



iCAHE JC Critical Appraisal Summary

Journal Club Details

Journal Club location	Modbury Hospital
JC Facilitator	J'aime Newland & Alyce Berry
JC Discipline	Occupational Therapy

Question

N/A

Review Question/PICO/PACO

P: Clients with high tone in their upper limbs post stroke

I: Botillium Toxn + therapy.

C: Normal therapy with no botox

O: functional upper limb usage/ ROM

Article/Paper

Hara T, Abo M, Hara H, Kobayashi K, Shimamoto Y, Samizo Y, Sasaki N, Yamada N, Niimi M. Effects of botulinum toxin A therapy and multidisciplinary rehabilitation on upper and lower limb spasticity in post-stroke patients. International Journal of Neuroscience. 2017 Jun 3;127(6):469-78.

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	✓			<p>Did the study address a clearly focused issue?</p> <p>The purpose of the current study was to investigate whether a combined BoNTA and MD program contributes to the functional recovery of the upper and lower limbs in stroke patients with spasticity</p>
2	✓			<p>Did the authors use an appropriate method to answer their question?</p> <p>As the aim of the current study is to determine whether there was an effect on function (rather than effectiveness of BoNTA & MD on function) a cohort study is appropriate. Additionally, records were viewed retrospectively, which suits the cohort study design. However, a control or comparison group would have reduced many biases, and should have been considered.</p> <p>Is it worth continuing? YES</p>
3	✓			<p>Was the cohort recruited in an acceptable way?</p> <p>Patients who received BoNT-A injections and inpatient rehabilitation at Kikyogahara Hospital from April 2012 to April 2015 and who met the criteria below were included in this study.</p>
4	✓			<p>Was the exposure accurately measured to minimize bias?</p> <p>Inclusion criteria were the following: (1) patients with hemiplegia following a stroke that involved upper and lower limb spasticity (with a Modified Ashworth Scale score equal to or greater than 1; (2) >6 months since the onset of stroke; (3) no prior BoNTA injections; (4) no contraindications for BoNT-A injections; (5) the patient desired additional improvement of hemiplegia; and (6) re-evaluation at 3 months following discharge was available. Exclusion criteria were (1) only the upper or lower limb being appropriate for BoNT-A injections, (2) taking anti-spasticity medications, and (3) a history of BoNT-A injections</p>
5	✓			<p>Was the outcome accurately measured to minimize bias?</p> <ul style="list-style-type: none"> Modified Ashworth Scale (MAS), assessed the shoulder, elbow, wrist, finger, knee and ankles. Fugl-Meyer Assessment (FMA), used 33 items (maximum score of 66) pertaining to upper limb function, including shoulder, elbow, forearm, wrist, and hand Comfortable and maximum gait velocities of the 10 MeterWalk Test (10MWT) were also measured Functional Reach Test (FRT), conducted this assessment because there may be changes in balance abilities due to BoNT-A injections to both the upper and lower limbs. The Timed Up and Go (TUG) test, patients were required to stand up from a chair with armrests, walk 3 meters, turn around, return to the chair, and sit down as quickly as possible

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6			✓	<p>Have the authors identified all important confounding factors? No</p> <p>Have they taken account of the confounding factors in the design and/or analysis?</p> <p>Confounding factors were not considered or acknowledged. Authors did acknowledge that a control group would minimize bias.</p>
7	✓			<p>Was the follow up of subjects complete enough?</p> <p>Follow-up was conducted at 3-months post-treatment. Considering the life of Botox injections, this is an appropriate timeline.</p>
8				<p>What are the results of this study?</p> <p>At the time of discharge, all of the evaluated items showed a statistically significant improvement ($p < 0.05$). Only the Functional Reach Test (FRT) showed a statistically significant improvement at 3 months ($p < 0.05$). In subgroup analyses, the slowest walking speed group showed a significantly greater change ratio of the 10 Meter Walk Test relative to the other groups, from the time of admission to discharge. This group showed a greater FRT change ratio than the other groups from the time of admission to the 3-month follow-up. Inpatient combined therapy of simultaneous injections of BoNT-A to the upper and lower limbs and MD may improve motor function.</p>
9				<p>How precise are the results?</p> <p>P values are provided but confidence intervals are not provided or discussed.</p>
10				<p>Do you believe the results?</p>
11		Journal Club to discuss		<p>Can the results be applied to the local population? CONTEXT ASSESSMENT (please refer to attached document)</p> <ul style="list-style-type: none"> - 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				<p>Were all important outcomes considered?</p>
13				<p>Are the benefits worth the harms and costs?</p>

14	What do the study findings mean to practice (i.e. clinical practice, systems or processes)?
15	<p>What are your next steps?</p> <p>ADOPT, CONTEXTUALISE, ADAPT</p> <p>And then (e.g. evaluate clinical practice against evidence-based recommendations; organise the next four journal club meetings around this topic to build the evidence base; organize training for staff, etc.)</p>
16	What is required to implement these next steps?

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