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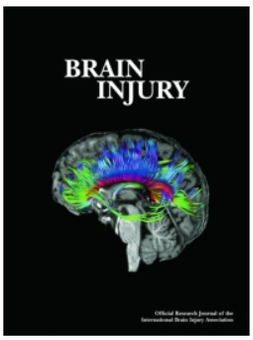

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Friendships after severe traumatic brain injury: a survey of current speech pathology practice

Tennille Bertram[a], Emma Power[a], Jacinta Douglas[b], and Leanne Togher[a]

[a]Speech Pathology, Faculty of Medicine and Health, The University of Sydney, Sydney, Australia; [b]School of Allied Health, Human Services & Sport, La Trobe University, Bundoora, Australia

ABSTRACT

Objective: To investigate current speech pathology practice regarding working with friends.
Method: An online survey was conducted with 68 speech pathologists who worked with TBI across metropolitan and rural settings in Australia. The survey investigated the reasons speech pathologists work with friends, barriers to working with friends and perceptions of successful friendships post TBI. Descriptive statistics and content analysis of open ended responses were used to analyze the data.
Results: There were more speech pathologists (40%) who did not include friends compared to those who did. Friends were most commonly included in the rehabilitation process, through the provision of education programs. The primary rationale for working with friends was to prevent negative psychosocial outcomes for the person with TBI. There were numerous barriers to working with friends, most commonly the inability to access friends.
Conclusions: Making and keeping friends are a significant part of most people's lives. Therefore, it is important to consider their role in contributing to improved outcomes for people with TBI. With communication partner training being an integral component to recovery and maintenance of relationships post TBI, the development of targeted education and training materials is warranted, to enable the inclusion of friends in the rehabilitation process.

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Traumatic brain injury; friends; cognitive-communication; ICF; survey

Traumatic brain injury (TBI) is a major cause of disability for young people, both in Australia and throughout the world. The World Health Organization (WHO) predicts TBI will surpass many diseases as the major cause of disability and death in the future (1). TBI can result in long term or lifelong physical, cognitive, emotional and behavioral consequences that differ in severity (2).

Impaired communication is a common outcome after TBI. Deficits include motor speech impairment, word finding problems and comprehension difficulties (3). All of these may have negative implications on interactions with friends. However, impairments associated with social communication skills can be challenging for friends to come to terms with and manage during interactions (4,5). People with a TBI experience difficulty with information transfer, therefore, not meeting the needs of their communication partners. It is often deemed that they are less rewarding to converse with because they have difficulty extending conversation (6). However, Bogart and Togher (7) have demonstrated that communicative competency can be enhanced when communicating with a friend. Participants were asked to hold a conversation about a topic of interest to them. When compared to controls people with TBI were able to engage in typical and essential information giving (K1 moves) and requesting roles (K2 moves) with friends. That is, the frequency of K1 and K2 moves did not differ significantly between controls and participants with TBI. Additionally, having the support of friends at two years post TBI is one factor associated with more successful return to work in people with moderate-severe TBI.

Despite friends having a positive effect on both communication interactions and community-based outcomes, opportunities to communicate and engage with friends are often diminished following TBI as a result of these social communication difficulties, as well as other behavioral and emotional impairments. Finset and Dyrnes (8) interviewed 77 participants with TBI. While these participants reported a significant amount of contact with family, only 25.9% of participants reported a corresponding amount of support and contact from friends. Qualitative research also shows that social contact diminishes and this can lead to feelings of loneliness and feeling less close to friends (8–11).

Given that friends can have a positive influence following TBI, yet social contact diminishes, it has been recommended that maintaining friendships is a desirable goal of rehabilitation. In line with the recommendations from the INCOG guidelines (12), if friends were a part of the individual with TBI's life prior, then they should be considered and included in the rehabilitation process. However, there is currently limited research evidence specific to TBI, to assist clinicians to decide how they could assist people to develop and maintain friendships. A review of the literature surrounding social support, friendship and loneliness provides a summary of interventions in relation to relationship building that could be relevant to those with acquired brain injury (ABI) (13). In this paper,

CONTACT Leanne Togher leanne.togher@sydney.edu.au Speech Pathology, Faculty of Medicine and Health, The University of Sydney, Sydney, New South Wales, Australia, 2006

circles of support are discussed. This intervention encourages participants with ABI to establish dreams. A circle of support incorporating intimates, friends, associates and contacts is built surrounding the person with TBI to enable them to move toward achieving these dreams. This treatment was evaluated using a qualitative approach. It sought perspectives from a range of people involved including, but not exclusive to, the person with TBI. A range of themes surrounding friendship emerged. These included the acknowledgment that friendships deteriorated post TBI and that new friendships were developed within the context of the rehabilitation program with which they were engaged.

Communication partner training is one form of intervention that has been shown to have positive outcomes on the communication interactions between people with TBI and their communication partners. There is evidence to suggest that training communication partners, and perhaps in this instance friends, to utilize strategies to overcome consequences of the TBI, the participation of the person with TBI is enhanced within the conversation (14). A non-randomized control trial was conducted, where 44 participants with TBI were allocated to one of three groups where they received a 10 week conversational skills treatment program, once per week, in both group and individual sessions. This treatment occurred either treatment alongside a communication partner, treatment on their own or was placed in a control group, findings showed that training a person with TBI alongside a communication partner was more efficacious than training the person on their own (15). Based on the Measure of Participation in Communication Adapted Kagan Scales communication partner training improved conversational performance, in comparison to training the person with TBI on their own. A qualitative study examined the participants' (13 individuals with TBI and 13 of their communication partners) experience of participating in this intervention. Results from interviews showed that participants noticed an improvement in their communication skills, including the communication partner which included family but also some friends. Improvements in the relationship were also identified, as well as broader social life and independence (16). This study provides preliminary evidence that involving friends in such training may in turn assist with improving the interactions between friends. This demonstrates that there are advantages to involving communication partners, such as friends, which include better communication outcomes for the person with TBI. Therefore, training of friends would seem to be an important consideration when planning intervention for someone with social communication challenges following a TBI.

It has been established that it is efficacious to work with communication partners, and friends are important and useful communication partners to consider. However, there is little known about how speech pathologists could involve friends in intervention. The current practices of speech pathologists that may already involve friends are also unknown. In other clinical populations, such as those with aphasia, strategies to enhance social participation and the perspectives of speech pathologists regarding living successfully with aphasia have been discussed in the literature (17,18). In this clinical population the psychosocial benefits of considering friends have been established. This gives clinicians a sound reason to change practices, to involve friends.

To date, studies regarding friendship following TBI have focused on the perceptions of the person with TBI and/or their family members. This study adds to the existing evidence, by considering the perspective of speech pathologists, who may work with friends and people with TBI in regards to friendship. The aim of this study was to survey Australian speech pathologists on (i) current practice and views regarding friendships post TBI and their views on (ii) why they work with friends, (iii) barriers to working on friendships in TBI, and (iv) factors contribute to successful friendships post TBI.

Method

This study used a survey methodology to investigate the practice and opinions of a broad cross section of speech pathologists. The survey aimed to capture the variety of practices that may be occurring in the area of friendship. Ethical approval to conduct this study, as well as the survey study, was obtained from the Greater Western Human Research Ethics Committee.

Participants included speech pathologists working in Australia with a caseload that comprised of people who had sustained a TBI. To be included in the study participants were not required to specialize in TBI, but were required to have experience working with people with TBI in the previous year.

There were 68 speech pathologists who were recruited and completed the survey. Figure 1 shows the participant flow from commencement of the survey to the final sample. Ten participants who did not complete the demographic survey data were excluded. However, we included data from three participants who did complete the demographics and further questions but then withdrew. Three participants discontinued after question nine.

The demographic profile of speech pathologists who completed the survey is outlined in Table 1. There were 32 participants (47.06%) who indicated that they worked predominately with people who had sustained a TBI and 36/68 (52.94%) did not work predominately in the area of TBI, but had some contact with people who had sustained a TBI. The average number of years of experience working with people with TBI was 6.31 years (SD = 22.45; Median = 3.38 years; Range = 1–22 years).

Survey instrument (Appendix 1)

An online, self-administered survey was developed, using Survey Monkey (Survey Monkey Inc. 2015) (17,19). To enhance content validity the survey questions were developed based on a review of literature surrounding TBI and barriers to service delivery in conjunction with expert clinical opinion from the author team in consultation with expert clinicians (20).

The survey contained 37 questions including 27 closed items ad 10 open-ended questions and took approximately 15 to 20 minutes to complete. The survey questions covered four domains (a) demographics (Q1-7), (b) current work practices surrounding friendship (Q8-33), (c) barriers to working with friends (Q34-36) and (d) speech pathologists' perceptions surrounding the success of friendships (Q37).

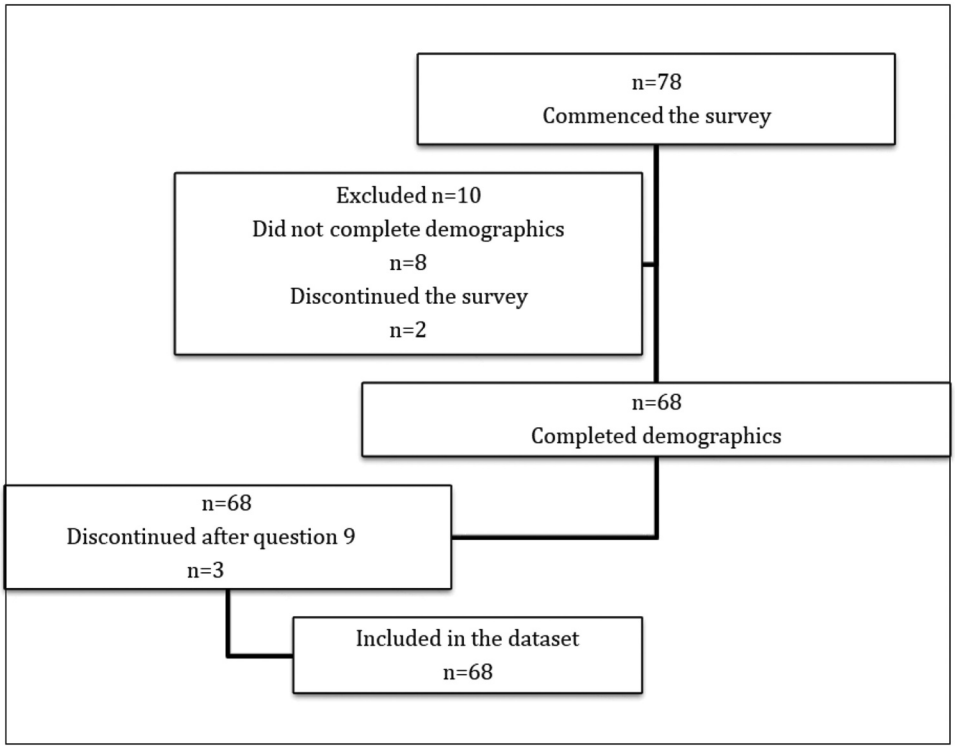

Figure 1. Flow diagram depicting participant flow from commencement of the survey to final sample.

Table 1. Demographic characteristics of speech pathologists.

Demographic characteristics	N	%
Years of experience as a speech pathologist		
<2 years	7	10.29
2–5 years	15	22.06
5–10 years	24	35.29
>10 years	22	32.35
Stage of client care*		
Acute	17	25.00
Sub-acute	28	41.18
Community	30	44.12
Long term follow up	12	17.65
Combination	9	13.85
State*		
New South Wales	34	50.00
Victoria	9	13.24
Queensland	12	17.65
Tasmania	2	2.64
South Australia	6	8.82
Western Australia	7	10.29
Australian Capital Territory	0	0.00
Northern Territory	0	0.00
Practicing outside of Australia in the past	6	8.82
Region*		
Metropolitan	51	75.00
Regional	17	25.00
Rural	5	7.35
Remote	1	1.47
Sector*		
Public	51	75.00
Private	14	20.59
Non-government organization	5	7.35
Charity	2	2.94

*Participants could choose more than one option if they worked across multiple settings.

The survey was piloted with five rehabilitation clinicians with specialist knowledge in TBI (21), as well as two members of the research team. Feedback from the pilot study was collected surrounding the question order, structure and clarity of the questions, time taken to complete the survey and its visual design. Modification was made to the survey based on feedback, largely to refine the wording and ordering of questions as well as reduce the number of items or utilize filter questions (22).

Recruitment and data collection

Invitations to participate were distributed via the Speech Pathology Brain Injury Interest Group (SPBIIG) and the Adult Neurogenic Communication Interest Group (ANCIG). Additionally, information was sent via speech pathology e-mail chats (SPECS), consisting of an international group of speech pathologists who work with an adult caseload. Finally, the survey was advertised in the national professional association's Speech Pathology Australia National e-news. Follow up reminder e-mails were sent three months after initial distribution of the survey (21) and the survey was closed five months after distribution. A snowball sampling methodology was also used (23) to maximize participant recruitment.

Data analysis

The data were downloaded from Survey Monkey ('Survey Monkey Inc.' 2015) into a Microsoft Excel spreadsheet. Data were initially screened for incomplete or duplicate responses.

A mixed methods approach was used when analyzing the data (24). Descriptive statistics such as frequency counts, percentages distributions, means, medians, ranges and standard deviations were used to describe quantitative data (25). Inductive content analysis was used to analyze data collected from open questions (26). For the qualitative component, data

were analyzed at the level of sentences to avoid fragmenting the data, as the amount of information that each participant provided was minimal. Sentences were coded into categories. At this point, similar categories were re-grouped under headings. Each category was named using content-characteristic words (26). Given the level of analysis required for the small amount of qualitative data obtained in this study, consensus ratings were completed between the student researcher and one other researcher.

The process described above was also used to analyze qualitative data relevant to the question relating to factors that may be associated with successful friendships post TBI; however, there was limited saturation of data, with a wide variety of responses. To assist with analysis and organization of data a post hoc application of the ICF was used when considering the data relevant to this specific question.

Results

What are the current work practices with friendships following TBI?

There were 27/68 (39.71%) participants have had established work practices surrounding friendship, however 41/68 (60.29%) of participants have not. The following information was informed by the 27 participants who reported that they did work with friends. Later results are focused on questions that did not pertain to current practices and therefore consider all 68 participants. Participants who reported raising friendships more frequently in initial interviews were more likely to have subsequent work practices surrounding friendships.

When asked about how often friendship issues were discussed in initial interviews, the majority of the participants (38/65, 58.46%) raised friendship with people with TBI less than 25% of the time. Of 31 participants (47.96%), 65 indicated that friendship was raised by a combination of people including the client, their family, friends or clinicians, while a smaller number of participants indicated that friendship was raised by clinicians (18/65, 27.96%), people with TBI (7/65 10.77%) or their family (6/65 9.23%). No participants indicated that friends raised this information.

When asked whether participants have spoken to friends about changes to the friendship post TBI, 17/27 (62.96%) participants have spoken to friends, while 10/27 (37.04%) have not. Those participants that had spoken with friends were asked to describe these experiences and 14/27 participants responded. The responses indicated that talking to friends about changes to the friendship was easy, effective and positive. For example, one participant stated that it was 'easy to do and an effective tool in facilitating integration.'

In terms of how participants interacted with the multidisciplinary team when involving friends, 14/24, (58.33%) participants involved multidisciplinary team members and 10/24 (41.67%) did not. In relation to which multidisciplinary team members speech pathologists collaborated with on friendship, the most common team member involved was occupational therapists (OT) (11/14, 78.57%). Thereafter, 8/14 worked with neuropsychologists and recreation therapists. The team members who speech pathologists worked with the least were physiotherapists. On most occasions participants worked with multiple team members.

When asked about the purpose of their practice with other multidisciplinary team members, the 14 participants who worked with other team members indicated that they did so for two main purposes, to educate friends, for example, '*education about TBI and how to assist clients,*' and for clinical problem solving when working in the area of friendships, for example, '*problem solving behind the scenes with tricky cases.*' Note that 27 participants responded to all questions relating to current practices with friends. Three participants discontinued during this set of questions. Therefore, data pertaining to later questions only included 24 participants.

Participants were provided with a forced choice of whether they worked either directly or indirectly with friends. Work was considered direct if it involved the friend, whereas work that was specifically related to the area of friendship but did not utilize the friend directly was considered indirect. 26/27 (96.30%) completed at least one or more aspects of direct work with friends and 24/24 (100%) completed some form of indirect work. Table 2 shows both direct and indirect work tasks that participants could select, as well as the number and percentage that selected each option.

More participants provided friends with education in comparison to training, (23 vs 17, respectively). Information that was provided to friends during education sessions covered communication impairments (23/23, 100%), general information about TBI (18/23, 78.26%), tasks that the person with TBI may find difficult (16/23, 69.57%) and cognitive impairments (15/23, 65.22%).

Table 2. Direct and indirect work conducted with friends.

Work tasks		%
Indirect	N = 24	
Providing functional examples of the way that therapy tasks relate to improving friendships	20	74.01
Assisting the person with TBI to plan contact with friends	18	66.67
Recommending activities that may assist with building new friendships	18	66.67
Providing education to families about how to facilitate friendships	17	62.96
Educating the person with TBI about the importance of maintaining friendships	15	55.56
Direct	N = 27	
Involving friends in therapy e.g. using the friend as a communication partner and providing feedback to the person with TBI	15	55.56
Allowing friends to observe treatment	14	51.85
Involve friends in interviews to gain a better understanding of how the person with TBI functioned pre-injury	13	48.15
Incorporating friends into assessment	12	44.44
Encouraging friends to take the role of a friend, rather than taking an active role in rehab	12	44.44
Helping to establish particular activities or roles that a friend could do with a person with a TBI	12	44.44
Asking friends to be involved in treatment related activities, such as participating in a task that involves the person with TBI practicing strategies	11	40.74
Establishing or facilitating peer support groups, where the focus is for people with TBI and their families or friends to meet regularly to offer support	11	40.74
Establishing groups where the content of the group has focused on encouraging the development of new friendships within the group	7	25.93

Training covered compensation for impairments (16/17, 94.12%), teaching friends to use strategies themselves (13/17, 76.74%), assisting the person with TBI to return to the community (12/17, 70.59%) and assisting with therapy practice (10/17, 58.82%).

Participants were asked whether they conducted planned or spontaneous training and education and whether this occurred in one off sessions or across a series of sessions. When providing training and education most participants used a combination of sessions that were pre-arranged with the friends, as well as those that occurred spontaneously when the friend was present. Similarly, participants used a combination of both one-off sessions, as well as a series of sessions to provide training and education.

In exploring the percentage of their time participants spent targeting friendships. There were no participants that spent more than 75% of their time targeting friendships. 15/24 (62.5%) spent less than 25% of their time targeting friendships, 3/24 (12.5%) spent between 25-50% of their time and 6/24 (25.0%) spent between 50-75% of their time targeting friendships.

Why do speech pathologists work on developing and maintaining friendships?

Participants were asked about their rationale for working on friendships, to explain what drives their current practices surrounding friendship. The most commonly cited reason was to prevent negative psychosocial outcomes in persons with TBI. Participants discussed issues that can arise secondary to sequelae of TBI. These included social isolation, problems with mental health, reduced motivation and reduced quality of life. This finding is highlighted when participants stated, 'to improve quality of life through encouraging meaningful interactions with their peers' and 'friends are important for anyone's life and mental health.'

As well as working with friends to prevent secondary problems, participants also indicated that working on friendships may have benefits in therapy, whereby involving friends could contribute to therapy. Participants reported that working with friends provides functional contexts to target goals surrounding social skills and may assist with generalization of these skills. Evidence of this is found in this particular quote, 'rehab is everyday life … so we need everyday people involved supporting and facilitating in everyday context; they provide real world opportunities for experience, practice and feedback.'

When asked about whether participants believed that this focus was within a speech pathologist's scope of practice to directly work on friendships, a majority of participants 55/65 (84.62%) responded affirmatively. Participants reported that friends are important communication partners. One participant indicated this by identifying that 'goals focusing on social-communication involve the clients' developing/maintaining relationships with friends and family.' Participants also emphasized the need for people with TBI to practice in a functional context and provide communication opportunities. This real-life focus also assists with the transition back to the community, for example, because 'communication and friendships are inter-related … As a speech pathologist, we look at patients holistically and how communication can impact their quality of life. Social interactions are a major component of many peoples' quality of life, and is dependent on successful communication.'

What are the barriers to working on friendships and what factors could assist work with friends?

All participants were asked whether they have faced barriers that have affected or prevented their work with friends. Participants were provided with 13 options to select from. Table 3 shows which barriers participants commonly identified. Participants were able to select multiple options. Participants were also able to comment on other barriers that have affected or prevented work with friendship. Out of 65 participants, 11 provided other comments and 6/17 participants who work in an acute setting indicated that working in an acute setting itself was a barrier.

What factors contribute to successful friendships post TBI from the perspective of speech pathologists?

All participants were asked to provide an open response to a question surrounding the factors that are associated with maintaining successful friendships in the absence of intervention. The following results were based on responses to a qualitative question. Factors associated with successful maintenance of friendship can be classified using the ICF (27). The responses that speech pathologists provided in this question mapped to the ICF, providing a framework by which to report on. Body structures and functions, activities and participation

Table 3. Barriers that have affected or prevented work with friends in descending order and strategies that respondents considered may support work with friends.

Barrier	No. of participants who selected this barrier N = 65	Percentage
Inability to access friends	50	76.92
Time constraints	35	53.85
Suitability of pre-injury friends	31	47.69
Client choosing not to involve friends	30	46.15
Reduced social network pre-injury	20	30.77
Conflict with family	22	33.85
I haven't considered working with friends	13	20.00
Environmental e.g. office space	12	18.46
Not knowing what to do with friends	11	16.92
Culturally and linguistically diverse backgrounds	9	13.85
Policies, procedures or workplace practices	7	10.77
Not feeling comfortable working with friends	6	9.23
Reduced support from colleagues	2	3.08
Strategy that would have supported work with friends		
Greater access to friends	54	83.08
More time to organize sessions with friends	43	66.15
More knowledge via resources e.g. training manuals	42	64.62
More knowledge via research	39	60.00
Person with TBI had a more appropriate social network	21	32.31
Greater access to technology	21	32.31
Person with TBI having a larger social network	15	23.08
Families were less protective of client	15	23.08

and environmental and personal factors were all considered to be important in the maintenance of friendship post TBI. A post hoc application of the ICF was therefore used to analyze the responses.

Body functions and structures

Body functions and structures are considered to be the physiological aspects of the body system and anatomical support (27). Participants indicated that the presence and severity of changes to the body functions and structures would affect the success of a friendship. More specifically, the less severe the changes following a TBI, the more likely that the friendship will be successfully maintained.

Activities and participation

Activities and participation are defined as actions or tasks executed by individuals and their involvement in life situations (27). The only activity that participants highlighted as being crucial for successful maintenance of friendships is the ability to communicate successfully and participate in meaningful interactions. Participants identified broader life situations that may be beneficial to maintaining friendships. Some of these included the person with TBI being able to return to meaningful activities that they participated in with their friend pre-injury. Participants highlighted the importance of both the person with TBI and their friend getting enjoyment from the activities that they participate in together. This can be shown through the following excerpts from participants, 'both the person with TBI and friend enjoying contact with each other and can achieve successful and positive communication with one another' and 'The ability to return to physical activities (E.g. cricket club, school, university, bridge).'

Environmental and personal factors

Environmental facilitators encompasses the physical, social and attitudinal environment that can affect a person's functioning (27). Participants considered modifying the environment to provide support for the person with TBI to be important. The environment could be modified by providing education to friends to manage changes to the person's body functions and structures, for example, 'I think people need to know they are invited in from the outset – easier to maintain connections that way . . . ' and having family involved to be able to support the friendship, for example, 'family recognition of the importance of friendships.'

Participants identified two environmental barriers to the successful maintenance of friendships. These included financial hardship and a long length of stay in hospital. These ideas are demonstrated through the following quotes. 'Time spent on rehab – when clients are in rehab units for a long time, especially when the units are not in their own town, this makes it hard for friends to visit regularly and maintain bonds and shared experiences.'

Personal factors that were identified by participants included particular qualities or personality traits of the friends, demonstrated in these quotes: 'true loyalty from friends' and 'supportive friends.' Older friends, longer friendships and female friends were perceived to be more likely to maintain a friendship. Participants also discussed the importance of the person with TBI and the friend being close pre-injury, for example, 'very close relationship prior to injury, resulting in frequent contact post injury.'

Discussion

This study investigated the current practices of speech pathologists when working on the area of friendships following TBI, the reasons that drive speech pathologists to conduct this work, the barriers they face and the factors that they perceive to contribute to a successful friendship post TBI.

Currently, less speech pathologists work on the area of friendship than those that do. Some speech pathologists indicated that friendships are raised in initial interviews. This is raised by a combination of people, including family members, the person with TBI, friends and clinicians. Nonetheless, most participants raise friendship less than 25% of the time themselves. Of those speech pathologists that do work on friendship, the overwhelming majority spend less than 25% of their time doing so. Considering these current practices, it may be, that friendship is an area where limited practice occurs with clients following a TBI. This is not dissimilar to other clinicians who work with similar clinical populations such as aphasia. Rose and Ferguson (28) surveyed speech pathologists about practices in aphasia rehabilitation. They also found that less education was conducted with friends in comparison to family. Clinicians reported low levels of use and confidence around conducting communication partner training (28).

More speech pathologists worked on friendships in conjunction with one or more multidisciplinary team member, but most commonly the OT. There is evidence in stroke rehabilitation that there is significant overlap in the role of speech pathologists and OTs (29). Therefore, it is not surprising that they work closely within the area of friendships. The purpose of this was to provide holistic education to friends and engage in clinical problem solving with other team members surrounding the area of friendship.

There are barriers to conducting work surrounding friendship. Time constraints were the most commonly selected barrier to conducting work with friends. This barrier is common across other studies that investigate barriers to clinical practices (30,31). Other barriers to conducting work with friends included inability to access friends, suitability of pre-injury friends and the client choosing not to involve friends. Similarly, Rose and Ferguson (28) found that opportunities for functional therapy and communication partner training was limited, particularly in the acute phase of rehabilitation, as the family or patients were not ready for this type of approach. Foster, O'Halloran (31) added to this indicating that professional tension existed in regards to the treatment of communication impairments following aphasia in the acute setting secondary to competing priorities.

After considering the reasons that speech pathologists believe that friendships succeed following TBI in the context of the ICF (27) it is evident that the factors that may contribute to a successful friendship are dynamic. That is, it is unknown

which factors contribute more heavily or which combination of factors may lead to better or poorer outcomes. At this point, all components of the ICF may affect a persons' likelihood of maintaining or developing friendships. In addition, friendships, even ones without the complexity of one person who has sustained a TBI are extremely diverse and unique. There is no measure of what constitutes a successful friendship. As what may be considered successful to one person may not be considered as successful to another. These results may be influenced, as the majority of the participants were likely woman, who place some value on communication. This may have influenced what they deemed a successful friendship to look like.

Clinical implications

It appears that there is scope to enhance the current practices surrounding the development and maintenance of friendship post TBI. Both groups of speech pathologists, those who did identify that they worked on friendship as well as those who did not, considered it within their scope of practice. They provided numerous reasons for this belief, including, the value of friends as important communication partners, the necessity of appropriate communication and cognitive abilities to be able to participate in a friendship and the high risk of social isolation in this clinical population. These ideas were further reinforced by the rationales for working on friendships, such as the involvement of friends may prevent psychosocial issues and involving friends will provide therapeutic benefits, for example, increased practice opportunities in functional contexts. These rationales were provided by speech pathologists who identified that they did work with friends. Given that conducting friendship work is viewed positively by speech pathologists, perhaps there is further scope to enhance clinical practices.

As previously mentioned in the results section, the speech pathologists who indicated that they believed that work surrounding friendships was not within their scope of practice also reported that they believed that working on communication and social skills was within scope and gains in these areas could lead to improvements in the area of friendship. This highlights a reasonable question as to whether the broad area of friendship falls into the realm of one specific discipline or should be shared amongst the allied health and medical disciplines. In response to the question surrounding the involvement of other team members most participants indicated that they did involve other team members. With this in mind, positive outcomes surrounding friendship are the responsibility of the entire multidisciplinary team, rather than solely speech pathologists. Other research demonstrates the benefits and importance of interdisciplinary practice in complex areas of practice like neurorehabilitation. In the area of stroke care, a multidisciplinary team has been deemed beneficial in improving recovery along the continuum of care (32).

Time constraints were raised as a barrier to conducting work with friends. Perhaps raising the topic of friendships and the changes that may have occurred to the person's social network could be a time efficient way of beginning to consider friendship as part of rehabilitation. It may be extremely challenging for clinicians working in the acute care setting to justify spending time working directly with friends. However, simply raising the topic of friendship with family or visiting friends may initiate the consideration of the role that friends may play throughout the recovery journey. Further to this, more of those participants who raised friendship during initial interviews went on to work with friends.

Education was conducted with friends more than training. It may be that conducting training with friends, in conjunction with education could lead to better outcomes, particularly in the area of communication. It would seem that the ability to communicate would be essential for the development or maintenance of a friendship. Therefore, given that positive outcomes were shown by Rietdijk and McDonald (15) when conducting communication partner training, it would seem that conducting communication partner training with friends may improve the communication between the person with TBI and their friend. Hence, strengthening one area of impairment following TBI that makes sustainability of friendships vulnerable. It is likely that the communication style, the amount of communication and the frequency of interactions varies between friends and is also dependent on the context and origin of the friendship. It would be important to consider these factors, as they should influence the individualized training that would be conducted with communication partners.

Speech pathologists are already attempting to work flexibly to meet needs. That is, in terms of how education has been conducted, speech pathologists currently engage friends across multiple sessions, as well as one-off sessions. These sessions have also been planned and scheduled, as well as unplanned and spontaneous. Currently, it appears that training and education can be provided flexibly. This is useful, given that two of the barriers selected by most speech pathologists who participated in the survey were time constraints and access to friends. Therefore, if education and training can be provided with flexibility and can be adaptable, it may be more likely to overcome these barriers, rather than feed into them. Perhaps if health-care organizations could also adapt to provide flexible working arrangements, clinicians may be even more inclined to work outside of typical working hours to enable contact with friends. This is important, as the sociological perspective has highlighted that rarely are friends relied upon to the same extent as family. As well as this, people do not typically have the same expectations that friends would support recovery through participation in rehabilitation, as family members may. Therefore, patients may feel more open to involving friends, knowing that they are inconveniencing their friends as little as possible.

Considering the barrier surrounding the suitability of pre-injury friends. It is important for speech pathologists to be guided by the person with TBI about whether they deem their pre-injury friends suitable to work with. This will reduce the likelihood that speech pathologists' own values and perceptions don't impede a persons' opportunity to reengage with pre-injury friends. As previously mentioned it is worth considering that the participants in this sample could share similar demographics and gender which may also have an influence on their perception of a suitable friend. Finally, in reference to the client not choosing to involve friends, discussions focused

around the persons' values may assist the clinician to understand the reason behind the person not choosing to include their friends. Then, this underlying concern could be addressed.

This study establishes current practices in the discipline of speech pathology surrounding the area of friendship. This information provides a foundation to build upon in the future, pinpointing current practices and consequently highlighting practice gaps. Understanding the key barriers and facilitators to working with friends can help us understand how to reduce issues with translation of evidence to practice or provide expert opinion of speech pathologists on what helps and hinders clinical practice in the area of friendship. Nonetheless, merely identifying current practices does not necessarily assure that these practices are what required and beneficial in addressing social isolation secondary to the reduction and changes that occur in friendships post TBI.

Future directions

These findings highlight that the inclusion of specific assessment tasks may enhance a clinician's understanding of how the person with TBI is able to maintain their friendships. In the first instance, it is encouraging that those clinicians who indicated that they asked about friendship in the survey often went on to work with friends. By asking about friendships in initial interviews it may be that this encourages ongoing work with friends.

This research could assist with supporting speech pathologists to enhance their work with friends; however, further work needs to be conducted to build upon these findings. One practical way of providing this support could be to use the option responses provided in the survey to develop a checklist, which could provide practical ways that clinicians could work with friends following TBI. Particularly the options provided in the questions pertaining to direct and indirect work, as well as education and training.

This study has considered a current reality for speech pathologists. The results may be used as a framework that could be built upon in future research. More specifically, these findings provide a baseline regarding some clinical practices and attitudes of speech pathologists in reference to their work with friends. This baseline information could enable the potential evaluation of the effects on work surrounding friendship if a specific intervention program is introduced or further guidance was provided by additional research in the area. The knowledge about barriers and facilitators surrounding work in the area of friendship may also provide some insight into issues that may affect uptake or implementation of such research. An awareness of these barriers may enable other researchers to consider these when developing possible programs that could be conducted with friends.

Future research should consider the roles of the multidisciplinary team when conducting work surrounding friendship. The area of friendship is the responsibility of the entire team. While speech pathologists have shown that they do provide specialist knowledge and skills in education and training on how cognition and communication may affect a friendship, there are other impairments, such as mood and physical impairments that also affect friendships. It is more suitable for other professionals to focus on these domains.

Limitations

The survey may not have reached all speech pathologists that worked with TBI. Further to this, only speech pathologists that were interested would have chosen to participate. Both these sampling factors may have affected the generalizability of the results, particularly if response was biased toward those that did have an interest in conducting work with friends.

The survey does not reveal in-depth results, as most questions were closed questions and those questions that were open did not require lengthy responses. However, the responses from open questions were analyzed using qualitative methodology.

It has also been established that the multidisciplinary team is likely required to achieve overall gains in the area of friendship, in contrast to speech pathologists predominately contributing to gains in the area of communication only. Further research may like to consider the roles of multidisciplinary team members when working on friendship.

Conclusion

This study investigated the current practices and barriers faced by Australian speech pathologists when working on friendships following TBI, as well as the reasons that speech pathologists work with friends and the factors that may contribute to successful friendships post TBI according to speech pathologists. This study revealed that less speech pathologists conduct work surrounding friendship than those that do. Of those that do conduct work with friends, both direct and indirect work is conducted. More speech pathologists conduct education in comparison to training. There are barriers that affect the work that is and could be conducted. Overall speech pathologists view working on friendship as positive and beneficial. Factors that contribute to developing and maintaining friendships are diverse and dynamic.

Declarations of Interest

The authors report no declarations of interest.

ORCID

Emma Power http://orcid.org/0000-0002-2638-0406
Jacinta Douglas http://orcid.org/0000-0003-0940-6624
Leanne Togher http://orcid.org/0000-0002-4518-6748

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Appendix 1. Survey Instrument

***1. Do you work predominately with people who have had a traumatic brain injury (TBI)?**

o Yes
o No

***2. How many years have you worked as a Speech Pathologist?**

o Less than 2 years
o 25 years
o 510 years
o 10 or more years

***3. How many years have you worked with a TBI caseload?**

***4. At what stage of rehabilitation have you predominately worked?**

□ Acute
□ Sub acute
□ Community
□ Long term follow up for maintenance
□ Combination of all of the above
Other (please specify)

***5. What states or territories have you spent most of your time working with people with TBI?**

□ NSW
□ Victoria
□ Queensland
□ Tasmania
□ South Australia
□ Western Australia
□ ACT
□ Northern Territory
□ Other

***6. What setting have you spent most of your time working with people with TBI?**

□ Metropolitan
□ Regional
□ Rural
□ Remote
***7. What sector have you spent most of your time working with people with TBI**
□ Public
□ Private
□ Nongoverment organization
□ Charity organization
*8. **Have you conducted work surrounding friendship post TBI?**
o Yes
o No
***9. What has your direct contact with friends involved**
□ Assessment incorporating friends, e.g. discourse assessment
□ Interviewing friends to better understand preinjury traits
□ Allowing friends to observe treatment
□ Asking the friend to be involved in treatment-related activities, e.g. participate in a therapy task practising circumlocution
□Therapy involving friends, e.g. providing feedback when the person with TBI is talking with their friend
□ Encouraging friends to be friends, rather than asking them to take an active role in recovery
□ Help establish particular activities or roles that a friend will do with the person with a TBI
□ Establishing groups with the content of the group focused on encouraging development of new friendships within the group
□Establishing or facilitating peer support groups, where main focus is for people with TBI and families or friends to meet regularly to offer one another support
□ I haven't worked directly with friends
Other (please specify)
***10. Have you provided friends with information?**
o Yes
o No
***11. What information have you provided to friends?**
□ General information on TBI, e.g.causes, statistics, prognosis
□ Information on communication impairments
□ Information on cognitive impairments
□ Information on therapy progress
□ Information on prognosis
□ Information on tasks or activities the person with TBI may find difficult
Other (please specify)
***12. Did you provide information as a**
O A one off session
O A series of sessions
O Both
***13. When you provided information it was**
O Planned, e.g. you phoned ahead and made an appointment with the friend
O Unplanned and due to circumstance, e.g. a friend was visiting and asked if they could attend the session
O Both
***14. Have you provided training to friends? E.g. opportunities to practice communication strategies with the friend**
o Yes
o No
***15. What has your intervention with friends covered?**
□ Training of the friend to assist with completing therapy practice, e.g. assisting the person with TBI to keep notes in a diary
□ Training the friend to compensate for communication problems, e.g. asking the friend to talk to the person with TBI in a quiet environment to reduce distractions
□ Training the friend to assist the person with TBI to return to the community, e.g. training the friend about appropriate environments to take the person with TBI
□ Teaching the friend to use strategies, e.g. teaching the friend to use less testing questions
Other (please specify)
***16. Did intervention take place across**
O A one off session
O A series of sessions
O Both
***17. Was intervention**
O Planned, e.g. you phoned the friend to schedule an appointment
O Unplanned and due to circumstance, e.g. the friend was visiting, so you provided some intervention while they were there
O Both
***18. Have you spoken to friends about the changes to the friendship post TBI?**
o Yes
o No
***19. Describe your experience of talking to the friend about this**
***20. What indirect work have you completed where the outcome is improving friendships?**
□ Education of families surrounding how to facilitate friendships
□ Assisting the person with TBI to plan contact with friends
□ Educating the person with TBI about the importance of maintaining friendships
□Providing functional examples of how therapy tasks relate to improving friendships, e.g. role playing dialogue that a person with TBI may have with a friend
□ Recommending activities that may help to build new friendships
Other (please specify)
***21. What resources have you used to assist your work with friends, e.g. a communication partners training manual such as TBI Express or worksheets from manuals targeting cognition to develop ideas for what to do with friends?**
***22. Has your focus been on**
O Developing new friendships
O Maintaining preinjury friendships
O Both
***23. What is your rationale for targeting friendships?**
***24. What Speech Pathology specific goals were achieved by working with friends?**
E.g. For the person with TBI to remain on topic when talking with their friends
***25. Have you worked with friends with another member of the multidisciplinary team?**
o Yes
o No
***26. Which member of the team and what did you work on?**
Occupational Therapy
Physiotherapy
Clinical Psychology
Neuropsychology
Rehabilitation Psychology
Recreational therapy/Diversional Therapy
Social Worker
Case Manager
***27. What percentage of your clinical time is spent targeting the quality or quantity of friendships?**
O Less than 25%
O 2550%
O 5075%
O 75100%
***28. What advantages does working with friends offer you?**
***29. What disadvantages affect you when working with friends?**
***30. Do you think it is within Speech Pathologist's scope of practice to directly target the improvement of the quality of friendships?**
O Yes
O No
***31. Why do you feel this way?**
***32. During your initial interviews with clients how often are friendship issues discussed? e.g. feeling lonely, changes to friendships**
O Less than 25%
O 2550%
O 5075%

O 75100%

***33. Are these raised predominately by**

O Yourself
O Person with TBI
O Friends
O Family
O Combination
O None

***34. What barriers have you faced that has affected or prevented your work with friends?**

□ I haven't considered working with friends
□ Not feeling comfortable working with friends
□ Conflict with family, e.g. family reluctance for friends to be involved
□ Suitability of preinjury friends
□ Reduced support from colleagues
□ Policies, procedures or workplace practices
□ Reduced social network preinjury
□ Client choosing not to involve friends
□ Time constraints, e.g. due to time constraints it is not achievable to work with family and friends
□ Culturally and linguistically diverse backgrounds
□ Inability to access friends, e.g. friends come to visit after hours, friends live far away
□ Not knowing what to do with friends
□ Environmental, e.g. office space, inability to access transport to visit friends offsite

Other (please specify)

***35. Do you feel that there is sufficient research/evidence base to assist you to determine what to do with friends or how to target friendships?**

O Yes
O No
O I don't know

***36. What would have helped you to work with friends?**

□ Greater accessibility to friends, e.g. friends being more available
□ If the person with TBI had a larger social network
□ If the person had a more appropriate social network
□ If families were less protective of the person with TBI
□ More knowledge of what to do with friends via research
□ More knowledge of what to do with friends via resources, such as training manuals
□ Access to technology such as social networking sites
□ More time to be able to logistically organize sessions with friends
□ None of the above

Other (please specify)

***37. In people who do not receive any intervention targeting friendships, what do you think are the factors associated with the successful maintenance of their friendships?**

Thank you for participating in this survey