Integrating wellbeing and neurosurgical practice to improve patient outcomes after chronic subdural haematoma: A rapid review with evidence mapping

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Abstract

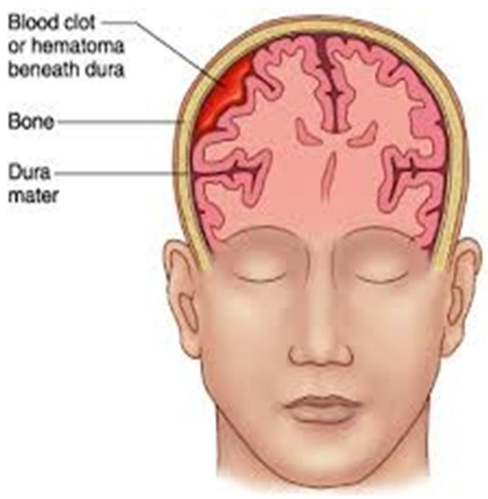
Aim: Chronic subdural haematoma (CSDH) is a common neurosurgical condition resulting from a blood clot within the outer layers of skin around the brain. It is increasingly acknowledged that there are knowledge gaps at all levels of practice following a CSDH. This project addressed the knowledge gap related to patient outcomes following a CSDH.

Method: A rapid review was conducted with evidence mapping against a positive health model.

Results: Poor research quality, variable follow-up times, and different outcome measures hindered the integration of results. Most studies assessed simplistic functional outcomes (good vs bad) at hospital discharge only.

Conclusion: Knowledge of patient wellbeing outcomes following CSDH is very limited. Given the importance of integrated pathways for patient care, it is critical that the recovery journey following a CSDH is better understood. The use of multidimensional models of wellbeing have significant potential to inform these key developments.

Introduction

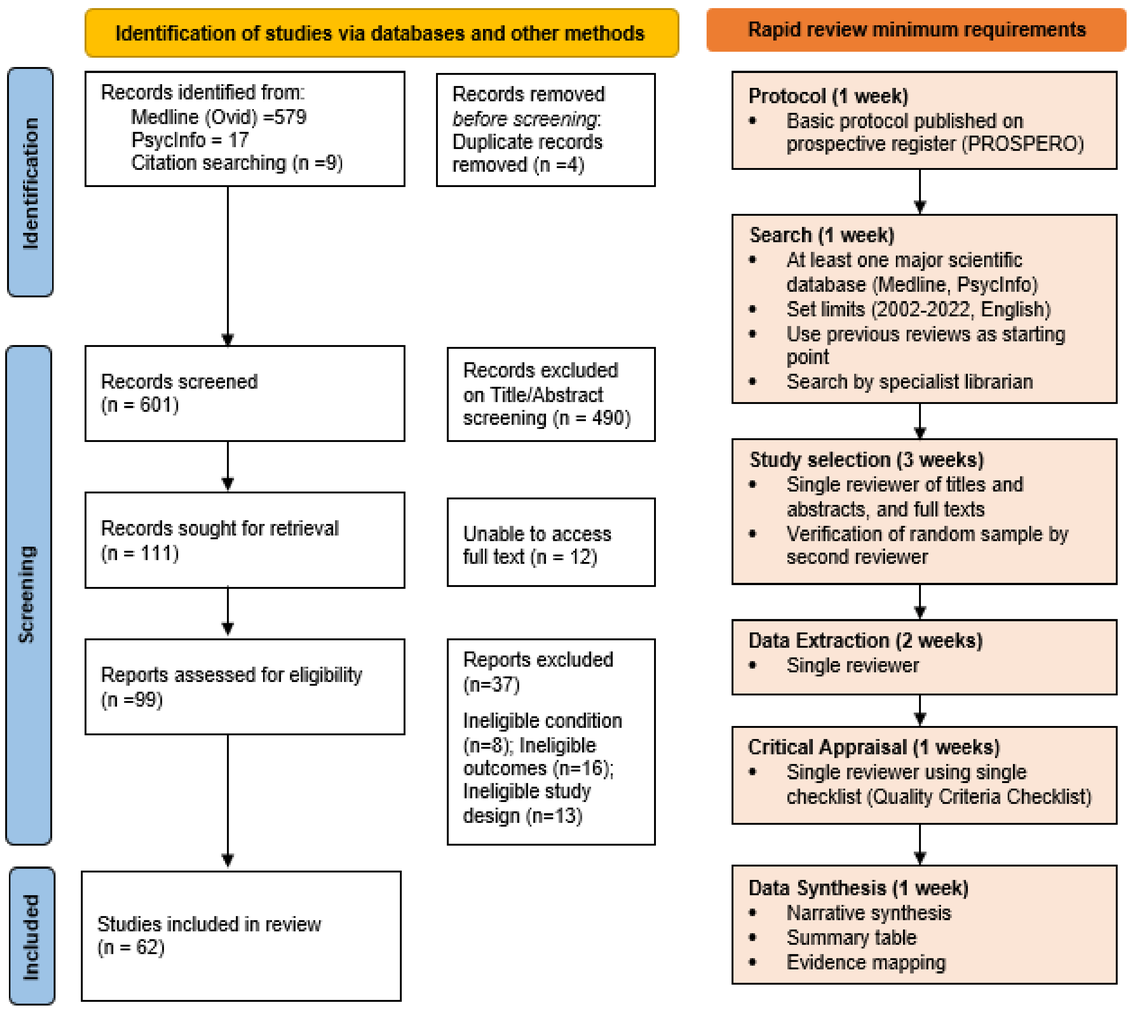


- Chronic subdural haematoma (CSDH) is one of the most common neurosurgical presentations.
- It is caused by the development of a substantial collection of blood and blood breakdown products beneath the outer layer of skin around the brain, called the dura.
- It has only recently been recognized a sentinel health event for individuals, and a significant public health issue.
- There is an identified need to improve the evidence base for current neurosurgical practice, understand patient outcomes after CSDH, and develop patient-centred systems of care (Stubbs et al., 2022).
- Wellbeing science has a potentially impactful role in these improvements.

Method

- A rapid review was conducted using Pluddemann et al.'s (2018) recommendations, and the updated PRISMA 2020 guidelines (Page et al., 2021) (Figure 1). The protocol was published in advance on PROSPERO (CRD42022380279).
- Evidence mapping used Huber et al.'s (2016) Positive Health model.

Figure 1 *PRISMA flow diagram with rapid review methodology*



Results

- Outcomes were available for only three of the six components of the Positive Health model: Daily Functioning, Mental Wellbeing (Cognitive, Mental Health) and Quality of Life. Data was absent for Bodily Functions, Participation or Meaning (Figure 2).
- 77% of outcomes were clinician-rated and used simple dichotomous (e.g. good vs bad) measures of daily functioning.
- Limited patient-reported outcomes were available for Mental Wellbeing and Quality of Life.
- 84% of outcomes were limited to the first six months post-CSDH.
- 81% of studies had medium to low method quality.

Figure 2 *Evidence and gap map for CSDH outcomes based on the Positive Health model*

		Time since CSDH				
		Discharge	1-3 months	6 months	12 months	1 year +
Positive Health Outcomes	DAILY FUNCTIONING n=45 (77.5%)	✚✚✚ ✚✚✚ ✚✚✚ ✚✚✚ ✚✚✚ ✚	✚✚✚ ✚✚✚ ✚✚✚ ✚✚✚ ✚✚✚ ✚	✚✚✚ ✚✚✚ ✚✚✚ ✚✚✚		✚✚
	MENTAL WELL-BEING COGNITIVE n=7 (12%)		✚✚✚ ✚		✚✚	✚
	MENTAL WELL-BEING MENTAL HEALTH n=2 (3.5%)					✚✚
	QUALITY OF LIFE n=4 (7%)			✚✚✚ ✚		

Note: Cross denotes use of measure in a study. Filled cross=Clinician-rated; Shaded cross=Patient-reported.

Conclusion

- Knowledge of outcomes following CSDH is largely limited to simple functional outcomes rated by the clinician in the first six months only.
- A significant paucity of knowledge occurs at all time points regarding the patient's perspective of recovery.
- '…The follow-up on most of these cases was limited and the end results are thus unknown…' (Clarke & Cooper, 1954).

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