Holistic Needs Assessment in Brain Cancer Patients: A Systematic Review of Available Tools

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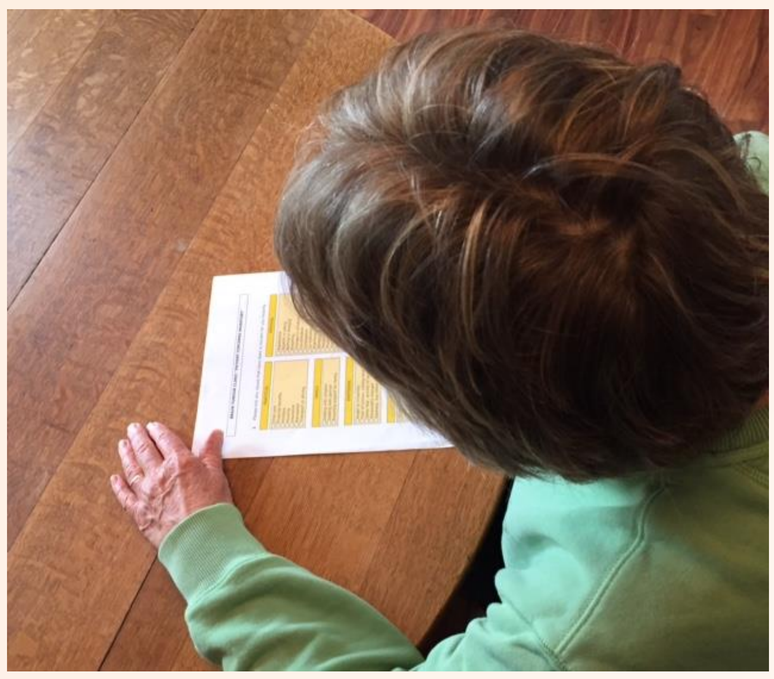
Introduction and Aim

Holistic Needs Assessment (HNA) is a widely used in cancer patients to determine supportive care needs

- Existing approaches to HNA includes;
  - generic HNA tools
  - cancer specific HNA tools
  - symptom assessment tools combined with problems checklists
- Brain cancer has a unique symptom profile which limits the usability of generic cancer HNA tools

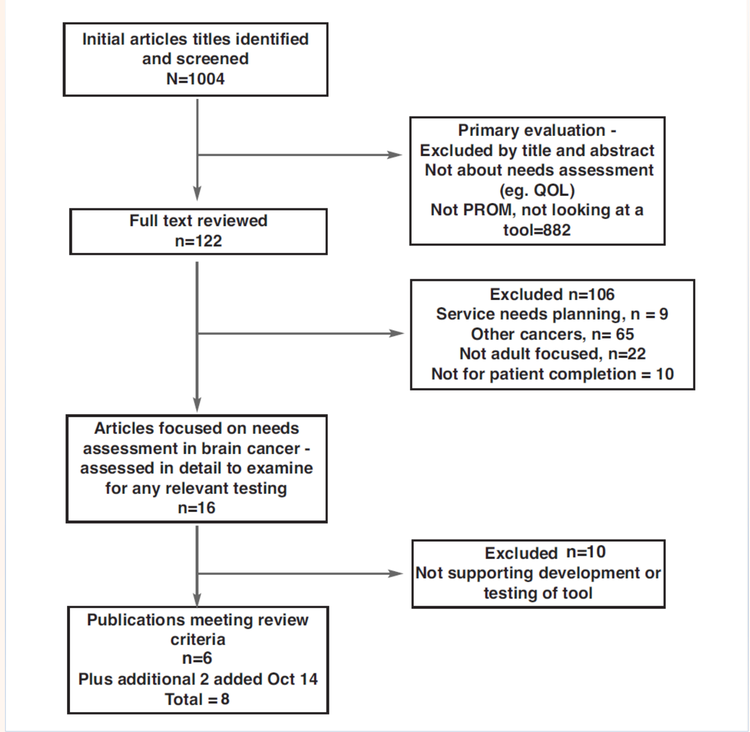
- The aim of this study was to identify brain specific patient reported outcome measures and investigate the potential of these for HNA through;
  - assessing the psychometric properties
  - assessing usability as an HNA



Methods

- We searched four databases; Medline, CINAHL, BNI and Psychinfo
- We sought studies which reported the development of tools developed for use in a clinical setting in brain cancer patients, which assessed more than one domain of need.
- Inclusion and exclusion criteria - no date limit, published in English
- After review, eight studies which reported the development of four tools fulfilled our inclusion criteria
- COSMIN criteria, which have been developed through consultation with 57 experts, were used to assess the psychometric properties of the tools

Search Strategy Flow Chart



Tools Reviewed

Tool	Purpose	Domains	N of items	Response options	Recall period
Brain PCI	HNA Clinical use	5 domains and options for referral and questions	58 plus 4 free text questions	Tick box to 'issues that have been a concern'	'recently'
MDASI-BT	SYMPTOM Clinical use and Research	Six domains	29	Scaling – A 11 point Likert scales (presence and severity) and 11 point Likert scale (level of interference)	Last 24 hours
NFbrSI-24	SYMPTOM Clinical use and Research	three subscales; disease related symptoms (physical and emotional), treatment side effects and functional/wellbeing.	24	Scaling - A five-point intensity scale based on 'how it applies to you' from 'not at all' to 'very much'	last 7 days
HNA Clinical use	HNA Clinical use	**Format** - Brain specific 'add on' questionnaire to SCNS34. which has five domains . The brain subscale has no domains	50	Scaling - Five categorical responses, ranging from high need to no need.	Last month

Results

This review reported the development of four tools.
Two symptom assessment tools

- MD Anderson Symptom Inventory – Brain Tumor Module (MDASI-BT)
- National Comprehensive Cancer Network/Functional Assessment of Cancer Therapy-Brain Symptom Index (NFbrSI-24),

Two HNA tools

- The Supportive Care Needs Survey 34 plus brain subscale (SCNS34-BS)
- Brain Patient Concern Inventory (PCI)

- MDASI-BT demonstrated evidence of good psychometric properties and the NFbrSI-24 fair psychometric properties but both would need further development to be used in HNA
- Brain-PCI and SCNS34-BS lacked evidence of psychometric testing with the Brain-PCI scoring better on HNA criteria

Conclusion

While some progress has been made in the development of tools, the results indicate that no tools are adequate.
Options for development include:

- additional psychometric testing for the Brain PCI
- development of a problem checklist in conjunction with the MDASI-BT

Development studies for tools: Brain PCI – Rooney et al. (2013). MDASI-BT - Armstrong et al. (2005), Armstrong et al (2006) and Armstrong et al (2012). NFbrSI-24 – Cella et al. (2003) and Lai et al. (2014). SCNS34-BS – Janda et al. (2006) and Janda et al. (2008).