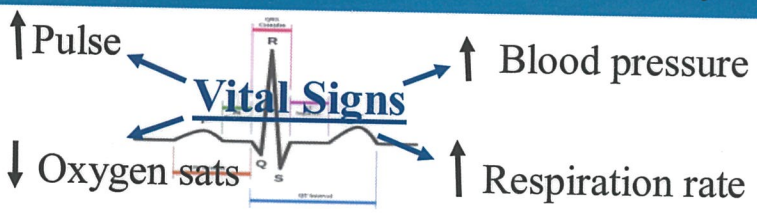
By Amy Newbury

PAIN ASSESSMENT IN ADULTS UNABLE TO VERBALLY COMMUNICATE

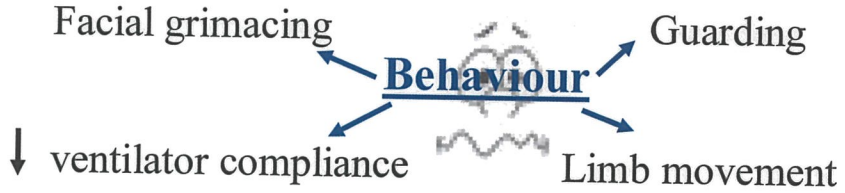
Are **behavioural changes** a more accurate indicator of pain than **changes in vital signs** in adult tertiary care patients who are unable to verbally communicate due to the presence of mechanical ventilation?

Introduction

During my placement in the intensive care unit I worked with many patients who were unable to verbally communicate due to mechanical ventilation and these patients were also in a situation where the presence of pain was extremely likely. The nurses used both behavioural and physiological changes as indicators of pain, and this led me to wonder if one was a more accurate indicator of pain than the other. This review can help to confirm what is best practice when assessing the pain of patients unable to verbally communicate and therefore develop stronger guidelines for this.



- Vazquez et al (2011) found that there were statistically significant changes in vital signs during painful procedures. This was supported in a study by Li, Miaskowski, Burkhardt & Puntillo (2009) although they acknowledged that the changes could be influenced by medication or the underlying conditions of the patient.
- It has been proposed that variations in vital signs do not discriminate between painful and non-painful procedures, as supported by Young, Siffleet, Nikoletti and Shaw (2006) who found changes in vital signs also occurred during eye care.
- Mechanically ventilated patients are often unstable which may render changes in vital signs ineffective as indicators of pain (Gelinas & Arbour, 2010).



- In a large, multicentre study behavioural responses were found to increase during painful procedures when compared to non-painful procedures (Puntillo et al, 2004). Young et al (2006) found that pain behaivours increased during painful procedures and remained stable during non-painful procedures. Behavioural responses appear to effectively discriminate between painful and non-painful procedures.
- Voepel-Lewis, Zanotti, Dammeyer & Merkel (2010) state that behavioural responses can also be influenced by physiological abnormalities or the patients' response to analgesia.

Recommendations

The majority of the evidence supports behavioural changes as accurate indicators of pain. Although they can be influenced by other factors, the evidence suggests these are things to be aware of and not reasons to discount pain behaivours. Vital signs are not reliable indicators of pain, The recommendations I made based on the evidence are:

- Nurses should not use behavioural changes as sole indicators of pain as they can be influenced by other factors. Comprehensive pain assessment should recognise the significance of behavioural responses as well as the condition of the patient.
- Changes in vital signs should be used as a cue for further pain assessment rather than an indicator of pain as their reliability is not guaranteed, especially in unstable patients.
- A specific pain assessment tool should be adopted for ICU patients in order to ensure consistent and accurate pain assessment. This tool should incorporate assessment of the patient behaviour as it is the most significant sign of pain. The behavioural pain scale is an example of such an assessment tool.

References:

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Li, D., Miaskowski, C., Burkhardt, D., & Puntillo, K. (2009). Evaluations of physiologic reactivity and reflexive behaviours during noxious procedures in sedated critically ill patients. *Journal of Critical Care, 24*(3), 472. doi: 10.1016/j.jcrc.2008.07.005

Puntillo, K. A., Morris, A. B., Thompson, C. L., Stanik-Hutt, J., White, C. A., & Wild, L. R. (2004). Pain behaivours observed during six common procedures: Results from the Thunder Project. *Critical Care Medicine, 32*(2), 421-427. doi: 10.1097/01.CCM.0000108875.35298.D2

Vaquez, M., Pardavila, M., Lucia, M., Aguado, Y., Margall, M. & Asiain, M. C. (2011). Pain assessment in turning procedures for patients with invasive mechanical ventilation. *Nursing in Critical Care, 16*(4), 178-185. doi: 10.1111/j.1478-5153.2011.00436.x

Voepel-Lewis, T., Zanotti, J., Dammeyer, J., & Merkel, S. (2010). Reliability and validity of the face, legs, activity, cry, consolability behavioural tool in assessing acute pain in critically ill patients. *American Journal of Critical Care, 19*(1), 55-62. doi: 10.4037/ajcc2010624

Young, J., Siffleet, J., Nikoletti, S., & Shaw, T. (2006). Use of a behavioural pain scale to assess pain in ventilated, unconscious and/or sedated patients. *Intensive and Critical Care Nursing, 22*(1), 32-9. doi: 10.1016/j.iccn.2005.04.004

I chose to present my literature review in a poster format. My research question relates to the way pain is assessed in adults who are unable to communicate their pain verbally. Pain is a universal experience, and although my research related specifically to mechanically ventilated adults, much of it can be applied to other adult populations who are unable to verbally communicate their pain, for example, adults with dementia. This literature review could therefore benefit a wide and varied population and a poster is able to present it in such a way that many people from different areas of healthcare can review and assess the information.

Halligan (2004) states that posters create an opportunity to talk about the knowledge presented and although these interactions are brief and informal, it enables the dissemination of knowledge to a wider audience. The interactions between the presenter of the poster and the viewers also provide a chance for the viewers to clarify information by asking questions and exchanging ideas (DeSilets, 2010). The research I have presented in my literature review is valuable to a wide range of people and therefore presenting it in a poster is the best way to distribute the knowledge to those who would benefit from it. A poster presentation will allow me to have discussions with those viewing it and therefore strengthen and critically appraise the knowledge presented with others.

References:

DeSilets, L. (2010). Poster presentations. *The Journal of Continuing Education in Nursing, 41*(10), 437-438. doi: 10.3928/00

Halligan, P. (2007). Poster presentations: Valuing all forms of evidence. *Nurse Education in Practice, 8*(1), 41-45. doi: 10.1016/j.nepr.2007.02.005

PECOT Model

3 sections to complete?

Population	Patients aged 18-65 who are in tertiary care and are unable to communicate verbally due to being mechanically ventilated.
Exposure	Behavioural changes including; facial grimacing, restlessness, guarding, wincing, limb movement, tightening of the eyelids and reduced ventilator compliance
Comparison	Changes in vital signs including; increases in heart rate, respiration rate, pupil size and blood pressure and decreases in oxygen saturations
Outcome	To investigate whether behavioural changes are a more accurate sign of pain than vital signs
Time	Not applicable to this search question

Reference:

Jackson, R., Ameratunga, S., Broad, J., Connor, J., Lethaby, A., Robb, G., … Heneghan, C. (2006). The gate frame: critical appraisal with pictures. *ACP Journal Club, 144*(2), 8-11. Retrieved from https://www.fmhs.auckland.ac.nz/assets/fmhs/soph/epi/epiq/docs/GATE%20in%20ACP.pdf?hc_location=ufi