International Centre for Allied Health Evidence

University of South Australia

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iCAHE

A member of the Sansom Institute

*i*CAHE JC Critical Appraisal Summary

Journal Club Details

Journal Club location Modbury Hospital - NARS

JC Facilitator Michelle Barmby

JC Discipline Occupational Therapy

Background

Clinical Scenario

Was thinking that an article based on adults post-stroke who are ambulatory, have had/are having clinical rehab would be a good start/ideal for the environment we work in currently

Review Question/PICO/PACO

P: Adults (18yrs plus) post-stroke
I: Management of Upper limb oedema
C: Adults either post-stroke without oedema, or in comparison to adults who have not experienced a prior CVA
O: Best therapeutic way to manage upper limb oedema post-CVA in adults

Article/Paper

Kuppens S, Pijlman H, Hitters M, & van Heugten C, 'Prevention and treatment of hand oedema after stroke', Disability and Rehabilitation, vol. 26, no. 11, pp.900-906

Please note: due to copyright regulations CAHE is unable to supply a copy of the critically appraised paper/article. If you are an employee of the South Australian government you can obtain a copy of articles from the DOHSA librarian.

Article Methodology: Cohort Study

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Ques No.	Yes	Can't Tell	No	Comments
1	✓			**Did the study address a clearly focused issue?** "We investigated whether the Blixembosch hand oedema protocol is usable in daily practice and leads to lower incidence (prevention) and shorter duration (treatment) compared with care as usual"
2	✓			**Did the authors use an appropriate method to answer their question?** "The study used a prospective non-randomised comparative design in which patients in two rehabilitation centres were compared in terms of incidence rates and duration of hand oedema." This would not be possible to examine using an RCT, therefore a non-randomised comparative trial was the most appropriate method for assessing this protocol. **Is it worth continuing? YES**
3	✓			**Was the cohort recruited in an acceptable way?** "Patients were recruited between August 2008 and October 2010 from the inpatient department of Rehabilitation Centre Blixembosch (Blixembosch group) and Rehabilitation Centre Leijpark (control group) in the Netherlands. All consecutive patients with a first stroke were included."
4				**Was the exposure accurately measured to minimize bias?** "Hand volumes were measured within two weeks after admission followed by a measurement every second week, at the same day and time by skilled occupational therapists until discharge. If hand oedema was present, the frequency of the hand volume measurements was increased to a weekly measurement."
5	✓			**Was the outcome accurately measured to minimize bias?** "Hand volumes were measured using a volume meter, as designed by Brands and Wood. The volumeter score was calculated by expressing the difference in overflow between the paretic hand and the non-paretic hand as a percentage of the volume of the non-paretic hand: [(Vph-Vnph)/Vnph)*100]. This percentage was adjusted for mean differences in right and left hand volumes in healthy people. To rate the degree of hand function impairment, the Utrecht Arm/Hand Test (UAT) was used"

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6	✓			**Have the authors identified all important confounding factors?** **"**Exclusion criteria were age below 18, the presence of fracture, trauma, amputation, thrombophlebitis and infection of an upper limb. Co-morbidity which causes hand oedema such as mastectomy, nephrotic syndrome, albumin level below 3.2 g/dl, liver cirrhosis, unbalanced congestive heart failure and Complex Regional Pain Syndrome type 1 and 2 were also a reason for exclusion" **Have they taken account of the confounding factors in the design and/or analysis?** This appears to be accurate, as inter-rater and intra-rater reliability was considered for outcome measures, as was the design process. Confounding variables regarding design are explored in text.
7		✓		**Was the follow up of subjects complete enough?** **"T**he degree of hand function was assessed by skilled occupational therapist at three moments: in the week of admission, at discharge and 8 weeks after discharge." Follow-up appeared to be at 8 weeks post treatment. Consider in your clinical context whether this is appropriate.
8	✓			**What are the results of this study?** **"**In the Blixembosch group, 16% developed oedema after admission, compared with 21% in the control group (p = 0.019). Average duration of oedema (both developed before and after admission) was 6.5 weeks in the Blixembosch group compared with 3.1 weeks in the control group (p = 0.000). Professionals were positive about the protocol.
9			✓	**How precise are the results?** 95% confidence intervals were not reported for this study. Confidence intervals are an indicator of precision, and lack of confidence intervals should decrease confidence in results.

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10	Journal Club to discuss	**Do you believe the results?**
11		**Can the results be applied to the local population?** **CONTEXT ASSESSMENT (please refer to attached document)** – *Infrastructure* – *Available workforce (? Need for substitute workforce?)* – *Patient characteristics* – *Training and upskilling, accreditation, recognition* – *Ready access to information sources* – *Legislative, financial & systems support* – *Health service system, referral processes and decision-makers* – *Communication* – *Best ways of presenting information to different end-users* – *Availability of relevant equipment* – *Cultural acceptability of recommendations* – *Others*
12		**Were all important outcomes considered?**
13		**Are the benefits worth the harms and costs?**
14		**What do the study findings mean to practice (i.e. clinical practice, systems or processes)?**
15		**What are your next steps?** ***ADOPT, CONTEXTUALISE, ADAPT*** **And then (e.g. evaluate clinical practice against evidence-based recommendations; organize the next four journal club meetings around this topic to build the evidence base; organize training for staff, etc.)**
16		**What is required to implement these next steps?**