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Brain injury family intervention for adolescents: A solution-focused approach

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Abstract.
BACKGROUND: Strengths-based approaches are increasingly utilized in health care, but little is known about their practical application in rehabilitation with families after pediatric acquired brain injury (ABI).
OBJECTIVE: To describe a strengths-based model, Solution-Focused Brief Therapy (SFBT) and its clinical application to family intervention for adolescents with ABI.
METHODS: A literature review highlights a growing movement towards resilience and strengths-based approaches to family intervention after pediatric ABI. The authors introduce the assumptions, tenets, and clinical application of SFBT, which is a competency-based and resource-based model that focuses on family strengths and successes. A direct comparison is made between the traditional medical model and the solution-focused paradigm.
RESULTS: Key elements of SFBT are described, including specific strategies, techniques, and its clinical application in the Brain Injury Family Intervention for Adolescents (BIFI-A). The BIFI-A, designed for adolescents with ABI and their families, is a 12-session manualized intervention that encompasses education about ABI, skill building, and emotional support.
CONCLUSIONS: Given the increased interest for research regarding strengths-based approaches in pediatric rehabilitation, the utilization of SFBT with families of adolescents with ABI warrants further attention and investigation. The BIFI-A, with its underpinnings of SFBT, is a promising new family system intervention that also merits further research.

Keywords: Family, brain injuries, adolescent, family therapy, strengths-based family interventions, solution-focused therapy, rehabilitation

1. Introduction

Strengths-based approaches are increasingly utilized in health disciplines such as nursing (Gottlieb & Gottlieb, 2013), physiotherapy and occupational therapy (Baldwin et al., 2013), psychology (Seligman, Steen, Park, & Peterson, 2005), speech-language pathology (Holland, 2007), social work (Franklin, 2015), and family therapy (de Shazer et al., 1986). Moreover, there is a growing body of research on resilience and strengths-based approaches, which have found considerable application in the childhood disability literature (Rolland & Walsh, 2006; Pless et al., 1994; Spina, Ziviani, & Nixon, 2005; Walsh, 2006).

Although the medical model has long been the traditional paradigm underlying rehabilitation programs, there is merit in considering the benefits of a strengths-based approach that: (a) focuses on strengths versus deficits, (b) is collaborative versus hierarchical, (c) builds on resources versus expert opinion, (d) focuses on solutions and competencies versus what needs to be fixed, and (e) focuses on what is working versus what is not. Research has found that strengths-based approaches contribute to a sense of personal empowerment and greater life satisfaction (Hanks, Rapport, Waldron-Perrine, & Millis, 2014), are protective of physical and mental health (Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000), reduce or prevent psychosocial maladjustment in children with chronic physical disorders (Pless et al., 1994),

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create a climate of optimism, hope, and possibility (Hopps, Pinderhughes & Shankar, 1995), are associated with academic success, self-determination and life satisfaction (Park & Peterson, 2006), contribute to satisfying relationships with family members and peers (Gingerich, Kim, & MacDonald, 2012), and enhance one's ability to deal with adversity and stress (Gingerich et al., 2012; Taylor et al., 2000).

The benefits of adopting a strengths-based approach are also increasingly supported in the field of pediatric acquired brain injury (ABI) (Gan, De Pompei, & Lash, 2012; Gauvin-LePage, Lefebvre, & Malo, 2015; Spina, et al., 2005) and adult ABI (Godwin & Kreutzer, 2013; Simpson & Jones, 2012; Stesjkal, 2012). The strengths-based orientation fundamentally alters the traditional medical model of viewing people and families as damaged and in need of fixing, to seeing them as challenged with potential for healing and growth. Those who embrace a strengths-based perspective hold the belief that individuals and families have strengths, resources and the ability to recover from adversity. A strengths-based paradigm allows one to see opportunities, possibilities, and hope for the future in spite of life with an ABI from which there often is no cure.

The literature on families of children with ABI is still predominantly 'deficit' focused. There is a large body of research on family burden and psychological distress after pediatric brain injury (Aitken et al., 2009; Anderson et al., 2005; Rivara et al., 1996; Savage et al., 2005; Taylor et al., 2001). Stress and burden among families have often been identified with concerns around the child's behavioral adjustment and future potential (Anderson et al., 2005; Rivara et al., 1996), increased marital stress and deteriorating family functioning (Taylor et al., 2001; Rivara et al., 1996), and sibling stress and negativity (McMahon et al., 2001; Sambuco, Brooks, & Lah, 2008; Savage et al., 2005). Although this literature has helped clinicians to understand the challenges facing families after a child sustains an ABI, there is increasing interest in shifting the focus towards family strengths, resources, possibilities, and competencies.

This paper adds to the emerging body of literature on strengths-based approaches in brain injury populations by describing the strengths-based model, Solution-Focused Brief Therapy (SFBT), and its clinical application to families of adolescents with ABI. Apart from a few papers that support the use of a SFBT framework in brain injury (Gan et al., 2010; Gan, Gargaro, Kreutzer, Boschen & Wright, 2012; Stesjkal, 2012), practical guidelines around its use with families after ABI are lacking. Moreover, details around the assumptions and tenets of SFBT and how they are applied to adolescents with ABI and their families have not been found in the literature. We will advance this knowledge by: (1) introducing the model of SFBT and related outcomes research, (2) outlining the assumptions and tenets of SFBT, and (3) illustrating how specific SFBT strategies and principles are applied in the Brain Injury Family Intervention for Adolescents (BIFI-A) (Gan et al., 2010).

2. What is Solution-Focused Brief Therapy?

Solution-Focused Brief Therapy (SFBT) is an evidence-based psychotherapeutic and family therapy approach (de Shazer et al., 1986). As the name suggests, SFBT is future-oriented, goal-directed, and focuses on solutions, instead of problems and what doesn't work. It is a competency-based and resource-based model, which minimizes emphasis on past failings and problems, and instead focuses on clients' strengths, and previous and future successes. SFBT has been applied across various clinical populations including mental health (Macdonald, 2007; Pichot, 2007), domestic violence (Lee, Sebold, & Uken, 2007), addictions (Berg & Miller, 1992), and the field of sexual abuse (Dolan, 1991). SFBT has been used extensively with children and adolescents (Franklin & Gerlach, 2007; Hackett & Shennan, 2007; Selekman, 1997) with applications in child protection services (Berg, 2000; Turnell, 2007), adolescent chronic illness (Viner, Christie, Taylor, & Hey, 2003), and in pediatric rehabilitation coaching (Baldwin, et al., 2013). SFBT has also been used with families who have a child with intellectual disabilities (Dallos, 2006) and autism (Zhang, Yan & Liu, 2014).

2.1. SFBT outcomes

The results of two meta-analyses (Kim, 2008; Stams, Dekovic, Buist, & de Vries, 2006) and systematic reviews (Gingerich, Kim, & MacDonald, 2012) indicated that SFBT is an effective approach with children, adolescents and adults, with effect sizes similar to other evidence-based approaches, such as cognitive behavioral therapy. Studies comparing the length of treatment found SFBT required fewer sessions (average of 10) than alternative therapies, lending support to the assertion that SFBT is briefer and less costly (Knekt et al., 2008). Other stud-

ies found that positive change occurs sooner when the therapist initiates solution talk as early as possible (Gingerich, deShazer, & Weiner-Davis, 1988). Treatment is also more likely to be continued and completed when solution talk is employed (Shields, Sprenkle & Constantine, 1991).

Although we found no studies on SFBT with ABI populations, there is promising evidence of the effectiveness of SFBT with children. Twelve out of 13 studies employing SFBT to treat children with academic and behavioral problems reported positive clinical changes which were statistically significant (Gingerich & Peterson, 2012).

3. Assumptions of Solution-Focused Brief Therapy

The following assumptions guide the solution-focused approach (Thomas & Nelson, 2007).

- Focusing on resources, competence, and strengths is more helpful than focusing on impairment, disability, and what is wrong or missing. Our job is to create a milieu in which the client's and family's strengths are identified.
- The client's experience is privileged above that of the therapist – the client is the expert on his or her experience and the changes that are desired in their lives. This is contrary to the traditional medical model where it is the expert-therapist's job to tell clients not only what is wrong, but also what they need to do to correct the problem.
- Finding the cause of the problem is not necessary to construct solutions. The therapist's role is not to diagnose and repair, but to identify and amplify potential solutions. Instead of orienting to the past and the cause of the problem, SFBT orients towards focusing on exceptions to the problem, resources for resolving the difficulties, and the strengths that clients bring to solve their situations.
- A focus on possibilities and what is changeable is more helpful than a focus on what is overwhelming and not changeable. Focusing on the adolescent's ABI and all its problems can be overwhelming and discouraging, not just for the adolescent, but also the family. Strengths-based discussions are oriented towards helping the family understand the ABI and exploring different ways to think about it, cope with it, and live a good life in spite of the ABI. We cannot change the reality of the ABI – we can only change how people view it, the way they manage their lives, and the skills they learn to help them move forward and become stronger.
- No problem happens all the time. There are exceptions – that is, times when the problem could have happened but did not – that can be used by the family and clinician to co-construct solutions. People can find very creative ways to accommodate the changes arising from their ABI. Focusing on exceptions to the problem will help to uncover these creative solutions.
- A small change can lead to bigger change. In addition to the 'ripple effect' of beginning change, one assumes that families will create additional changes once the initial change occurs. For example, when the mother makes a small change in how she interacts with her son, the assumption is that the son will also change, prompting others in the family system to change.
- A favourite syllogism of SFBT – '*If it ain't broke, don't fix it! Once you know what works, do more of it! If it doesn't work, then don't do it again – do something different!*' – (Berg & Miller, 1992). Focus on what is working. If it does not work, do something different. People tend to apply old ways of interacting and problem-solving based on their pre-injury experiences. After an ABI, people necessarily have to do something different to accommodate for the challenges that come about with the ABI.

3.1. Tenets of Solution-Focused Therapy

The tenets of the solution-focused paradigm compared to the traditional medical paradigm are compared in Table 1. As illustrated, the solution-focused paradigm orients towards what the client wants to happen in the future, despite the challenges of their ABI.

4. Application of SFBT to the Brain Injury Family Intervention for Adolescents (BIFI-A)

The Brain Injury Family Intervention for Adolescents (BIFI-A) is an empirically-based intervention targeting adolescents with ABI and the family system (Gan et al., 2010). The BIFI-A was adapted from the seminal work of Kreutzer and colleagues (Kreutzer et al., 2009), who developed the evidence-based

Table 1
Comparison of traditional medical paradigm with solution-focused paradigm

Traditional medical paradigm	Solution-focused paradigm
Expert approach – professional defines goals	Client driven – client/family defines goals
Hierarchical approach	Collaborative approach
Client is recipient of care	Client is consumer of services
Focuses on deficits	Focuses on client strengths and resources
Pathology orientation	Non-pathologizing stance
Problem and complaint focused	Solution focused
Focuses on what caused the problem	Focuses on exceptions to the problem
Orients to the past and details of the problem	Orients to the future and client goals
Focuses on failures and what doesn't work	Focuses on successes and what works
Focuses on what is wrong	Uncovers possibilities for the future
Problem dominated	Solution-oriented
Fosters dependence	Promotes competence
Fosters helplessness	Fosters hope

Brain Injury Family Intervention for adults (BIFI). The adaptation, development, and feasibility testing of BIFI-A was informed by an expert panel of clinicians, adolescent consumers and their family members and incorporated principles of SFBT. The construction, development and preliminary evaluation of BIFI-A is described in an earlier paper (Gan et al., 2010). The final version of the BIFI-A is a 12-session manualized intervention that encompasses a broad curriculum of education about ABI, emotional support, and skill building (Gan, Gargaro, & Kreutzer, 2013) (see Table 2).

Specific BIFI-A goals are to:

- Provide information about common symptoms and challenges after brain injury
- Enhance understanding of how the brain injury has affected each member of the family and the family as a whole
- Offer strategies to enable more effective problem-solving and achievement of goals
- Facilitate coping strategies that support the process of emotional recovery
- Instill hope and build resilience by amplifying progress and personal/family strengths
- Foster effective communication skills in order to develop a strong long-term support system
- Provide a foundation of knowledge, strategies, and resources that adolescents and families can build on to live successfully in the community

Table 2
Brain Injury Family Intervention for Adolescents (BIFI-A) curriculum

Session	Module Topics
1	Assessment of changes after brain injury
2	What happens after brain injury
3	Brain injury happens to the whole family
4	Being a teen and achieving independence
5	Emotional and physical recovery
6	Coping with loss and change
7	Managing intense emotions
8	Managing stress and taking care of self
9	Setting S.M.A.R.T. goals and tracking progress
10	Learning patience and solving problems
11	School, transitions, and preparing for adulthood
12	Wrap-up – celebrating successes and accomplishments

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The BIFI-A intervention includes a detailed step-by-step manual, scripted protocol, procedures, and practical guidelines to facilitate effective clinical implementation. The manual includes key activities, ready-to-use handouts, tools and resources for clinicians to apply and replicate (Gan et al., 2013). Family members learn about what happens after ABI, being a teen and achieving independence, school transitions, and preparing for adulthood. Through family discussion (e.g., brain injury happens to the whole family), supportive interventions are incorporated to enhance emotional and physical recovery, coping with loss and change, and managing intense emotions. These are considered core family tasks considered necessary for healthy adaptation to any loss (Walsh & McGoldrick, 1991).

BIFI-A is designed to foster skill building around goal setting, stress management and problem-solving, which are key features of family hardiness (Walsh, 2006). Families are provided with tools to facilitate coping, problem-solving, stress management, and goal setting. Because BIFI-A is an interactive program designed to engage all members of the family system including siblings, families gain

relational resilience by pulling together as a functional unit. Key elements of SFBT are embedded throughout BIFI-A as illustrated below in the next section.

4.1. Employing a positive, collaborative, solution-focused stance

As part of the BIFI-A implementation requirements, clinicians undergo a 2-day workshop where they are introduced to SFBT and ways of incorporating its key elements throughout the entire family intervention. The importance of adopting a positive, hopeful, collaborative, and respectful stance is emphasized throughout the 2-day training. Clinicians learn strategies to effectively engage adolescents and families and ways of optimizing therapeutic alliance with all family members. Although scripting is provided in the BIFI-A manual, one cannot rely solely on scripting when working with families with diverse needs, personalities, and relationships. Therefore, the training provides grounding in engagement skills, alliance formation, and SFBT principles and strategies. Clinicians are provided with tools to enable them to deal with a range of possibilities in family interactions and to accommodate the dynamic nature of family relationships.

4.2. Relationships in SFBT

Berg and Miller (1992) suggest there are three types of client-therapist relationships in SFBT: visitor, complainant, and customer. As therapeutic alliance is the most robust predictor of positive family therapy outcomes (Sprenkle, Davis, & Lebow, 2009), it is important to pay attention to relationship factors and ways of optimizing alliance. Failure to develop an alliance is often attributed to an incorrect approach when engaging clients. For example, adolescents with ABI are typically not customers who see themselves as needing or wanting family intervention. It is often parents or the rehabilitation professionals who are most invested in family intervention for the adolescent. Moreover, there may be issues regarding insight, denial, or defensiveness that contribute to their hesitancy to engage. In SFBT, this type of relationship is characterized as a 'visitor' relationship. People who are visiting often are checking us out. Are we cool? Can we be trusted? Are we going to side with their parents? Is it worthwhile to spend the time to come and meet with us? Visiting relationships call for good hosting rather than a sales pitch around the benefits of intervention. During the assessment, if a family member presents in a visiting relationship, give them room to sit back and listen. Empathize with them about having to attend the session against their wishes. Acknowledge their ambivalence about therapy. Thank them for coming and staying in the session, in spite of their reservations. If you can find out what would make it worthwhile for them to return, the clinician can begin goal-setting around areas of importance. For example, the adolescent's wish may be "to get my parents off my back" or "to have more freedom." The goals of family intervention can then be framed around the priorities that would make it meaningful for the adolescent to return. It may also be helpful to recruit the adolescent as a 'consultant' to the family intervention process. They can offer opinions and ideas around what might help to make parents less protective. This consultant role with the adolescent is embedded throughout BIFI-A. For example, in module 3, adolescents are engaged in role playing the "expert" around parenting, and offer advice to their family around effective ways to parent teens with ABI. Putting the adolescent in the role of expert helps to empower the adolescent and facilitate engagement. It helps to cast the adolescent in a more positive light in the presence of parents.

A person in a complainant position is often the parent who is concerned about the adolescent's behaviors and wants help from the "expert" therapist to "fix" the child. Often complainants do not see themselves as being part of the problem-maintaining interaction patterns, nor do they view themselves as part of the solution (Selekman, 1997; Thomas & Nelson). The best thing to do when a person is complaining is to listen and sympathize. This is not the time to do solution-building until the person is ready to engage in change behavior. In these situations, the parent can be engaged to act as a 'supersleuth', to observe and notice when the adolescent is behaving better. Parents are then encouraged to think about what *they* are doing differently that may be helping with the positive change.

The customer is the person who is most concerned about the changes in the family and is interested in working closely with the therapist to find a solution. The therapist in the customer-type relationship has been 'hired' and the task of solution building can begin. The client is open to new ideas, suggestions, reframes, and encouragement. During the assessment phase, it is important to identify who in the family may be a customer so this person can be recruited to help find solutions. The following questions can be

used in the assessment phase to determine the customer(s) in the family system: "Who in the family is most concerned about finding a solution to this problem? Who next, then who? What difference will it make to each person in the family when the problem is solved?" (Selekman, 1997, page 56).

4.3. Normalizing

Clients can become distressed and consumed by their own thoughts, feelings and behaviors and often lose perspective when they are distressed (De Jong and Berg, 2008). Individuals might think of their problems as unique and beyond the bounds of normality. This is often the case with adolescents with ABI and their family members, who report feelings of isolation and aloneness around their distressing situation. Reframing their problems as common and normal experiences after ABI can help them to view themselves in a less pathologizing and more hopeful way. Statements such as "most people with brain injuries describe the same frustrations as you" can be reassuring and can assist the individual to feel a connection with others who have experienced similar difficulties.

The assessment process in BIFI-A provides family members with an opportunity to identify the personal and family changes experienced since the ABI. These experiences are normalized in the context of what is common after ABI. Throughout the BIFI-A curriculum, clinicians are encouraged to normalize family members' strong emotions (e.g., frustration with life changes, feelings of helplessness, grief and loss, emotional ups and downs).

4.4. Goal setting

A major active ingredient in SFBT is setting measurable and changeable goals (Trepper, McCollum et al., 2012). Well-formed SFBT goals show the following characteristics: (1) are important to the client and perceived by the client as involving their hard work, (2) identify the presence of something desirable rather than the absence of something undesirable (e.g., instead of *I don't want to be angry anymore*, the goal is stated in the positive *I want to get along with my family*), (3) emphasize first steps rather than end points, (4) are small rather than large, (5) are concrete, achievable and measureable, and (6) are realistic, given the life of the client (De Jong & Berg, 2002).

For the BIFI-A, we developed a S.M.A.R.T. goal template to help the adolescent and family identify measurable and changeable goals and to track their progress in the attainment of the goal. S.M.A.R.T. is an acronym for Specific, Measureable, Achievable, Realistic, Timelines.

4.5. Scaling questions

Scaling questions are used to secure a quantitative measurement of the family's presenting problem and where they would like to be on a scale of 1 to 10. Scaling helps to generate hope by rating the range of problem experiences in comparison to dichotomous all or none thinking (Trepper et al., 2012). Scaling questions can also be used to measure family members' confidence in solving their problems. A comparison of each member's ratings can offer an opportunity to explore what makes some member's ratings higher, which could provide a basis for discussion around potential new solutions. In keeping with SFBT scaling practices, we developed a 10-point rating scale for families. Each BIFI-A session starts with each family member's ratings of how things have been in the family on a scale of 1 to 10, with 1 being "things are as bad as they could be" and 10 being "things are as good as they could be." The clinician tracks family members' ratings over each session and highlights any improvement to uncover what the family is doing well to make things better.

Scaling is particularly suited for people with ABI because of its concrete nature. It is also suited for adolescents with ABI, who may experience word finding difficulties in talking about their feelings. Through the use of scaling, clients can identify small steps that would help them move forward with their goals.

4.6. Exception questions

In the traditional medical model, the focus is on gathering as much information as possible about the problem, assessing when it occurs, and the factors that contribute to its recurrence. In SFBT, there is a de-emphasis on trying to understand the details regarding the problem. Instead, a major active ingredient in SFBT is focusing the conversation on exceptions to the problem, especially those exceptions related to what the client wants to be different and encouraging the client to do more of what he/she did to make the exceptions happen (Trepper et al., 2012). There are also times when the problem recurs with less intensity, frequency, or regularity. By focusing on when the

problem is not happening or when it is less intense, the client uncovers the strengths they bring with them from current or past experiences. These strengths may then be applied to help solve the client's current situation rather than teaching the client new skills.

In the BIFI-A problem-solving module, family members are asked to reflect on solutions that have previously worked or times when the problem did not occur. Once the client has identified some previous solutions and exceptions to the problem, they can be encouraged to do more of what has worked. An example of an exception question is illustrated below.

Therapist to the adolescent with ABI – "Tell me about the times when you felt school was easier to manage. What were you doing differently? What school tips were you using?" These exception questions are embedded in the school transitions module, where the adolescent is asked to identify the tips that he/she has been using to help at school.

4.7. Coping questions

A review of previous and current coping strategies is incorporated throughout the BIFI-A curriculum. In the school transitions module, the adolescent is prompted to identify the coping strategies that have helped with school transition. In the Coping With Loss and Change module, the family is coached to identify positive coping strategies in themselves and in one another to deal with loss and change. The following questions help to highlight the coping resources in the family: "What are the signs of progress you have noticed in (client's name)? Name three things that you respect or appreciate about (client's name). Name three things that you respect or appreciate about each member of the family." Once everyone's strengths have been highlighted, the clinician underscores how the family is already practising a positive coping strategy to deal with loss and change.

4.8. Compliments and focusing on successes

Compliments are an essential part of SFBT. Throughout the BIFI-A curriculum, clinicians are encouraged to highlight client/family strengths and what the family is already doing that is working. Any positive change is attributed to the adolescent and family, not the therapist, as compliments encourage greater cooperation and increase the likelihood of returning to therapy (Lipchik, Derks, Lacourt et al., 2012). The result of giving compliments and observing how clients responded to them is a direct step toward asking questions about the positives in their lives, as well as their strengths and resources.

The BIFI-A curriculum concludes with a module that ties together the family's progress, accomplishments, and successes. Through a celebration worksheet, family members are asked to reflect on positive changes noticed in the adolescent with the ABI and family as well as lessons they have learned. The finale activity – weaving our web of success – unites family members by celebrating the things they learned, what they are proud of, something positive in a family member, what they learned about themselves, and how to manage challenges down the road.

5. Limitations of SFBT

De Jong and Berg (2008) note that working in solution-focused ways within a problem oriented culture can be frustrating for the SFBT clinician. Introducing SFBT into a traditional rehabilitation culture can be a challenge as it requires a paradigm shift from the medical model to a solution-focused paradigm. This paradigm shift can be especially challenging for experienced professionals who have been trained in the traditional medical model and are accustomed to focusing on problems. Even when one has been trained in SFBT, clinicians can easily slip back into problem talk when the dominant discourse in an organization is the medical model. Organizations and rehabilitation programs must be prepared to provide time, training, and resources to support a cultural shift towards strengths-based models of care. Recent efforts have seen its application of SFBT in leadership and management (McKergow, 2012).

The clinical utility of SFBT with culturally diverse families requires additional consideration and research, as families' preferred ways of working with rehabilitation professionals might differ depending on their preference for a hierarchical versus collaborative approach to care.

Rehabilitation professionals, especially legal representatives can also express skepticism about the 'de-emphasis' on problems. They often rely on expert assessments and associated diagnostic information to underscore the numerous problems brought about by a brain injury and how these changes have negatively impacted a person's life. A clinical report, focused on strengths, could potentially undermine a medico-legal case. Moreover, satisfying organizational requirements, particularly in regard to the type

of documentation expected, can be challenging as strengths-based documentation has yet to evolve in health-care institutions.

5.1. Implications for practice

This paper offers practical strategies for clinicians to incorporate SFBT within the BIFI-A into their rehabilitation practice. The BIFI-A intervention is applicable to family members and adolescents (13 to 19 years) with sufficient facility in English to participate in discussions, understand reading materials, and complete activities. The intervention is typically provided during the community-based phase of rehabilitation or post acute and rehabilitation hospitalization phases. Some educational modules (e.g., what happens after brain injury, stress management) have been introduced with parent caregivers in earlier phases of recovery including inpatient rehabilitation. In fact, the adult BIFI was adapted with some success in the acute phase (Marks & Daggett, 2006).

After designing BIFI-A as a family system intervention, we learned that office-based sessions may be impractical for the entire family due to conflicting work, home, and school schedules. Participation of members and the family system is enhanced when the intervention is delivered in people's homes. At a minimum, at least one family member (typically the primary caregiver) and the adolescent with the ABI should participate in sessions.

BIFI-A is contra-indicated for individuals or family members who exhibit suicidal ideation, are suffering psychosis, or have an active substance abuse problem. It is important that individuals be stabilized before consideration for the BIFI-A. In our clinical experience, ABI family intervention is also less suited for families experiencing concurrent crises (e.g., loss of job, unexpected illness, housing or financial crisis). We recommend that these families seek alternative forms of counseling to address these urgent issues before enrolling in BIFI-A.

Our experience with this approach over the past five years has underscored the importance of customizing the intervention for families' unique needs, versus a one-size fits all approach. Through our 2-day training noted earlier in the paper, clinicians learn how to tailor the curriculum to meet the unique needs of each family. For example, clinicians may choose to extend or shorten discussion of a particular topic, or focus on a subset of topics based on family identified needs or priorities. The intervention manual also includes accommodations for motor, reading, or writing impairments to foster inclusion of the adolescent with ABI. Thus far, we have trained over 350 clinicians from different parts of Canada, the USA, and Sweden. Evaluations of pre-post changes from the training ($n = 211$) showed statistically significant improvements in participants' self-ratings of knowledge, confidence, and skills in working effectively with adolescents and families after brain injury (Gan & Kreutzer, 2014).

As there is increased interest in strengths-based approaches across disciplines, the SFBT model can be further developed as an inter-professional approach to pediatric rehabilitation practice. A model of solution-focused coaching in pediatric rehabilitation (SFC-peds) was developed and adopted at Thames Valley Children's Centre in London Ontario, with an interdisciplinary group of trained practitioners across multiple diagnostic groups (Baldwin et al., 2013). Although the SFC-peds is a coaching model versus an ABI family system intervention, further development of the solution-focused model across disciplines can help to facilitate a cultural shift towards a strengths-focused model of care in rehabilitation.

5.2. Implications for research

Although SFBT has been studied widely with a range of clinical populations, there has been no published research on the application of SFBT with people with brain injuries. More specifically, its use with children and adolescents with ABI has not been empirically tested and further research on its effectiveness is needed. With emerging evidence of the effectiveness of SFBT with children with academic and behavioral problems (Gingerich & Peterson, 2012) and its application across various clinical populations, we have reason to believe that this approach may also be effective with adolescents with ABI and their families.

As therapeutic alliance is the most robust predictor of family therapy outcomes across all models (Sprenkle et al., 2009), further research on engagement of adolescents with ABI using SFBT as compared to other approaches is worthy of study. Given the increased interest in resilience and strengths-based approaches to care, research on the experiences of clinicians in using SFBT in pediatric rehabilitation would help to highlight its utility in ABI practice settings.

The development of BIFI-A was derived from the lead author's 25 years of clinical experience with families after ABI, combined with the empirical research

on family needs after brain injury and the evidence-based adult BIFI. Evaluation of BIFI-A outcomes has yet to be completed, including determining the most effective time and phase of recovery for the BIFI-A intervention. We also recommend additional research on the types of presenting problems or family situations that are most responsive to BIFI-A. The efficacy of the adult BIFI has been demonstrated and reported in a series of papers (Kreutzer, et al., 2009; Kreutzer, et al., 2010; Kreutzer et al., 2015). In a mixed methods evaluation of BIFI (Kreutzer et al., 2010), Kreutzer and colleagues found that higher BIFI helpfulness ratings for survivors were associated with less severe injuries, higher levels of functioning, and shorter lengths of acute care and rehabilitation stay. For caregivers, higher helpfulness ratings were associated with caring for a loved one who was more functional. Although our clinical experience with BIFI-A mirrors that of the adult BIFI helpfulness findings, this has yet to be formally evaluated. Since BIFI-A was adapted from the evidence-based adult BIFI, we believe that BIFI-A is a promising family system intervention that merits further research.

6. Conclusion

In this paper, we outlined a strengths-based model, SFBT, with illustration of its application to the Brain Injury Family Intervention for Adolescents (BIFI-A). We introduced the tenets and assumptions of a solution-focused approach and offered ways that clinicians can adopt *solution talk*, instead of traditional ways of interviewing by providing expert suggestions, advice, or directives on how to solve problems. By using solution-focused questions, clients and families can discover their strengths and resources, and ways to solve their own problems. The benefits of SFBT are many: (1) its theoretical basis is easily understood and applicable to a wide range of practitioners and practice situations; (2) solution talk can help clients and families be proactive and engender hope for the future, especially given the developmental and life-long issues associated with pediatric ABI; (3) SFBT concepts are pragmatic and concrete (i.e., scaling questions), which are conducive to adolescents and clients with ABI related cognitive challenges; and (4) SFBT's collaborative, cooperative, respectful, and shared therapist-client stance has the potential to more easily engage adolescents with ABI as compared to other approaches – this is an avenue for future research.

To our knowledge, this is the first paper to provide practical clinical application of the SFBT model in brain injury family intervention (BIFI-A). The use of a solution-focused paradigm can empower clients and families by focusing on their preferred goals, amplifying their achievements, strengths, and sources of resilience. Moreover, the solution-focused paradigm is harmonious with values of client and family-centered care, client empowerment, participation in care, and resilience theory, all of which align with the growing interest in strengths-based approaches to rehabilitation. Given the increased interest and need for further research around resilience and strengths-based approaches in pediatric rehabilitation, the utilization of SFBT with families of adolescents with brain injury holds much promise.

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Conflict of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

References

[1] Aitken, M., McCarthy, M., Slomine, B., Ding, R., Durbin, D., Jaffe, K., ... & MacKenzie, E. (2009). Family burden after traumatic brain injury in children. *Pediatrics*, *123*, 199-206.

[2] Anderson, V. A., Catroppa, C., Haritou, F., Morse, S., Pentland, S., Rosenfeld, J., & Stargatt, R. (2005). Identifying factors contributing to child and family outcome 30 months after traumatic brain injury in children. *Journal of Neurology, Neurosurgery, and Psychiatry*, *76*, 401-408.

[3] Baldwin, P., King, G., Evans, J. McDougall, S., Tucker, M., & Servais, M. (2013). Solution-focused coaching in pediatric rehabilitation: An integrated model for practice. *Physical & Occupational Therapy in Pediatrics*, *33*, 467-483.

[4] Berg, I. K., & Kelly, S. (2000). *Building solutions in child protective services.* New York: Norton.

[5] Berg, I. K., & Miller S. (1992). *Working with the problem drinker: A solution-focused drinker.* New York: Norton.

[6] Dallos, R. (2006). Solution-focused brief therapy with families who have a child with intellectual disabilities: A description of the content of initial sessions and the processes. *Clinical Child Psychology and Psychiatry*, *11*, 367-86.

[7] De Jong, P., & Berg, I. K. (2002). *Interviewing for solutions* (2nd ed.). Pacific Grove, CA: Brooks/Cole.

[8] de Shazer, S., Berg, I., Lipchik, E., Nunnally, E., Molnar, A., Gingerich, W., & Weiner-Davis, M. (1986). Brief therapy: Focused solution development. *Family Process*, *25*, 207-222.

[9] Dolan, Y. (1991). *Resolving sexual abuse: Solution-focused therapy and Ericksonian hypnosis for adult survivors*. New York: Norton.

[10] Franklin, C. (2015). An update on strengths-based, solution-focused brief therapy. *Health and Social Work*, *40*, 73-76.

[11] Franklin, C., & Gerlach, C. (2007). Solution-focused brief therapy in public school settings. In T. S. Nelson & F. N. Thomas (Eds.) *Handbook of solution-focused brief therapy*. New York: The Haworth Press, pp. 167-171.

[12] Gan, C., DePompei, R., & Lash, M. (2012). Family Assessment and Intervention. In N. Zasler, D. Katz, & R. Zafonte (Eds.) *Brain Injury Medicine* (2nd ed.). New York: Demos Medical Publishing, pp. 621-634.

[13] Gan, C., Gargaro, J., & Kreutzer, J. (2013). *The Brain Injury Family Intervention – Adolescent version* – Intervention manual. Toronto: Holland Bloorview Kids Rehabilitation Hospital.

[14] Gan, C., Gargaro, J., Kreutzer, J., Boschen, K., & Wright, V. (2010). Development and preliminary evaluation of a structured family system intervention for adolescents with brain injury and their families. *Brain Injury*, *24*, 651-663.

[15] Gan, C., & Kreutzer, J. (2014). Outcomes of brain injury family intervention training for professionals [Abstract]. *Brain Injury*, *28*, 621.

[16] Gauvin-Lepage, J., Lefebvre, H., & Malo, D. (2015). Resilience in families with adolescents suffering from traumatic brain injuries. *Rehabilitation Nursing*, *0*, 1-9.

[17] Gingerich, W. J., deShazer, S., & Weiner-Davis, M. (1988). Constructing change: A research view of interviewing. In E. Lipchik (Ed.), *Interviewing*. Rockville, MD: Aspen, pp 21-33.

[18] Gingerich, W. J., Kim, J. S., & MacDonald, A. J. (2012). Solution-focused brief therapy outcome research. In C. Franklin, T. Trepper, W, Gingerich & E. McCollum (Eds.). *Solution-Focused brief therapy: A handbook of evidence-based practice*. New York: Oxford University Press, pp. 95-111.

[19] Gingerich, W. J., & Peterson, L, T. (2012). Effectiveness of solution-focused brief therapy: A systematic qualitative review of controlled outcome studies. *Research on Social Work Practice*, *23*, 266-283.

[20] Godwin, E., & Kreutzer, J. (2013). Embracing a new path to emotional recovery: Adopting resilience theory in post-TBI psychotherapy. *Brain Injury*, *27*, 637-639.

[21] Gottlieb, L., & Gottlieb, B. (2013). *Strengths-based nursing care*. New York: Springer Publishing Company.

[22] Hackett, P., & Shennan, G. (2007). Solution-focused work with children and young people. In T. S. Nelson & F. N. Thomas (Eds.) *Handbook of solution-focused brief therapy*. New York: The Haworth Press, pp. 191-209.

[23] Hanks, R., Rapport, L., Waldron-Perrine, B., & Millis, S. (2014). Role of character strengths in outcome after mild complicated to severe traumatic brain injury: A positive psychology study. *Archives of Physical Medicine and Rehabilitation*, *95*, 2096-2102.

[24] Holland, A. (2007). *Counseling in communication disorders: A wellness perspective*. San Diego, CA: Plural Publishing.

[25] Hopps, J., Pinderhughes, E., & Shankar, R. (1995). *Power to care: Clinical practice effectiveness with overwhelmed clients*. New York: The Freedom Press.

[26] Kim J. (2008). Examining the effectiveness of solution-focused brief therapy: A meta-analysis. *Research on Social Work Practice*, *32*, 49-64.

[27] Knekt, P., Lindfors, O., Harkanen, T., Valikoski, M., Virtala, E., & Laaksonen, M. A. (2008). Randomized trial on the effectiveness of long-term and short-term psychodynamic psychotherapy and solution-focused therapy on psychiatric symptoms during a 3-year follow-up. *Psychological Medicine*, *38*, 689-703.

[28] Kreutzer, J., Marwitz, J., Sima, A., & Godwin, E. (2015). Efficacy of the brain injury family intervention: Impact on family members. *Journal of Head Trauma Rehabilitation*, *30*, 249-260.

[29] Kreutzer, J., Stejskal, T., Ketchum, J., Marwitz, J., Taylor, L., & Menzel, J. (2009). A preliminary investigation of the brain injury family intervention: Impact on family members. *Brain Injury*, *23*, 535-547.

[30] Kreutzer, J., Stejskal, T., Godwin, E., Powell, V., & Arango-Lasprilla, J. (2010). A mixed methods evaluation of the brain injury family intervention. *NeuroRehabilitation*, *27*, 19-29.

[31] Lee, M. Y., Sebold, J., & Uken, A. (2007). Solution-focused treatment with domestic violence offenders. In T. S. Nelson & F. N. Thomas (Eds.). *Handbook of solution-focused brief therapy*. New York: The Haworth Press, pp. 135-162.

[32] Lipchik, E, Derks, J., Lacourt, M., & Nunnally, E. (2012). The evolution of solution-focused brief therapy. In C. Franklin, T. Trepper, W. Gingerich & E. McCollum (Eds.). *Solution-focused brief therapy: A handbook of evidence-based practice*. New York: Oxford University Press, pp. 3-19.

[33] Macdonald, A. (2007). Applying solution-focused brief therapy in mental health practice. In T. S. Nelson & F. N. Thomas (Eds.). *Handbook of solution-focused brief therapy*. New York: The Haworth Press, pp. 267-290.

[34] Marks, J. P., & Daggett, L. M. (2006). A critical pathway for meeting the needs of families of patients with severe traumatic brain injury. *J Neurosci Nurs*. *38*, 84-89.

[35] McKergow, M. (2012). Solution-focused approaches in management. In C. Franklin, T. Trepper, W. Gingerich & E. McCollum (Eds.). *Solution-Focused brief therapy: A handbook of evidence-based practice*. New York: Oxford University Press, pp. 327-341.

[36] McMahon, M., Noll, R., Michaud, L., & Johnson, J. (2001). Sibling adjustment to pediatric traumatic brain injury: A case-controlled pilot study. *Journal of Head Trauma Rehabilitation*, *16*, 587-594.

[37] Park, N., & Peterson, C. (2006). Moral competence and character strengths among adolescents: The development and validation of the values in action inventory of strengths for youth. *Journal of Adolescence*, *29*, 891-910.

[38] Pichot, T. (2007). Looking beyond depression. In T. S. Nelson & F. N. Thomas (Eds.). *Handbook of solution-focused brief therapy*. New York: The Haworth Press, pp. 117-132.

[39] Pless, I., Feeley, N., Gottlieb, L, Rowat, K., Dougherty, G., & Willard, B. (1994). A randomized trial of a nursing intervention to promote the adjustment of children with chronic physical disorders. *Pediatrics*, *94*, 70-75.

[40] Rivara, J. M., Jaffe, K. M., Polissar, N. L., Fay, G. C., Liao, S., & Martin, K. M. (1996). Predictors of family functioning and change 3 years after traumatic brain injury in children. *Archives of Physical Medicine and Rehabilitation*, *77*, 754-764.

[41] Rolland, J.S., & Walsh, F. (2006). Facilitating family resilience with childhood illness and disability. *Current Opinions in Pediatrics*, *18*, 527-538.

[42] Sambuco, M., Brooks, N., & Lah, S. (2008). Pediatric traumatic brain injury: A review of siblings' outcome. *Brain Injury*, *22*, 7-17.

[43] Savage, R.C., DePompei, R., Tyler, J., & Lash, M. (2005). Paediatric traumatic brain injury: A review of pertinent issues. *Pediatric Rehabilitation*, *8*, 92-103.

[44] Selekman, M.D. (1997). *Solution-focused therapy with children.* New York: The Guilford Press.

[45] Seligman, M., Steen, T., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, *60*, 410-21.

[46] Shields, C., Sprenkle, D., & Constantine, J. (1991). Anatomy of an initial interview: The importance of joining and structuring skills. *American Journal of Family Therapy*, *19*, 3-18.

[47] Simpson, G., & Jones, K. (2012). How important is resilience among family members supporting relatives with traumatic brain injury or spinal cord injury? *Clinical Rehabilitation*, *27*, 367-377.

[48] Spina, S., Ziviani, J., & Nixon, J. (2005). Children, brain injury and the resiliency model of family adaptation. *Brain Impairment*, *26*, 33-44.

[49] Sprenkle, D., Davis, D., & Lebow, J. (2009). *Common factors in marital and family therapy: The overlooked foundation for effective practice*. New York: The Guilford Press.

[50] Stams, G., Dekovic, M., Buist, K., & de Vries, L. (2006). Efficacy of solution-focused brief therapy: A meta-analysis. *Gedragstherapie*, *39*, 81-05.

[51] Stejskal, T. (2012). Removing barriers to rehabilitation: Theory-based family intervention in community settings after brain injury. *NeuroRehabilitation*, *31*, 75-83.

[52] Taylor, H. G., Yeates, K. O., Wade, S. L., Drotar, D., Stancin, T., & Burant, C. (2001). Bidirectional child-family influences on outcomes of traumatic brain injury in children. *Journal of the International Neuropsychological Society*, *7*, 755-767.

[53] Taylor, S. E., Kemeny, M. E., Reed, G. M., Bower, J. E., & Gruenewald, T. L. (2000). Psychological resources, positive illusions, and health. *American Psychologist*, *55*, 99-109.

[54] Thomas, F., & Nelson, T. (2007). Assumptions and practices within the solution-focused brief therapy tradition. In T. S. Nelson & F. N. Thomas (Eds.). *Handbook of solution-focused brief therapy*. New York: The Haworth Press, pp. 3-24.

[55] Trepper, T. S., McCollum, E., De Jong, P., Korman, H., Gingerich, W., & Franklin, C. (2012). Solution-focused brief therapy treatment manual. In C. Franklin, T. Trepper, W, Gingerich & E. McCollum (Eds.). *Solution-Focused brief therapy: A handbook of evidence-based practice*. New York: Oxford University Press, pp. 20-38.

[56] Turnell, A. (2007). Thinking and practicing beyond the therapy room: Solution-focused brief therapy, trauma, and child protection. In T. S. Nelson & F. N. Thomas (Eds.). *Handbook of solution-focused brief therapy*. New York: The Haworth Press, pp. 295-311.

[57] Viner, R. M., Christie, D., Taylor, V., & Hey, S. (2003). Motivational/solution-focused intervention improves HbA_{1c} in adolescents with Type 1 diabetes: A pilot study. *Diabetic Medicine*, *20*, 739-742.

[58] Walsh, F. (2006). *Strengthening family resilience* (2nd ed.). New York: Guilford Press.

[59] Walsh, F., & McGoldrick, M. (1991). Loss and the family: A systemic perspective. In: F. Walsh & M. McGoldrick (Eds.). *Living Beyond Loss: Death in the Family*. New York: W.W. Norton.

[60] Zhang, W., Yan, T. T., Du, Y. S., & Liu, X. (2014). Brief report: Effects of solution-focused brief therapy group-work on promoting post-traumatic growth of mothers who have a child with ASD. *Journal of Autism and Developmental Disorders*, *44*, 2052-2056.