Exploring the Clinical Use of Ultrasound Imaging: A Survey of Physiotherapists in New Zealand

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Background

Surveys in Australia\textsuperscript{1,2} and UK\textsuperscript{3} suggested a growing use of ultrasound imaging (USI) by physiotherapists. Anecdotal evidence suggested a similar trend in New Zealand, but no formal evidence to support this.

Background

Previous surveys have quantified…
- Different clinical uses for USI in physiotherapy practice
- Type and context of USI training

Gaps in the evidence-base…
- Knowledge of the Scopes of Practice (SoP’s) for physiotherapists to use USI
- Barriers preventing physiotherapists from using USI
Aims

Conduct a survey of registered New Zealand physiotherapists to ask.....
Aims

Understanding of *Scopes of Practice* to use USI in New Zealand?

Are you using USI?

**YES:** I am using USI
- Different clinical uses?
- Level of training?
- Formal *versus* Non-formal training?

**NO:** I’m NOT using USI
- Barriers preventing you from using USI?
Methods

Cross sectional, observational design

Utilised Internet-based, anonymous survey of New Zealand registered physiotherapists

Face validity assessment and survey development

- Initial survey obtained from UK study\(^1\)
- Expert Panel convened to provide feedback about the survey items, design and flow

1. Potter et al. (2012). *Man Ther*, 17, 39
Methods

Final survey examined 5 domains of interest

1. Professional and demographic details
2. Scopes of Practice
3. Barriers to using USI
4. Clinical uses of USI
5. Training
Methods

Descriptive analysis utilised

Comparative analysis (non-parametric chi-square tests)
  – ‘users’ versus ‘non-users’
    • Professional details and demographic details
  – ‘users’
    • Content of Formal versus Non-formal training

Ethical approval gain from AUTEC
Results

Initial survey respondents
n = 465

Excluded
Not registered NZ physios
n = 32

Eligible participants
n = 433

Excluded
Did not complete survey
n = 18

Included
Completed survey
n = 415

Users
n = 101

Non-Users
n = 314
Results
Demographics and Professional

Age of participants (years)

33% M
67% F

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Results
Demographics and Professional Management

Area of Practice

- Clinical
- Management
- Teaching/education
- Research
- Clinical and Management
- Clinical and Education
- Other

90%
Results
Demographics and Professional

Location of work
- Private practice
- Public hospital
- Private organisation
- University
- Community
- Other

Field of work
- Musculoskeletal
- Occupational health
- Aged care
- Neurology
- Hand therapy
- Cardiorespiratory
- Women’s health
- Paediatrics
- Other

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Results
Scopes of Practice

Do NZ physiotherapists have a scope of practice to use ultrasound imaging?

- Yes: 44%
- No: 47%
- Don't Know: 9%
Results
Scopes of Practice

Do NZ physiotherapists have a scope of practice to use ultrasound imaging?

- Yes: 44%
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Suggests significant uncertainty regarding SoP from respondents?
Results

Users versus Non-users

No significant differences in professional or demographic variables…..

…aside from postgraduate qualification for users \( (p<0.03) \)

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Results

Barriers

Top 4 barriers:

1. Lack of training
2. Lack of US machine
3. US equipment expensive
4. Lack of confidence/competence
Results
Clinical Uses of USI

- Biofeedback
- Assist in Diagnosis
- Assess trauma and monitor healing
- Monitoring treatment outcome
- Training other physiotherapists how to use USI
- Evaluating muscle structure
- Measuring CSA and volume of soft tissues
- Research
- Measuring linear thickness and/or width
- Other
Results
Training

- Users: 47%
- Non-users: 43%
- Non-formal: 10%
- Formal: 43%
- None: 10%

N=101
Results
Content of Training

- Machine operation
- Image enhancement
- Artefacts
- USI for bioFB
- USI Physics
- Safety

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Discussion

433 eligible participants represents 9% of NZ registered physiotherapists

– Survey sample was representative of the physio community in NZ

Discussion

Confusion exists re: SoP to use USI

– Physiotherapy Board of NZ defines SoP
– Use of USI covered within the general SoP
– No specified SoP for using USI
– Position statement re: “Defined field of practice”
  • Prioritises ongoing professional development and education along with self-evaluation and mentoring
Discussion

Several barriers identified

– Lack of training and access to US equipment most prominent

Clinical uses of USI reflect traditional uses, but are expanding into new areas
Discussion

Training

- Clearly a discrepancy between formal and non-formal training.
- If ‘defined fields of practice’ necessitate targeted training and CPD, then this needs to be a focus for clinicians using USI.
- Physiotherapy community using USI need to be pro-active.
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International survey – results coming soon!!
Thanks for your attention.
Enjoy WCPT!!