Sub-arachnoid Haemorrhage: Revisiting the Bio-Psycho-Social Model

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Aims

- To revisit the biopsychosocial model
- To think about the neuropsychological impact of SAH in the context of the biopsychosocial model
- To explore how the biopsychosocial model fits with longer term recovery
Context

• SAH affects 6-9 people per 100,000 of the population per year and constitutes about 6% of first strokes

• Incidence reported to be over 11,000 in England and Wales from Apr 2012-Apr 2013 (Source: www.nhs.uk)

• The pertinence of specialist information required – The Brain & Spine Foundation have already distributed over 1,000 hard copies of the SAH booklet in 2017 for both service users and health professionals
The Biopsychosocial Model

• Based on General Systems Theory
• An attempt to make medical care more scientific, and more humanistic
• However, whilst criticised and thought too outdated by some, might be usefully held in mind as a framework in which to hold clients and to think about their care
• Patient – centred care
The Biopsychosocial Model – Why?

• ‘...in terms of the human experience of illness, laboratory experimentation may only indicate disease potential, not the actuality of disease at the time. The abnormality is present, yet the patient not be ill’ Engel, 1977, p131

• ‘how these [symptoms] are experienced and how they are reported by any one individual and how they affect him, all require consideration of psychological, social and cultural factors, not to mention their concurrent or complicating biological factors’ Engel, 1977, p132

• ‘...to understand and respond adequately to patient’s suffering – and to give them a sense of being understood – clinicians must attend simultaneously to the biological, psychological and social dimensions’ Borrell-Carrio, Suchmand, Epstein, 2004
Research suggests stressful life events and repeated or chronic environmental challenges can impact on vulnerability to illness (Fava & Sonino, 2008)

The role of psychological well being as a protective factor for health (Fava & Sonino, 2008)

Patient-centred care (Smith, Fortin, Dwamena & Frankel, 2013)
Important Attributes and Contexts to the Model

• Complexity and causality – not a linear process but numerous, interacting and contributing factors e.g. stress, social support, emotions, symptom perception, seeking medical care and adherence to treatment

• Structural Causality – which of the contributing factors to address first? Is there a hierarchy?

• The importance and complexities of the clinical relationship; autonomy, social norms, power, openness, reflection...
What does the Biopsychosocial model look like?

![Biopsychosocial model diagram]

Figure 3. Another disease example illustrating biopsychosocial medical model. Stress-related psychosomatic illness in an unemployed aerospace engineer: example of spread of disruption downward through the hierarchy. (From Brody. By permission University of Chicago Press.)
SAH: The Biological – What Happens to the Brain?

An SAH is mainly described as a ruptured brain aneurysm which occurs in the subarachnoid layer of the brain which contains cerebrospinal fluid.
The Psychological – What are the difficulties after a SAH?

Can include:

- Mood and anxiety difficulties and the impact of fatigue
- PTSD (activation of the limbic system)
- The psychological impact of mobility changes and adjustment to disability
- Previous experiences of health difficulties within own life and family history
- Developed ways of coping with challenges in life (can also be viewed as protective factors)
- Sleep disturbance
The Biopsycho – Common Cognitive Difficulties

• Debates in research regarding SAH resulting in ‘diffuse, global damage’ rather than ‘focal lesions’

• Memory:
  • Verbal memory – 14-61%
  • Visual memory – 14-49%

• Executive Functioning – 3-76%

• Language Impairment – 0-76%

The Social

- Impact/interactions of biological and psychological on ability to:
  - Engage in education
  - Continue to work
  - Interact with others/social relationships
  - Roles within the family home
  - Access to support and help specific and general to the biological and psychological impact of the SAH

- Can also include previous and current experiences of care
- Societal views of disability, perceptions of recovery
World Health Organisation (1997) definition:

- Individuals’ perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment.'
How does SAH affect QoL?

• Up to 55% experience decrease in QoL post-SAH
• Good physical functioning or neurological recovery BUT problems with emotional and social domains
• Improvement in QoL over first 18 month period after SAH
• Long term reports of cognitive and emotional difficulties, change in vitality and personality
• Deficits in QoL may persist for up to and exceeding 5 years post SAH
SAH: The Biopsychosocial Model: Overview

The medical model - life threatening physical illness. In the context of:

- Psychological trauma and a significant life event
- Previous and other ongoing physical health conditions
- Changes to cognition
- Age
- Relationships
- Life roles
- Employment
- Finances
- Activities of daily living
- Fatigue
- Mood
What does the Biopsychosocial Model look like in practice?

• The importance of multi-disciplinary input and data for holistic client care
  • E.g. medics, nurses, occupational therapy, physiotherapy, speech and language therapists, psychologists
  • Formulations of the client’s care which can take into account the multitude of factors contributing to the person’s experience of health
  • Enabling the possibility to investigate and discuss the relationship between contributing factors
  • Facilitation of targeting or highlighting which aspects of care/need to focus on to encourage and enhance recovery and adjustment post-SAH
The Biopsychosocial Model in SAH Recovery?

• Clinical Nurse Specialists (inpatient and outpatient)
• Specialist community rehabilitation: Consultant, Physiotherapy, Occupational Therapy, Speech and Language Therapy (inpatient and outpatient)
• Specialist Neuropsychological Services (inpatient and outpatient):
  • Thinking and memory problems and their impact on daily life e.g. work
  • Low mood, anxiety, adjustment difficulties, loss, relationship changes
  • Individual, couple and family psychological therapy
• Often time limited
Psychosocial support beyond formal services and pathways...

• Local support from Specialist Charities:
  • Bio: Information regarding the condition in print and via a helpline, information on recovery, treatment options
  • Psycho-social: Online forums, local support groups, conferences and events – peer support which can bridge both psychological and social support e.g. sharing and normalising of experiences, emotional support, empathy
What the Brain & Spine Foundation do and how they can help

Helpline
Their Neuroscience nurses provide free and confidential support and expert information on the full range of neurological problems.

Publications
BSF provide over 25 accredited booklets and factsheets on a variety of neurological problems and conditions.

Online support
An online discussion forum and Facebook groups provide a place for people affected by neuro conditions to seek advice and support from each other, creating online peer-led communities.
The Brain & Spine Foundation’s ‘Life After a Subarachnoid Haemorrhage’ Conference

- 5 November 2016 at the National Hospital for Neurology and Neurosurgery
- 120+ people from all parts of the UK; mainly patients, carers and families

88% of attendees felt more informed after the conference

53% of people felt better able to manage the long-term effects of SAH after the event, and 36% felt ‘more positive about the future’

Other feedback included:
- "I am feeling less isolated"
- "I am more aware of the difficulties faced"
- "I am more aware of my recovery journey"
The Brain & Spine Foundation’s ‘Life After a Subarachnoid Haemorrhage’ Conference

“In 3 years it was the first time I had met and spoken to others just like me. I would love to meet others again just to chat and swap coping strategies etc, just to be able to go out and feel comfortable among people who really understand...”

Conference Attendee
• ‘It was the darkest most terrifying place and time in my life. I did not want to burden my parents or my friends and this is when I started calling BSF’s Helpline in so much distress and they were absolutely amazing. I truly don’t know what I would have done without someone on the end of the phone to offload onto.’ (Julie, Brain & Spine Foundation Helpline User)

• ‘…nothing will change unless or until those who control resources have the wisdom to venture off the beaten path of exclusive reliance on biomedicine as the only approach to health care’ (Engel, 1977, p135)
Questions???

• The Brain & Spine Foundation can be found at stand 5002
References