



Maximising Impact
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More than research evidence: Considering the totality of evidence when evaluating treatments

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Context

- Reflect on: decision making, treatment choices, what constitutes knowledge, scientific practice
- Strengthen the bases of our clinical decisions

Considering the totality of evidence when evaluating treatments

Part 1

Your perspectives on
evidence based practice

Considering the totality of evidence when evaluating treatments

Part 2

Decision making and evidence anthologies

2 core questions

- Is this treatment scientifically based
- What is the totality of evidence regarding this treatment and how does this influence my decision making
 - in general regarding the treatment
 - regarding use of treatment in individual cases

Underpinning all: Scientific thinking and acting including retrieval of various forms of knowledge to facilitate decision making

Scientific thinking and acting

- Understanding of theory/mechanism of action
- Application of pseudoscientific/scientific criteria
- Retrieval of knowledge/evidence
- Examining sources/reliability of knowledge
- Once used- using outcome measures to validate

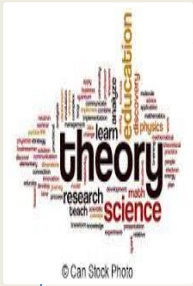


Would you prefer your practice be characterised like A or B?

based upon empirical observation
explaining a range of empirical phenomena
being empirically tested in some meaningful way
being confirmed rather than falsified
being impersonal
being dynamic and fecund
skepticism

based upon an authoritative text
explain what non-believers cannot even observe
cannot be tested
falsified or to require numerous *ad hoc hypotheses* to sustain them

Clinical decision making



Theory



'Best' research evidence



Practice evidence



Patient evidence



Contextual evidence

Extending traditional understandings of EBP

Patient evidence

- Patients values and preferences
- Individualised clinical evidence
- Collective patient evidence

Shared decision making

Practice evidence

- Individual therapist
- Local group
- Experts
- Collective (researched) practice evidence

Contextual factors

- Resources
- Policy
- Practicalities
- Availability
- Vested interests

And....

- Harmful effects
- Treatment benefit vs. treatment burden
AKA minimally disruptive treatment
(Mini-T)

Considering the totality of evidence when evaluating treatments

Part 3

Evidence anthologies examples

Language: Child Talk

**Child Talk: a consideration of the
neglected components of evidence-based
practice**

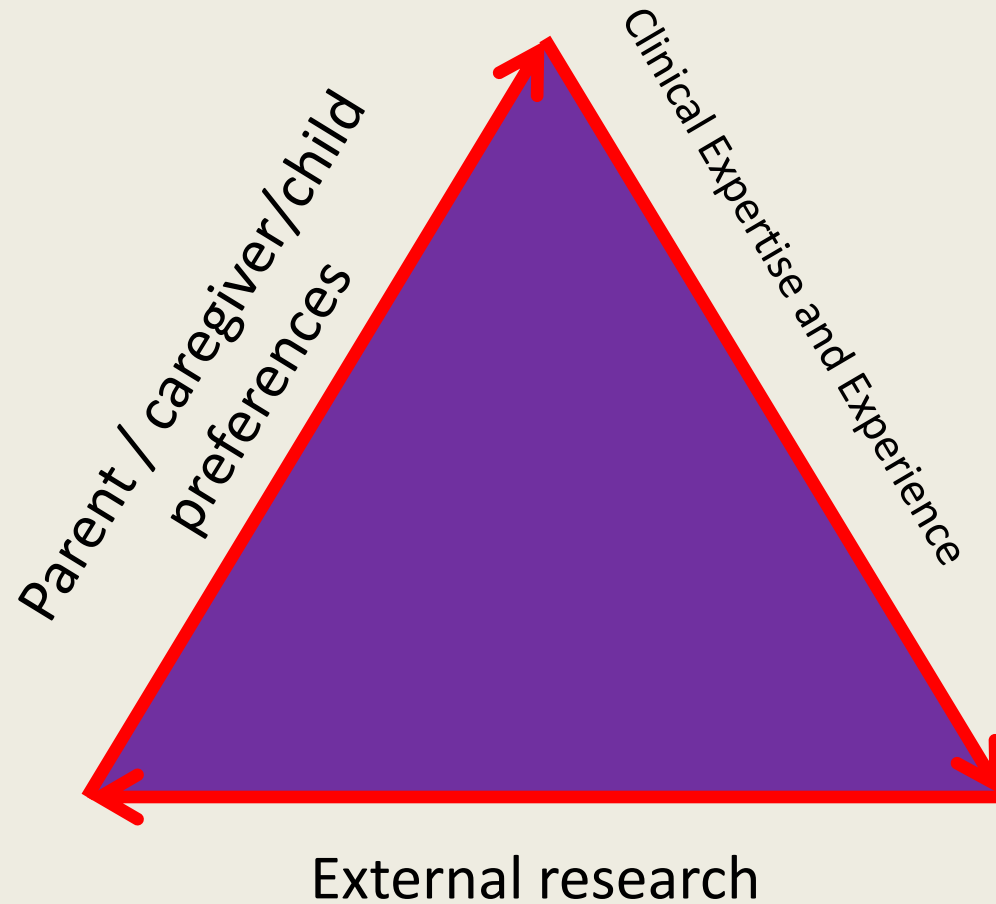


What Works

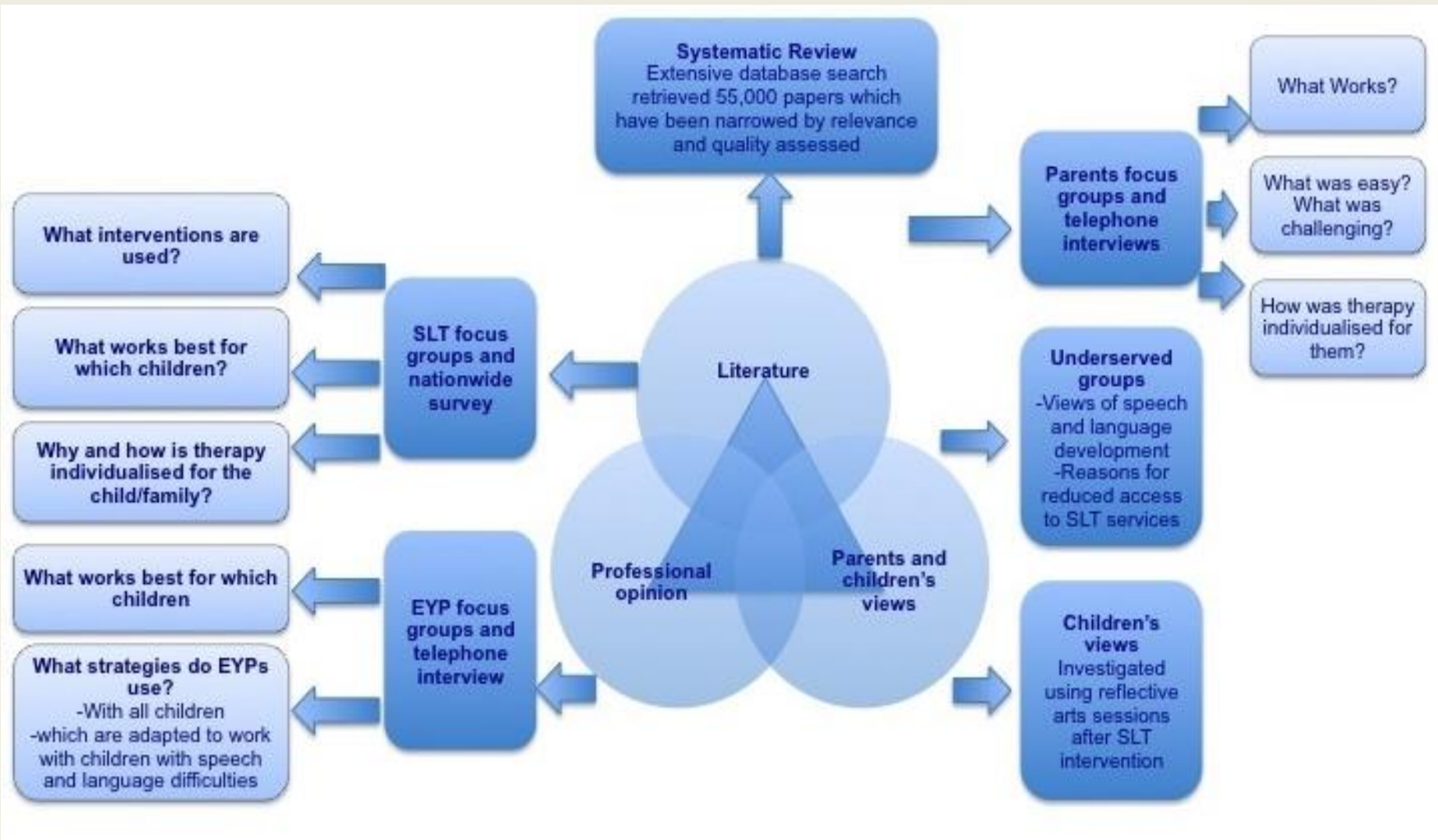
Child Talk: What Works

- Preschool children
- primary speech and language impairment
- Prevalent and important group
- Mixed evidence for interventions
- Poor descriptions of interventions

Evidence Based Practice



Child Talk



Child Talk intervention Framework



Speech



Expressive
Communication



Comprehension



Self-monitoring



Generalisation



Foundation
Skills



Adult - child
Interaction

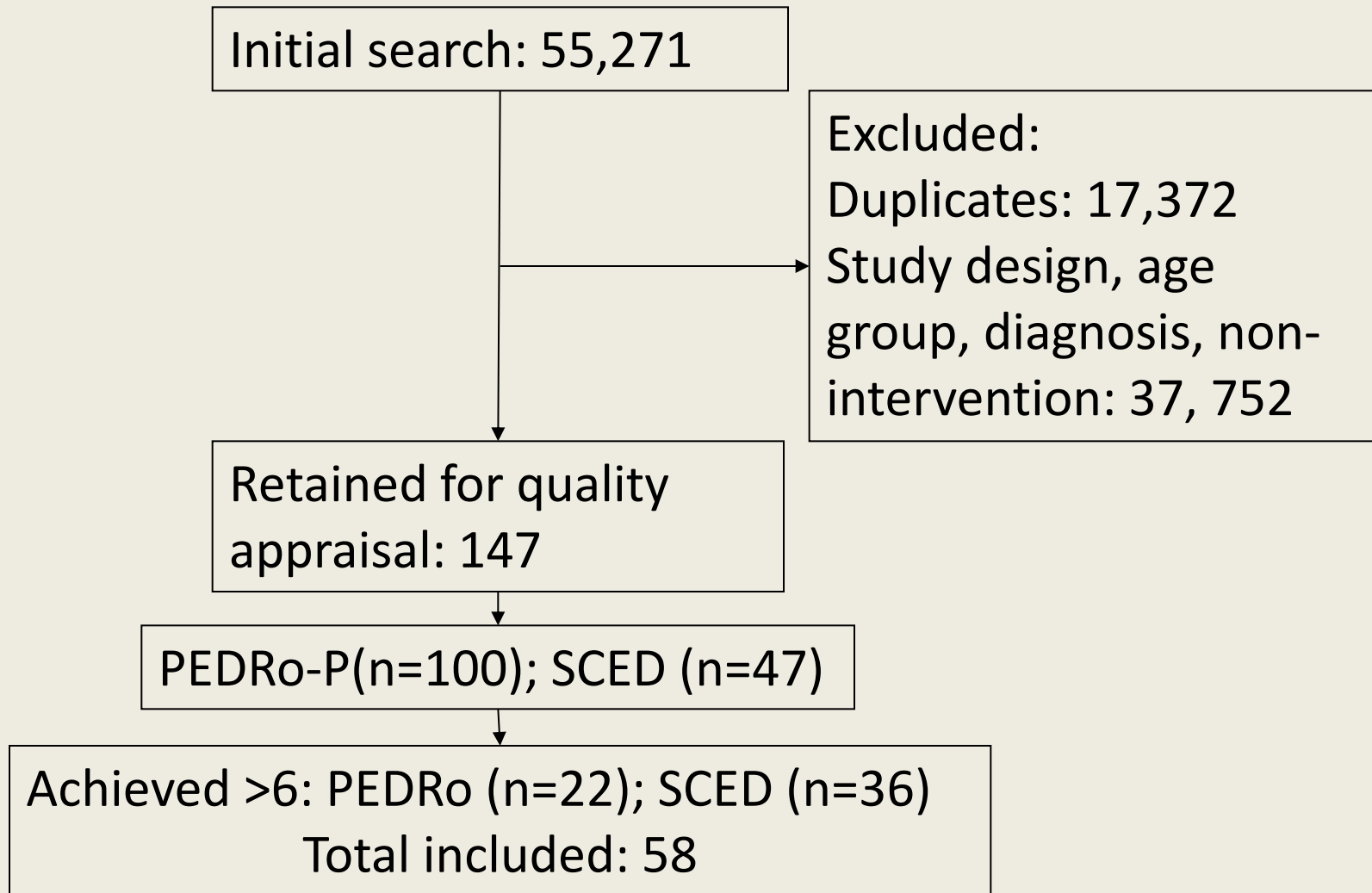


Adult
Understanding



Functional
Communication

Child Talk Systematic review



Evidence base

	No. of studies in theme	Total no. of children in the studies	Mean (Median) number of children per-study	Mean Age (Range) in months
Speech	33	542	16.4 (4.0)	51.6 (32.0-66.0)
Comprehension	6	135	22.5 (27.0)	40.0 (27.5-50.0)
Expressive	28	923	32.9 (18.0)	43.2 (25.0-66.0)
Self-monitoring	2	11	5.5 (5.5)	51.8 (43.0-60.0)
Generalisation	26	210	8.1 (3.0)	50.7 (35.0-66.0)
Foundation	4	59	14.7 (7.0)	44.6 (37.0-60.0)
Functional	5	82	16.4 (6.0)	48.1 (42.0-54.0)
Adult Understanding	1	4	-	57.5 (48.0-67.0)
Adult child interaction	9	1011	112.3 (36.0)	35.9 (25.0-57.5)

Perspectives on therapy: speech

Clinician

..one task I do is sorting objects according to umm the sounds that we're working on, so if the child has got no word final consonants,, you might have a group of objects ending 's' a little house, a mouse, a purse,.. then some ending in a 't' so a cat, a tart, a boat ... you have the pictorial representation and when you bring a toy out the bag I say it I say 'mouse' and they have to put the mouse on the picture...

Parent_TEL_517: *he had the letter sounds on the cards and then he like she'd pick up a chair and she'd say to[child] what is this, it's a chair what sound do we need a ch, a s or a k and he'd have to choose what sound it was*

Parent_TEL_603: *a monkey game in which ..she'd say the word, he'd say the word and then put the monkey on if he got it correctly*



Perspectives on therapy: adult understanding

Clinicians

They have to accept that there is a problem, they have to accept that it is not the child being lazy, it is a difficulty that they have got and they have to accept that they are the major tool of change

Parent_TELL_518: *Well to be honest I was sort of grateful to be receiving it at all really*

Parent_TELL_521: *it was like oh my god..this is like gonna be a massive part of his development that is missing. I mean I don't know whether I just sort of thought merrily it would all happen [laughs] it'll be fine! Um but I really appreciated that honesty, that I mean they were really supportive, and I've always felt that I've been able to just ask them something at the end of the group.*

Parent_TELL_515: *..as a parent it did seem like there was more important things to concentrate on than her using the word 'the' and 'is' but like I say I don't understand the grounding behind it I guess and the reason for doing it in that particular way*



Connections?

- Focus on fun, confidence building, enjoyable sessions – appreciated by parents and experienced by children
- Parents remember and can recount activities and the purposes of interventions
- Some parents found support and reassurance
- Others experienced uncertainty and passivity

Child Talk Intervention Typology



Speech



Expressive
Communication



Comprehension



Self-monitoring



Generalisation



Foundation
Skills



Adult - child
Interaction



Adult
Understanding



Functional
Communication

Dysphagia: Thickened liquids

BACKGROUND

- Limited research evidence/ negative patient evidence/ favourable practice evidence
- Development of decision support tool
- Investigation of how different forms of knowledge/evidence impact the decision to use treatment

Dysphagia: Thickened liquids

Forms of knowledge included in decision support tool

1. Treatment description
2. Theory/mechanism of action
3. Research evidence
4. Practice evidence
5. Patient evidence
6. Contextual evidence

Retrieval of knowledge

- Rigour irrespective of type
- Combination of systematic reviews, focus groups, semi structured interviews, paper reviews
- Saturation

SLT understanding of theory combined with knowledge of area:

– how might this impact decision making

The aim of this treatment is to help reduce and prevent liquid going into the lungs.

It does this by making liquid thicker which slows down the liquid as it moves through the mouth and throat.



Research
evidence

There is some emerging evidence that use of TL reduces aspiration in people with dysphagia (Newman et al 2016, Steele et al 2015 etc)

There is insufficient high-level evidence that it prevents unfavourable outcomes such as aspiration pneumonia
(Kaneoka et al 2016)

Most clinical guidelines say that thickeners are a suitable form of treatment for patients with dysphagia as a result of stroke (but this is not based on strong evidence) (Ryan et al in press).

And
(based on multiple reviews...

Using thickened liquids resulted in increased risk of dehydration

Using thickened liquids increased the risk of some liquid remaining in the throat

Using thickened liquids resulted in the tongue having to work harder in the mouth

So this information is added to knowledge bank....

What is your response to this knowledge:
– how might this impact decision making

Limited

Inconsistent

Limited control,
cross sectional
studies

Application to
specific
populations

Side effects

Clinical Practice
Guidelines

Reading in depth
rather than surface

Practice
evidence

A well established
dysphagia
treatment –
alternative
options for
aspiration less
employed (McCurtin &
Healy 2017), Nurray et al 2014

78% of dysphagia
therapists and 97% of
SLTs working with
PWD post stroke use
TL (McCurtin & Healy 2017, Jones et al
2017)

Ranked in top three
dysphagia interventions
and 85% of SLTs regard
it as effective (Garcia et al 2005,
McCurtin & Healy 2017)

To
supplement
above and
extrapolate
decision
making.
(McCurtin et
al in press)...

A safe starting
point

Patients and the
product

Factors in the
acute context

So this information is added to knowledge bank....

Table 5. Core reasons underpinning use of Thickened liquids (TL)
(McCurtin et al in press)

Reason	Explanation for use
Comparison-based	TL is the best treatment available currently for managing aspiration.
	There are no other viable options.
Safety	TL targets safety which is an SLT priority when managing the dysphagic patient.
	TL is a starter treatment which should only to be used short-term until patient improves sufficiently and other compensatory and rehabilitative interventions can be incorporated into management of the people with dysphagia.
Oral intake	TL aligns with neuroplasticity principles: Oral intake even if thickened, is encouraging oral and swallow skill rehabilitation.
	Patients are getting some nutrition orally which maintains the oral route and helps normalise eating and drinking.
Hydration	Hydration can be supported and achieved by offering thickened drinks.
Ease of use & familiarity	TL is an easy treatment to implement especially when other staff have been educated about it.
	It compares well to other treatment options in this way.
	Staff are familiar with it and accepting of it on the whole.

What is your response to this knowledge: How might it influence decision making



Patient
evidence

75% of patients
so not like TL
(McQueen et al
2003)

PWD would prefer to
risk pneumonia and
use other techniques
than use TL (Logemann et al
2008)

Other patients and
health profession would
prefer to sacrifice years
of their life than use TL
(Lim et al 2016))

To retrieve
stroke
specific
patient
evidence
(McCurtin et
al 2017)...

Uncertainty

An unpleasant
experience

A trade off

So this information is added to knowledge bank....

What is your response to this knowledge:
– how might this impact decision making

Individual
patient

Impairment

Support

Research

Contextual
evidence

If a patient with stroke gets pneumonia from aspiration while in hospital, this results in longer hospital stays, increased cost, greater disability and poor nutrition while in hospital

One in four patients feel they are not offered enough fluid when in hospital and a third believe their fluid consumption is not monitored enough when in hospital

Nearly half of therapists say that hospital staff are not routinely trained in how to thicken fluids

Even therapists who prescribe this treatment are not reliably able to reproduce accurate consistencies when mixing thickened drinks

Thickeners are currently available on the GMS and community drug schemes. The drugs refund scheme does not cover them. A tin costs around €9.

One in ten patients are not able to open thickener packages and therefore drink independently

Sometimes thickened drinks are not drunk immediately or quickly enough and thickener can dissolve and not be as effective

TELL US WHAT
YOU THINK

Whats your response to this knowledge:
– how might this impact decision making

Have you asked yourself how these
factors might influence your
treatment decisions.....

Ease of use

Vested
interests

Training

Monitoring

Finally.....

- Ask yourself how you weight the various types of knowledge/evidence
- Do you know the bases of most clinical decisions irrespective of discipline?

Considering the totality of evidence when evaluating treatments

Part 4

Applications to your SLT practice

Make sure you are sitting at a table with SLTs who have similar areas of interest/practice

- In your group, agree a specific intervention for discussion/analysis
- Describe the treatment

- describe its method – mechanism of action
- its theoretical basis
- the parameters for determining candidacy for tx
- the results or outcomes of efficacy research
- criteria for evaluation of the methods
- the remaining questions to be answered

Creaghead 1999

Knowledge identification

- Identify all the forms of knowledge/evidence you need to help clinical and shared decision making
- Populate each form of knowledge with content

Now ask the following:

- What evidence supports its use?
- Is the evidence reliable? (What are your rules for evidence /knowledge when judging therapies?)
- What evidence / knowledge gaps exist?
- How do you/others plug the gaps?
- What does the combined evidence say about this therapy?

- Now answer this question – why do you think SLTs use this treatment?
- Is this an “evidence based” treatment?

Considering the totality of evidence when evaluating treatments

Part 5

EBP challenges for SLTs and ways forward

EBP challenges for SLTs and ways forward

- Gaps in research evidence
- Marrying practice and research
- ‘belief is not enough’
- Plugging gaps

Creating evidence

- Collective
- Building individual patient evidence e.g. Measuring progress and using outcomes
- Acting scientifically

Using evidence based resources

ASHA 'Evidence maps,

www.ncemaps.org,

Speech Pathology Australia Speech

BITE <http://www.speechbite.com>

Patient perspective PROMS

<http://phi.uhce.ox.ac.uk/home.php>

#PROMS2017

Learning outcomes

KEY OUTCOMES – did you.....

- Engage with the concept of totality of evidence
- Learn about how scientific principles and rigour apply to all forms of evidence/knowledge
- Using exemplars, consider how the totality of evidence can facilitate comprehensive engagement with and understanding of treatments