp, MJ Mayan, GC Lasiuk, BD Dick

Presenter (and co-authors) Disclosure

- **Speaker (and authors): FJ Slomp**
  co-authors: MJ Mayan, GC Lasiuk, BD Dick

- **Relationships with commercial interests:** No conflicts identified

Learning Objectives for CME

1. What is the role of the anchor (definition of 10) on a the numerical rating scale?
2. How does context influence the assessment of pain?
3. When assessing pain are we measuring pain intensity or pain experience?

BACKGROUND

Complexity of pain

- Subjective
- Invisible
- Dynamic
- Numerous qualities (sharp, burning, dull)
- Multiple dimensions (physical, mental, emotional)

- Modified (possibly) by factors* such as

a) Previous pain experience
b) Memory of pain
c) Personality
d) Values, expectations and beliefs
e) Injury or pathology
f) Context

* Primary evidence is statistical

Adequate pain management is an essential feature of high quality health care.

Adequate pain management is an essential feature of high quality health care.

Self-report is considered to be the gold standard of assessing intensity of the pain.

Adequate pain management is an essential feature of high quality health care.

Self-report is considered to be the gold standard of assessing intensity of the pain.

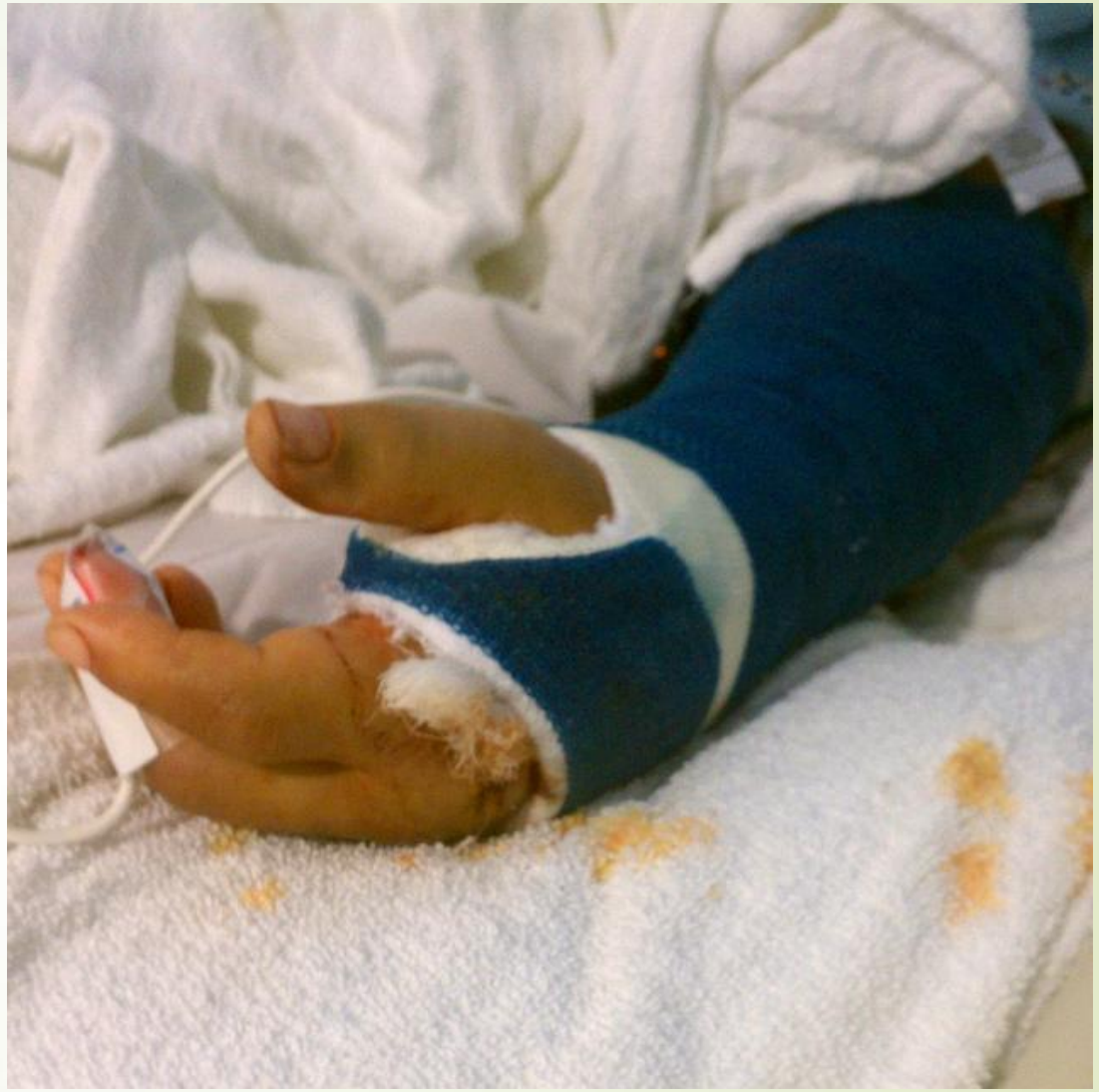
Most common validated self-report measurement tool is the Numerical Rating Scale-11 (NRS)

Typically the NRS is administered like this:

On a scale of 0 to 10

0 = “no pain”
10 = “worst pain imaginable”

what is your pain?



NRS has robust psychometrics

YET

There are concerns…

Specifically,

1. clinical mistrust of the tool (Montali et al., 2012)

Specifically,

1. clinical mistrust of the tool (Montali et al., 2012)
2. assumption that the innumerable data that a person experiences in an acute traumatic pain event can be reduced in a logical fashion (Nakamrua et al. 2002)

Specifically,

1. clinical mistrust of the tool (Montali et al., 2012)
2. assumption that the innumerable data that a person experiences in an acute traumatic pain can be reduced in a logical fashion (Nakamrua et al. 2002)
3. **assumption that people are providing a score of their pain intensity (Nakamrua et al. 2002; Kenny et al, 2006; de Williams et al. 2000)**

Specifically,

1. clinical mistrust of the tool (Montali et al., 2012)
2. assumption that the innumerable data that a person experiences in an acute traumatic pain can be reduced in a logical fashion (Nakamrua et al. 2002)
3. assumption that people are providing a score of their pain intensity (Nakamrua et al. 2002; Kenny et al, 2006; de Williams et al. 2000)
4. **"worst pain experienced" as an anchor has not been validated**

Specifically,

1. clinical mistrust of the tool (Montali et al., 2012)
2. assumption that the innumerable
data that a person experiences in an acute traumatic pain can be reduced in a logical fashion (Nakamrua et al. 2002)
3. assumption that people are providing a score of their pain intensity (Nakamrua et al. 2002; Kenny et al, 2006; de Williams et al. 2000)
4. "worst pain experienced" as an anchor has not been validated
5. "worst pain experienced" is the anchor used by people when using the NRS (Seymour et al., 1985)

AIM OF THIS INVESTIGATION

AIM OF THIS INVESTIGATION

How do people with an acute, traumatic injury determine their pain scores?

METHODS

Interpretive Description approach (Thorne, 2008)

(this is a Qualitative Approach)

METHODS

Interpretive Description approach (Thorne, 2008)

13 participants

METHODS

Interpretive Description approach (Thorne, 2008)

13 participants

Semi-structured interviews (digitally recorded)

METHODS

Interpretive Description approach (Thorne, 2008)

13 participants

Semi-structured interviews (digitally recorded)

Data Collection (November 2013 and June 2014)

METHODS

Interpretive Description approach (Thorne, 2008)

13 participants

Semi-structured interviews (digitally recorded)

Data Collection (November 2013 and June 2014)

Interviews ranged in length from 50 -70 minutes

METHODS

Interpretive Description approach (Thorne, 2008)

13 participants

Semi-structured interviews (digitally recorded)

Data Collection (November 2013 and June 2014)

Interviews ranged in length from 50 -70 minutes

Iterative data collection and analysis

METHODS

Interpretive Description approach (Thorne, 2008)

13 participants

Semi-structured interviews (digitally recorded)

Data Collection (November 2013 and June 2014)

Interviews ranged in length from 50 -70 minutes

Iterative data collection and analysis

Conventional content analysis **(Hsieh and Shannon, 2005)**

RESULTS

We identified that the NRS score is determined by three experiential referents:

1. "receiving an injury"
2. **"sensing the imminent loss of consciousness"**
3. "grasping the immediate context"

For this presentation we will focus on #2

Participant characteristics

* MVA= motor vehicle accident

ID #	Gender	Age	Type of injury	Accident site	Occupation
3301	M	20	Dislocation	Home	Laborer
3402	M	52	poly trauma	MVA*	Laborer
3503	F	65	Fracture	Recreational	Office
3604	F	46	Fracture	Home	Professional
3605	F	76	Fracture	Home	Retired
3706	F	31	Fractures	Recreational	Office
3807	F	50	Fractures	Work	Office
3908	M	55	Fracture	Work	Trades
4109	F	32	Fracture	Recreational	Professional
4210	M	54	Fractures	Work	Trades
4311	F	59	Burns	MVA *	Laborer
4212	M	36	Fracture	Recreational	Student
4313	F	20	Fracture	Recreational	Professional

"Imminent loss of consciousness" as the anchor for the NRS

"I can sit here and I can talk to you and text my mom that I am ok."

"I don't think I could stay conscious if I experienced pain worse then this"

"I am experiencing some fear …because I thought if this gets any worse how can I possibly cope because I am at the upper end of coping right now"

POST-OP. "I was sleepy and tired, but I wasn't losing consciousness because of the pain"

"I am joking with my friend. I was still in a rational state of mind"

The ILC is a distinct sensory signal

Anchors provided did not help participants gauge their pain.

Participants operationalized the NRS scale with the ILC as their anchor

The ILC is an absolute, physiological event

DISCUSSION/CONCLUSIONS

anchor provided

The anchor of the NRS seems to be critical in how people determine their pain score (CME: Objective 1)

The role of the anchor seems to be key to unlocking the pain score(CME: Objective 1)

The anchor functions as an independent variable. (CME: Objective 1)

In acute, traumatic pain ILC is the anchor used to gauge pain for the purpose of a pain score.

Clinical implications

- pain assessment occurs in a context (CME: Objective 2)
- the ILC is an absolute anchor unlike current vague ones
- providing a pain score occurs in the moment of pain so "worst pain experienced or "worst pain imaginable" might not be the best anchors (CME: Objective 2)
- pain management theoretically could improve with this increased knowledge as the ILC anchor levels the playing field.

When assessing pain are we measuring pain intensity or pain experience?

<u>This important question requires significantly more research.</u>

CME Objective 3

Learning Objectives for CME

1. What is the role of the anchor (definition of 10) on a the numerical rating scale?
2. How does context influence the assessment of pain?
3. When assessing pain are we measuring pain intensity or pain experience?

Thank you for your time and consideration of this presentation