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5 **Peer support groups after acquired brain injury: A systematic review**

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1 **Abstract**

2 **Background:** Peer support groups can be a way to obtain support, problem solve, and
3 widen social networks. However, there has been no systematic literature review
4 examining the evidence for the use of peer support groups after an acquired brain
5 injury (ABI).

6 **Objective:** This review sought to systematically evaluate the evidence for (1) the
7 psychosocial effectiveness, and (2) the experience of peer support groups in adults
8 who had experienced ABI's.

9 **Methods:** The systematic literature search was conducted across the following four
10 databases: PsycINFO, PsycARTICLES, MEDLINE, and Cumulative Index to
11 Nursing and Allied Health Literature (CINAHL) in October 2019. The mixed
12 methods appraisal tool was used to examine the quality of the research.

13 **Results:** 13 papers were included in this review. Limited evidence was found for the
14 psychosocial effectiveness of peer support groups in ABI, although the experience of
15 partaking in a peer support group was largely found to be positive. The benefits and
16 helping factors of taking part in a peer support group can be summarised as: being
17 connected, interacting with others, and providing and receiving support.

18 **Conclusions:** The findings of this review suggest that peer support groups could be a
19 promising intervention to support individuals and promote adjustment following an
20 ABI.

21

22 *Key words: Brain injury, Stroke, Peer Support Groups.*

23

24

1 **Introduction**

2 As an adult, adjusting to life following an ABI can involve managing: activity
3 restrictions (e.g. driving or employment), increased reliance on family, changes
4 within roles and relationship, and financial hardship [1, 2]. Many of these changes
5 have been shown to have a negative impact on sense of self, as individuals progress
6 through their recovery and realise they may not be able to return to work, hobbies,
7 and other aspects of their pre-injury day to day life [3]. Whilst services such as
8 neurorehabilitation units, community teams and voluntary organisations exist to help
9 support the process of rehabilitation and adjustment, another potentially useful and
10 relevant intervention following an ABI is peer support groups.

11 In its simplest form, peer support can be defined as being composed of
12 individuals who share a similar problem and come together to provide mutual help
13 and support [4]. A review by Dennis [5] found that the way in which peer support
14 is offered varies considerably across a range of factors including: intervention
15 type (e.g. one to one mentoring, self-help groups, support groups, and online
16 groups), provider (e.g. community or hospital based, and voluntary organisations),
17 and structure (e.g. highly structured or informal interventions).

18 Reviews outside of an ABI population have documented the positive and
19 unique impact that peer support can have on individuals. Davidson [6] reported
20 that peer support offer three contributions: 1) the installation of hope using self-
21 disclose, 2) a modelling function of self-care behaviour, and 3) a relationship
22 between peer provider and recipient which is characterised by trust, acceptance,
23 understanding and the use of empathy. Further research, specifically focusing on
24 peer support groups, has cited positive outcomes including: a unique sense of
25 community, the opportunity to be accepted, and the opportunity to gain

1 information from others [7], as well as to socialise and broaden social networks
2 [8].

3 Based on the above research and the well documented negative changes
4 that individuals post ABI can experience, peer support seems to be an appropriate
5 intervention to offer to adults post ABI. The flexibility and variety in the way peer
6 support is offered makes it a viable intervention which can be easily tailored to the
7 resources of individual services, and the positive outcomes, especially the
8 opportunities to share and problem solves have been documented as desired by
9 individuals post ABI [9].

10 In terms of previous reviews focused specifically on peer support within ABI,
11 two papers were found to be relevant. The first was a review by Wobma et al., [10]
12 which examined the evidence for peer support in rehabilitation following ABI. This
13 review only included randomised control trials and as such only included two papers,
14 meaning that the findings were limited. An additional review was conducted by
15 Morris et al., [11] which focused on the use of peer mentoring in traumatic brain
16 injury. This review highlighted six papers, and reported some positive effects on
17 behavioural control, mood, coping and quality of life, but with limited evidence on
18 the whole.

19 Therefore whilst peer support has been documented to have a range of positive
20 and unique consequences in other populations, previous reviews have found limited
21 evidence for the use of peer support following ABI's. This appears to be a reflection
22 on the small number of papers included in each review, rather than evidence against
23 the use of peer support following ABI. Given that a previous review has already been
24 conducted into peer mentoring, this review seeks to evaluate the evidence for use of

1 peer support groups after ABI, considering both quantitative and qualitative research.
2 For the purpose of this review, peer support is defined as ‘being composed of
3 individuals who share a similar problem and come together to provide mutual help
4 and support’ [3], and a group is defined as more than two people.

5 **Method**

6 *Eligibility criteria*

7 Studies were included if they met the following criteria: (1) employed a peer support
8 group for individuals with ABI; (2) the sample was obtained from individuals who
9 had experienced an ABI (ABI occurred >18 years). If the sample included family
10 members or carers, the data was included if more than 50% of the data was from
11 individuals who had experienced an ABI. This was chosen at the discretion of the
12 reviewer as it was observed that several of the groups included reported family
13 members/carers as participant, and excluding on the basis would limit the number of
14 papers included. The 50% marker was chosen to ensure that the majority of the data
15 was obtained from participants who had brain injuries; (3) was published in the
16 English language to eliminate errors with translation; (4) the study was published in a
17 peer reviewed journal article to try and ensure the papers included were of good
18 quality; and (5) published any time up to the 28th October 2019.

19 Papers were excluded if: (1) they used a one-to-one model of peer mentorship, rather
20 than a peer support group, as this has been covered in a previous literature review;
21 and (2) papers that reported data about self-management groups or group therapy (e.g.
22 a CBT group) for individuals who have experienced an ABI, as these have distinct
23 aims that differ from peer support groups.

24

1 ***Information sources***

2 The systematic literature search was conducted across the following four databases:
3 PsycINFO, PsycARTICLES, MEDLINE, and Cumulative Index to Nursing and
4 Allied Health Literature (CINAHL).

5 ***Search***

6 During a scoping search, the search terms of relevant papers were examined to help
7 identify the search terms most likely to identify articles relevant to this review. The
8 following search terms were used to search article titles and abstracts: ("brain injur*"
9 OR "head injur*"OR "head trauma*" OR "brain trauma*" OR TBI OR ABI OR
10 stroke*) AND (Peer* OR "Support Group*" OR "Group Support" OR "Social
11 Group".)

12

13 ***Study selection***

14 The author conducted the search, and reviewed all articles at each stage of the process
15 to assess for eligibility.

16 ***Article selection summary***

17 The systematic literature review search was carried out on 28th October 2019, and
18 found 2816 papers, which was reduced to 2651 when the limiters were applied. The
19 titles of these papers were then screened, and any that appeared irrelevant to the
20 research questions were removed, leaving 79 papers. Reviewing the abstracts of the
21 79 papers left 27 full texts to be read. Of these, 11 papers were identified as relevant
22 and fitting for this review. The reference lists of these papers were screened, and a
23 further 2 articles were identified as suitable. As such, 13 papers were included in this

1 review and the flowchart, adapted from PRISMA guidelines [12], in figure 1
2 highlights this process.

3 [Figure 1 near here]

4 ***Quality of included studies***

5 The methodological quality of each paper was checked using the Mixed Methods
6 Appraisal Tool (MMAT) [13]. The MMAT was selected as it is can be used across
7 different methodologies, making it suitable for the current review. The MMAT
8 consists of 2 screening questions, which a paper must pass in order to be considered
9 suitable for the MMAT. Following this there are five questions, which vary across the
10 different types of methodology, making five the highest achievable score. In order to
11 assess the inter-rater reliability of the scoring, a selection of papers (23%, one
12 quantitative, one qualitative, one mixed methods) were marked independently by both
13 the reviewer and a researcher/colleague, and reviewed for consistency of scoring. The
14 same scores were assigned in each paper that were checked for inter-rater reliability.

15 ***Data analysis***

16 As the papers varied in methodologies the most appropriate way to analyse the results
17 was narrative synthesis. Narrative synthesis adopts a textual approach to synthesise
18 evidence focusing on a wide range of questions, and identify or explain patterns and
19 findings [14]. However the process of narrative synthesis maintains a systematic
20 approach to searching and quality appraising data, rather than simply verbally
21 describing it.

22 ***Declaration of interest***

23 The authors report no conflicts of interest.

1 **Results**

2 *Synthesis of results*

3 In total, 13 papers were included in this review [15-28] as highlighted in table 1.
4 Stroke survivors were the most frequently researched sample, and were included in 7
5 papers, followed by 5 papers who recruited across a range of ABI's, and one paper
6 who used exclusively traumatic brain injury. Sample size varied between studies from
7 4 individuals in one study [17] to 84 in another study [20]. With the exception of
8 Slark et al., [20] and Vandiver et al., [23] ten studies fit within a 4-26 individuals
9 range, showing small sample sizes were predominantly used, whilst one paper did not
10 report participant numbers. In terms of research location, the majority were conducted
11 in the USA (8), followed by the UK (3), Canada (1), and Australia (1). Further
12 characteristics of the papers included can be found in table 1.

13 All papers broadly evaluated peer support groups; however they all focused on
14 different aspects, which can be separated, based on their research questions.

15 (1) Five papers looked explicitly at the effectiveness of peer support groups using
16 pre vs post, or post group measures.

17 (2) five papers examined the experience of individuals who attended a peer
18 support group , and three papers identified helping factors for peer support
19 groups. For the purpose of this review, the three papers which identified
20 helping factors for peer support groups were grouped within the experience of
21 peer support groups.

22 Perhaps the most notable finding from the 13 papers reviewed was the diversity of
23 ways that peer support groups have been facilitated following ABI. There was variety

1 between the papers in terms of: setting (inpatient vs. outpatient vs. community),
2 facilitator (peer led vs. professional led), format (fixed vs. flexible).

3 One key relationship between these variables seemed to be between the setting of the
4 support groups and whether they were peer led or professionally led. The papers
5 reviewed highlighted that the all of the community based peer support groups
6 identified as being peer led, whereas all of the groups that were established in
7 outpatient or inpatient settings were professionally led. Additionally with regards to
8 the format of the groups, the most notable contrast was whether they followed a fixed
9 structure, whereby the topics or sessions were pre-planned by professionals or if they
10 were flexible, whereby topics may be offered to group as starting points but the
11 session content, discussions, or timetable was peer led. No indicated relationship
12 could be established between format and setting, for example flexible formats were
13 found in both community and hospital based groups.

14 *Quality of included studies*

15 The MMAT quality checklist found differences in the quality of the included studies,
16 and trends seem to be linked to the type of methodology used. Both of the quantitative
17 studies included were of good quality, scoring a 4 and 5, whereas the three mixed
18 methods studies all scored a 3 or less. The reasons for the mixed methods studies
19 scoring lower on the quality checklist were due to the absence of an adequate
20 rationale for using mixed methods, and a lack of integration of quantitative and
21 qualitative results. Additionally, one study used mixed methods to answer two
22 different questions within the research and so the quantitative and qualitative data
23 were not integrated, which is the main strength of using mixed methods [14]. Of the
24 remaining 8 studies which all used qualitative methods, 6 studies scored a 5 on the

1 MMAT suggesting they were of good quality and were appropriate in their selection
2 of approach, extraction and presentation of data, interpretation of results, and this was
3 consistent throughout the research. Of the 2 remaining studies which scored lower on
4 quality, similar areas of weakness were noted in relation to the interpretation of
5 results not being substantiated by data and correspondingly, a lack of coherence
6 between data sources, collection, analysis and interpretation. No papers were
7 excluded based on quality due to the aim of examining participants experience of
8 peer support groups.

9 [Table 1 near here]

10 *(1) Evaluations of peer support groups using pre vs post measures*

11 Within the four papers that offer insight into the effectiveness of peer support groups,
12 the focus of the groups and the measures used to evaluate these varied, although they
13 could all be described under the umbrella term of psychosocial adjustment. The four
14 studies are varied in terms of: type of ABI, peer support group setting, length of peer
15 support group, and structure of peer support group. That being said, three of the four
16 studies report improvements in aspects linked to psychosocial adjustment including
17 self- efficacy, and community integration [23, 24, 28]. The final study examined
18 offered mixed results, with no statistically significant findings reported [26]. Across
19 all of the studies there were aspects of psychosocial adjustment which remained
20 unchanged, for example activity levels and depression scores.

21 Two papers looked at individual's perceived self-efficacy after partaking in a peer
22 support group. Vandiver and Christofero-Snider [23] devised a twice monthly,
23 community based psychosocial support group for adults with traumatic brain injury
24 and evaluated the impact the group had had on its members using the Self-Efficacy

1 Scale [29] and an idiosyncratic quality of life (QoL) questionnaire which asked 3
2 questions about present QoL, future QoL, and recommendations for services.
3 Findings showed that compared to baseline, after 6 months participants showed
4 increased self-efficacy scores ($p < 0.5$), suggesting that individuals experienced more
5 perceived mastery after attendance at the group. Aspects of QoL remained unchanged
6 and related to lifestyle/personal factors beyond the focus of the groups, such as a
7 person's financial position. Similarly Backhaus, Ibarra, Parrott, and Malec [30]
8 compared a peer-directed support group, for individuals with acquired brain injury
9 that met for 2 hours weekly over 16 weeks, to a CBT coping skills group. They found
10 that participants in the peer support group showed a significant improvement in
11 perceived self-efficacy, measured using the Brain Injury Coping Skills Questionnaire
12 [30] after the peer support group ($p < 0.001$). The study also looked at emotional
13 functioning and neurobehavioral functioning (caregiver ratings), and found no
14 significant change across time.

15 Additionally, Sadler, Sarre, Tinker, Bhalla, and McKeivitt [26] reported the findings
16 of a peer support group for stroke survivors aimed primarily at increasing resilience,
17 although it is worth noting that this paper scored lowly on the MMAT (1/5). The study
18 compared scores on the Brief Resilience Scale [31] from before the group, to the end
19 of the group 6 weeks later, and found a marginal increase in mean resilience scores
20 (pre-group mean = 3.6; post-group mean = 3.8). Secondary measures showed no
21 change in activity levels, depression scores, and slight increases in physical health
22 quality of life, mental health quality of life, and anxiety. The authors offer a possible
23 explanation for the limited change, being that the follow up time was short and there
24 were difficulties with missing data.

1 Finally, Muller, Toth-Cohen, and Mulcahey [24] evaluated how participation in a
2 fortnightly hospital based group impacted younger individuals who had experienced a
3 stroke (<65). The group objectives aimed to support adjustment through health related
4 quality of life concepts including social, emotional, and role difficulties. As such the
5 Stroke Impact Scale (SIS) [32] and Community Integration Questionnaire (CIQ) [33]
6 were used at baseline and upon completion of the group, alongside a post group
7 survey. Results found significant positive changes across the SIS Handicap domain
8 and both the Total CIQ score and CIQ Home Integration score, although significance
9 was not reached across SIS Self-perceived Recovery score, and the CIQ Social, and
10 Productivity domains.

11 *(2) Evaluation of the experience of peer support groups*

12 In total, nine papers looked at the experience of peer support groups and will be
13 outlined below. Across the studies, certain themes were noted across studies and these
14 can be grouped under the following 4 themes: obtaining friendship and support [15,
15 17, 19, 21, 27], expression of feelings [15, 16, 20, 27], sharing of coping strategies
16 [15, 16, 18], and gaining information [17, 19, 20]. Whilst other positive outcomes
17 were noted, the main four themes found across studies all seem to support the use of
18 peer support groups for ABI's.

19 Positive findings from taking part in peer support groups were found across a number
20 of studies. Firstly, although its low score on the MMAT (1/5) should be noted, Pierce
21 and Salter [15] developed a support group at a rehabilitation hospital. This group
22 aimed to provide a safe, accepting environment to express feelings and conflicts,
23 support problem solving, and promote help seeking behaviour. Outcomes were noted
24 as: members developing friendships and a network of support, encouragement of
25 problem sharing and solving within the group, shared expression of feeling, and

1 sharing of coping strategies. Similarly, Slark, Makahamadze, Catangui, Stear, and
2 Amorim [20] developed a monthly support group (6 sessions) aimed at ‘encouraging
3 stroke survivors, their carers, and family members to confidently enjoy life after
4 stroke through provision of information, education, advice, and support’. Group
5 evaluations were completed at the end of each session and themes were identified.
6 Participants found it beneficial to share their experiences, and get away from the ward
7 routine. Participants praised the group sizes, as smaller groups meant they were not
8 afraid of speaking out, the presentation of information on the slides, and receiving
9 information from a doctor’s session.

10 Both Cutler, Melson, Nikoloski, and Kuluski [22], and Morris and Morris [19] report
11 positive findings from participation in a peer support group for adults recovering from
12 brain injury. Cutler et al., [22] evaluated a peer support group that took place in an
13 outpatient rehabilitation service. They used semi-structured interviews, conducted 1-6
14 months after completion of the group and identified 3 core themes: 1) disrupted sense
15 of self (pre group), 2) enhanced psychosocial adjustment through shared experience
16 (during the group), 3) adapted sense of self (post group). Morris and Morris [19]
17 examined how patients experienced a hospital based bi-weekly group. They reported
18 that on the whole, participation in the group was beneficial to participants, and
19 included participants learning helpful information, making connections, and having an
20 increased awareness of stroke. However, group processes such as upward and
21 downward comparison were also noted, which could be unhelpful and upsetting to
22 some individuals.

23 Similarly, Pasquarello [27] reported the findings of a weekly peer support group for
24 individuals who were recovering from a stroke in a hospital. After 3 months, an
25 evaluation was completed to measure the group against its objectives to 1) provide

1 information, 2) offer psychosocial support, 3) offer assistance information, and 4)
2 promote lifestyle change. The evaluation asked participants to read statements such as
3 'learn about the causes of stroke' and rate on a 1 to 5 likert scale as to how well the
4 group covered that area. The group was rated most favourably as a way to obtain
5 psychosocial support, for example by sharing feelings and meeting other stroke
6 patients.

7 Further insight comes from Oehring and Oakley [18] who reported the findings from
8 a survey of community based stroke support groups for younger stroke survivors
9 (<65). Participants identified a number of unique problems to having had a stroke
10 younger (e.g. an interrupted career), and the majority stated that they identified a
11 discussion format where issues could be talked over, as all participants reported
12 feeling as though they came to help each other. When asked about their preferred
13 format, a number of participants reported finding it difficult to understand speakers,
14 and stated they would like to have discussions around relationships after stroke,
15 returning to work, and how to 'survive by yourself', amongst others.

16 With a slightly different research focus, three papers sought to directly identify
17 helping or important factors. Schwartzberg [16] completed an ethnographic study of a
18 fortnightly peer support group for individuals who had experienced a head injury, by
19 embedding herself within the group as a participant observer. She summarised group
20 experiences and processes into the following ten helping factors or themes: 1) telling
21 other about one's own pain and suffering, 2) actively listening to familiar pain and
22 suffering in others, 3) accepting that there is a problem with group recognition of the
23 problem, 4) grieving and laughing about daily situations, 5) receiving validation from
24 others similar experiences, 6) being accepted by others and not having to hide one's
25 disability, 7) supporting the survivors survival, 8) giving and receiving practical

1 suggestions, 9) receiving and giving information from personal experiences, 10)
2 distinguishing head injury problems from normal problems. Schwartzberg [16]
3 concluded that the theme of legitimization and acceptance is important in
4 understanding the findings, and that the findings support Lieberman's [34] four
5 necessary conditions for a group to be perceived as helpful: cohesiveness, saliency,
6 cognitive restructuring, and diversity of experiences.

7 Schulz [17] conducted a follow up study of Schwartzberg's [16] research using semi-
8 structured interviews to determine participant's perceptions of helping factors, and if
9 these differed from the ones identified by Schwartzberg [16]. Schulz [17] identified
10 11 helping factors which can be summarised as participants benefiting from
11 connection, support, and learning as a result of interacting with others who share the
12 same problems. Schulz's [17] findings support Lieberman's [34] core conditions, and
13 Schwartzberg's [18] results, with the exceptions of some helping factors such as 1)
14 socialising, 2) finding out about other perspectives, 3) learning about others
15 limitations and strengths, and 4) hope, not being present in Schwartzberg's [16] study.

16 Additionally, Tregga, and Brown [21] used focused ethnography to understand and
17 interpret helping factors in a peer support group for individuals with aphasia using
18 observations, interviews, and focus groups. The results highlighted 5 key themes
19 required for an established aphasia peer support group, including 1) friendships, 2)
20 informality, 3) a supportive communication environment, 4) providing support, and 5)
21 the right time and place.

22 **Discussion**

23 The aim of this systematic literature review was to investigate the evidence for the use
24 of peer support groups after an ABI, specifically with regards to 1) the effectiveness

1 of peer support groups, and 2) the experience of peer support groups. To the authors
2 knowledge, this area has not been reviewed, and so the findings from this review
3 could offer new insight.

4 ***Summary of evidence***

5 This search found extensive heterogeneity within the research papers across approach
6 (quantitative vs. qualitative vs. mixed methods), methodology (interviews vs. surveys
7 vs. measures), age range of participants (adult: 18-65 years vs. older adult: 65+ vs.
8 mixed age: 18+), type of ABI (TBI vs. mixed ABI vs. stroke), focus of peer support
9 groups (psychosocial adjustment vs. general support and information vs. specific
10 factors like resilience).

11 ***Evaluations of peer support groups using pre vs. post measures***

12 On the whole, the results suggest participation in a peer support group can lead to
13 positive changes post ABI. Explanations for the absence of any significant results
14 from Sadler et al., [26] could be due to 1) missing data, and 2) the group only being
15 run for 6 weeks. The research documenting significant positive changes are all noted
16 to involve groups which have taken place over longer periods of time (16 weekly
17 sessions, bi-weekly for six months, 9 times over 18 weeks), and it could be that the
18 length of group intervention is influencing the effectiveness of the group.

19 Interestingly, Muller et al., [24] measured perceived self-efficacy as a secondary
20 measure using the SIS and did not find positive changes in perceived efficacy score,
21 as previously found [23, 28]. One explanation for this could be due to the way the
22 groups were facilitated. Significant improvements to self-efficacy were found in
23 groups that used less structure, and emphasised that group structure e.g. topics of

1 conversation were peer led, whereas Muller et al.'s [24] peer support group was
2 documented to be more structured and prescriptive (although this was based on a
3 previous survey with stroke patients). The process of being encouraged to shape the
4 group and its content may be an empowering experience for participants, which could
5 explain the differences in perceived self-efficacy documented within this research.

6 *Evaluation of the experience of peer support groups*

7 Whilst there is variation in the outcomes experienced by participants in peer support
8 groups, the experiences seem largely positive. As highlighted in the results section,
9 the common themes across studies can be summarised under 4 broad themes:
10 obtaining friendship and support, expression of feelings, sharing of coping strategies,
11 and gaining information. Although the studies varied in their research aims, for
12 example uncovering helping factors compared to exploring the experience, the
13 findings from both groups of paper were similar in the four aforementioned themes.
14 This suggests that the positive outcomes of peer support groups and the helping
15 factors of peer support groups are not mutually exclusive areas. It is most likely that
16 the ingredients needed for a successful peer support group such as it being a
17 supportive environment, in turn end up being something that participants value and
18 report as a positive outcome, for example 'receiving support'. Finally, one paper did
19 note that downward and upward comparison did occur in the groups [19], which
20 could be a negative experience for participants, although this was not noted across
21 other studies.

22 These findings seem consistent and offer further evidence to previously evidenced
23 positive outcomes of peer support groups, which include: sharing problems and

1 gaining mutual support and help, and gaining information [7] and broadening social
2 networks [4, 8].

3 These factors being identified as helpful and positive is fitting with the difficulties
4 reported by individuals post ABI. As previously mentioned, changes after an ABI can
5 include: difficulties with relationships, changes in activity participation, and loss of
6 role [1]. Taking part in a peer support group could provide opportunities to relieve
7 some of these difficulties, as individuals have the opportunity to connect and socialise
8 with others, to share, contribute, and help others in the group, and by also giving
9 individuals the opportunity to get out and partake in the group and associated
10 activities.

11 Interestingly there were a number of differences between the settings and structure of
12 the peer support groups, but at face value, this does not seem to have impacted on the
13 positive outcomes reported by participants. It seems that simply being surrounded by
14 those with similar difficulties in a safe, contained environment could be the catalyst to
15 promote positive experiences for individuals after an ABI. Although the studies are
16 limited by small sample sizes, the promising results suggest future investigation is
17 warranted.

18 ***Methodological limitations and future research***

19 Perhaps the most notable limitation of this review relates to the papers used, and the
20 variety in: the format, setting, aim, length of peer support group, and population used.
21 Although the findings on the whole are positive in relation to the use of peer support
22 groups following ABI, it is difficult to make comparisons across papers, to decipher
23 what the most effective or useful peer support group format may be. At present there
24 are a number of unanswered questions around factors such as the length of a peer

1 support group and how changing these factors influences participants' experiences or
2 the effectiveness of the group. Additionally there are no studies comparing
3 participation in a peer support group to a control group of participants who do not
4 access any psychological support post ABI. This would help establish if the positive
5 effects noted in this review are truly from partaking in a peer support group, or may
6 have occurred over time anyway. Future research should focus on establishing a
7 framework for peer support groups that hold the most success following an ABI. This
8 could include using control groups to establish if there is a need for peer support
9 groups following ABI and where this need lies, for example during recovery in
10 hospital or following discharge in the community.

11 Additionally there are methodical limitations to this review that should also be noted.
12 This includes the fact that some of the papers reviewed included family members or
13 carers in their samples. Whilst a threshold of 50% was used to ensure that the
14 majority of data included was from individuals who had experienced an ABI, it is
15 likely that the peer support groups had a different impact on family members or carers
16 than those with an ABI, and this may have influenced the results. It is also worth
17 noting that this review was not conducted in accordance to PRISMA [12]
18 methodology, which is the preferred way to conduct systematic literature reviews.
19 Future reviews should adhere to this protocol, in order to ensure the clarity and
20 transparency of reporting of systematic reviews.

21 ***Social and clinical implications***

22 In the national context of an over stretched health care system [29], peer support
23 groups could be a low cost way of addressing a sought after need by ABI survivors,
24 and help facilitate with adjustment needs. National guidance suggests that everyone

1 who has experienced an ABI should be offered psychological support [30], however
2 research has noted that there is an increased demand on services and lack of available
3 resources [31]. This can result in inadequate or no service provision, and/or access to
4 services being dependent on where you live [32]. That being said, it is important that
5 ABI survivors access specialist support, that should be not be thought off as replaced
6 by the use of peer support groups. Moreover whilst health care systems could offer
7 peer support groups, these should be used to compliment other specialist provisions
8 delivered by suitably trained individuals.

9 As such, peer support groups could be a way to increase access to support after an
10 ABI or manage waiting lists, especially in places where services are not as readily
11 available. The variety between the peer support groups reported in this paper evidence
12 that these groups can be adapted based on the needs of specific populations and
13 services, for example a peer support group could be established by staff to begin with
14 and then later progress to being member or volunteer run. In many of the papers cited
15 in this review, the 'professional' running the group varied between trainee/assistant
16 psychologists, nurses, social workers, and occupational therapists, showing that an
17 array of professional backgrounds could be suitable in establishing groups. It is
18 important to note that trainee psychologists or students should not be overly relied on,
19 and a dedicated member of staff should be involved in running the group to ensure
20 that it remains sustainable when placements end. Furthermore the cost effectiveness
21 of peer support groups should be considered in relation to the larger number of
22 participants that can be reached, rather than utilising temporary members of a service
23 such as trainee psychologists.

24 **Conclusion**

1 This review is the first to examine the use of peer support groups in ABI's, focusing
2 on both the effectiveness and the experience of such groups. On the whole it appears
3 that peer support groups are associated with a range of positive outcomes. The
4 evidence for the effectiveness of peer support groups is mixed, and this could be
5 linked to variations in the structure and length of the peer support groups, although
6 positive effects on psychosocial adjustment have been reported. Additionally, the
7 research into the experience of peer support groups and the important factors within
8 peer support groups have been largely positive, with key themes being noted in
9 relation to sharing, problem solving, connecting, and socialising. Peer support groups
10 could fulfil crucial needs for individuals with an ABI, such as the opportunity to work
11 through and problem solve issues, as well as feel empowered, offer a new role, and
12 connect and build relationships with others in a similar situation.

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