Evaluation of a Health Education Program about Traumatic Brain Injury

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**Abstract**

**Objective:** To evaluate a health education program (TBIoptions: Promoting Knowledge) designed to increase public awareness and understanding about traumatic brain injury (TBI) through in-person (classroom) and computer-based (electronic) learning environments.

**Design:** Pre-post survey design with randomization of participants to classroom (N = 22) or electronic (N = 22) delivery of the program.

**Setting:** Classroom and computer laboratory settings on the campus of Kansas State University, Manhattan, KS.

**Method:** Forty-four participants rated areas of knowledge about TBI prior to and after the program experience. They also rated health program quality and instructional strategies (e.g., video vignettes). Written responses provided information for qualitative analysis.

**Results:** Participants reported significantly higher ratings of knowledge after the program experience. Qualitative analysis of written responses provided further evidence to support quantitative outcomes. There were no significant differences in comparing the two methods of delivery (classroom versus electronic learning format). Participants rated the quality of the program and various instructional strategies very highly.

**Conclusion:** TBIoptions: Promoting Knowledge offers a health education program to increase understanding about TBI. Both modes of delivery, classroom and electronic, appeared equally effective in terms of self-report of change.

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Health Education about Traumatic Brain Injury

Traumatic brain injury (TBI) causes life-long consequences for many of the 1.7 million people injured each year. Because survivors and their families have various needs and may face long-term challenges within the continuum of care, community-wide education and awareness about TBI is essential. Priorities for successful community integration vary for different groups and ages but typically emphasize themes that relate to independent living, work, and social activities. For example, young adults are at high risk for sustaining a TBI, emphasizing the importance of community education for addressing social development and extensive educational or vocational needs for independent living. Some of these same needs are evident for military personnel who sustain TBI. If soldiers are unable to return to their unit, a successful transition to work or school within their community is essential. For older adults who survive a TBI, accessing various types and levels of help can allow them to live at home and can have a positive impact on their level of functioning. Corrigan and colleagues found that about 60% of adults who experience TBI report some type of need their first year post-injury, such as supports for improving memory, managing stress, and paying bills. A substantial percentage also acknowledges that their needs continue beyond that time, which highlights the importance of individual and community supports and development of health education on this topic.

Community awareness of TBI may be complicated by a general lack of understanding about the physical, cognitive, behavioral, and psychosocial impacts of an injury. The visible symptoms of TBI may not be obvious for some survivors, but the effects on everyday living may be profound. For example, a person who is injured may act irritable and frustrated due to challenges caused by the inability to concentrate and remember. This may result in misconceptions because community members who are unfamiliar with brain injury may attribute undesirable behaviors to other reasons such as a personality trait. In particular, there is a need for health education to address public misconceptions as “without ready access to complete and accurate information, people have no reason to question or change their existing beliefs and opinions” (p. 171). Individuals who are injured report that the attitude of other people is one of the barriers that they encounter that affects them the most. As more people experience a traumatic brain injury (TBI) per year in comparison to stroke or heart attack, health education to enhance the health and well-being of people with TBI and their families has the potential to impact positively a substantial segment of the population. Self-reports of survivors and their caregivers support the importance of community-wide education and awareness to improve acceptance and become integrated members of the community.

The first two authors developed a health education program entitled “TBIOptions: Promoting Knowledge.” Implementation of the program is through a state Cooperative Extension office, part of nationwide land-grant system of universities with a mission of “extending” research to state citizens. Cooperative Extension has a wide network of established and receptive audiences for educational programming. Funding was provided through a grant from the Rural Health and Safety Education Competitive Program of the USDA Cooperative State Research, Education and Extension Service.

The overall objective is to educate the public about TBI and the importance of supporting survivors and family members in their communities, regardless of the perceived severity of the injury. It is an educational program with three main areas of content: (1) background knowledge including the impacts of TBI, (2) consequences of TBI to all aspects of living to emphasize the importance of individual/community support, and (3) an online directory of community resources, included to encourage
attendees to contribute to the directory or share information about it with others (TBIoptions: Connecting to Resources). Instructional strategies include lecture, carefully constructed video vignettes from survivors of TBI who share first-hand experiences that complement key facts, reflective questions that support the application of knowledge to the real-life scenarios demonstrated in the videos, and print materials to reinforce key messages. Program development included subject matter experts who verified content accuracy and professional educators who provided feedback about program clarity and instructional strategies. Developing the program with two modes of delivery recognized the importance of providing access for persons seeking information and support from any physical location. It is important to promote health education that is evidence-based. The purpose of the current study was to evaluate the TBIoptions program, instructional strategies, and modes of delivery. The research questions included:

1. Does the program (TBIoptions: Promoting Knowledge) change participants’ perceptions about traumatic brain injury based on their pre- and post-program ratings of understanding?
2. Are there differences in quantitative outcomes in comparing the two modes of program delivery (classroom and electronic conditions)?
3. Do qualitative comments from participants reflect understanding about TBI that is reflective of program content?
4. How do participants perceive the overall quality of the program and its components?

Method

Participants

We recruited adults from the general public to participate through advertisements in local newspapers and information shared with various service organizations (e.g., Sertoma Club). Interested individuals were prescreened to ensure they met the inclusionary criteria: minimum age of 18, native speaker of English, normal or near-normal vision and hearing with correction, basic literacy skills, the ability to see and hear print materials and other media, possession of basic computer skills, and a history of using a computer to locate information. Exclusionary criteria also included high personal familiarity (e.g., close relationship helping someone with a TBI) or a very high level of knowledge about TBI. Three individuals were excluded based on their self-report.

A total of 44 people, 35 women and nine men from 20 to 78 years of age, participated in the TBIoptions health education program. The majority reported 12 to 14 years of schooling (ranging from a high school diploma to graduate education). Participants were randomly assigned to a group (classroom or electronic condition) and not made aware of the mode of delivery until their actual participation in the study. Changes to the assigned delivery were only made for individuals who indicated an inability to attend based upon dates and times. A total of 11 changes were made (classroom to electronic delivery or electronic delivery to classroom participation) based on personal conflicts such as work schedules. The participants assigned to the classroom group ranged in age from 20 to 68 years. The participants assigned to the electronic mode of delivery ranged in age from 20 to 78 years. Mann-Whitney U tests compared the distribution of ages and years of schooling and found no statistically significant differences related to group assignment ($p > .05$).
Participants received a $50 stipend. The Institutional Review Board of Kansas State University approved this study. It was conducted in Manhattan, KS, on the campus of Kansas State University over several days in the fall of 2011.

**Educational Program - TBIoptions: Promoting Knowledge**

In both conditions, participants experienced a 60-minute educational program about TBI. Program content: 1) defined and described causes of TBI; 2) explained impacts of injury (physical, cognitive, emotional, and behavioral); 3) highlighted possible consequences to activities of daily living, relationships, and work; and 4) outlined the importance of individuals and communities to survivors and families. It also overviewed an online directory of community resources in Kansas (www.tbioptions.ksu.edu). Participants received supplemental materials containing strategies for providing individual and community support. In the classroom condition, participants gathered as a group in a traditional lecture arrangement. One of the authors presented content via PowerPoint slides accompanied by scripted information, video vignettes from a survivor (e.g., survivor explaining physical impacts such as trouble with walking and balance when tired), and questions to promote self-reflection. In the electronic condition, participants came to a computer lab in small groups at scheduled times. They used an individual computer and headphones to access an automated version of the program content. They listened to the same author and scripted audio narration while viewing the same PowerPoint slides, video vignettes, and self-reflection questions. In both conditions, participants received scripted instructions regarding the process and task to accomplish from a member of the research team. No other assistance or information was provided to participants.

**Assessment Measures**

The pre- and post-test measures underwent several stages of development. The first step was to identify areas of assessment that reflected primary points of program content, which was completed by the first two authors. A program evaluator at Kansas State University then verified that statements represented primary areas of program content and also provided feedback regarding the wording of statements, rating levels, and descriptors. Finally, the pre- and post-test measures were reviewed by pilot participants to assure clarity of wording and ease of use.

Prior to experiencing the program, all participants completed the pre-test measure. It included five content areas targeting: current understanding of background information (definition and causes of TBI); physical, emotional, cognitive, and/or behavioral impacts to an individual; how TBI changes relationships, activities of daily living, and work; the importance of individual/community support; and familiarity with the online directory of TBIoptions: Connecting to Resources. Participants rated their level of understanding on a five point scale (1 = Very Low to 5 = Very High). At the conclusion of the program, participants completed the post-test which asked them to rate their understanding in the same content areas, allowing for comparison of the pre-program responses to the post-program responses. Participants also rated the overall quality of the program and program aspects (e.g., use of video vignettes).

Participants’ understanding about TBI was analyzed qualitatively through written responses to open-ended questions that were presented after the program experience. The three questions also represented major themes of the program and encouraged participants to apply their conceptual
knowledge at a personal level. We felt that written feedback (versus verbal interviews) promoted openness in responding while assuring confidentiality.

**Statistical Analysis**

Quantitative analysis included calculations of descriptive statistics and analysis of variance (ANOVA) tests with repeated measures to examine pre- to post-test ratings from both classroom and electronic conditions. Time (pre-test and post-test) served as the within-subjects factor and group (classroom and electronic) served as the between subjects factor. Each of the five areas of understanding was analyzed separately using an alpha level of 0.05 to determine statistical significance. Responses to open-ended questions were analyzed qualitatively through inductive coding and grouping of participant responses in common themes according to a grounded theory approach\(^{19,20}\). Responses were read and re-read until common response themes emerged, which were then coded using NVivo 9.0 computerized qualitative data analysis software.

**Results**

**Program Impact: Ratings of Understanding**

Table 1 provides means and standard deviations for each of the five items administered as part of the pre-program and post-program experience for all participants. Pre-program results showed that participants generally rated themselves as having “very low” to “medium” understanding regarding the topic of traumatic brain injury (mean ratings of 1.41 to 2.86 across questions). Participants’ averages reflected generally “high” ratings (4.2 to 4.48) after the program experience, as they typically rated their knowledge from “medium” to “very high” across questions. Statistical analysis showed a significant main effect for Time \(p < .05\) in comparing pre- to post-program ratings for each of the five items. On average, participant ratings reflected an increase in understanding of one to two rating levels as the result of the educational experience. The effect of group (classroom vs. electronic delivery) was not significant and there were no significant interactions \(p > .05\). Results showed that participants did not significantly vary in their self-reported knowledge across the five areas of understanding in comparing the two modes of delivery (Table 1).
Table 1. Mean Ratings of Understanding (1 = Very Low to 5 = Very High) and Standard Deviations for the Pre-Test and Post-Test Items (N = 44)

<table>
<thead>
<tr>
<th>Areas of Understanding</th>
<th>All Participants (N = 44)</th>
<th>Classroom (N = 22)</th>
<th>Electronic (N = 22)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Test Mean (S.D.)</td>
<td>Post-Test Mean (S.D.)</td>
<td>Pre-Test Mean (S.D.)</td>
</tr>
<tr>
<td>The definition of traumatic brain injury and possible causes of a TBI</td>
<td>2.36 (.72)</td>
<td>4.34 (.57)</td>
<td>2.45 (.67)</td>
</tr>
<tr>
<td>The physical, emotional, cognitive and behavioral impacts of TBI</td>
<td>2.39 (.78)</td>
<td>4.20 (.67)</td>
<td>2.36 (.66)</td>
</tr>
<tr>
<td>How TBI can affect relationships, activities of daily living, and work</td>
<td>2.61 (.68)</td>
<td>4.23 (.68)</td>
<td>2.68 (.78)</td>
</tr>
<tr>
<td>The importance of individuals and community in supporting survivors and families</td>
<td>2.86 (1.07)</td>
<td>4.48 (.55)</td>
<td>2.95 (1.13)</td>
</tr>
<tr>
<td>The use of TBLoptions: Connecting to Resources website</td>
<td>1.41 (.54)</td>
<td>4.23 (.68)</td>
<td>1.50 (.60)</td>
</tr>
</tbody>
</table>

Program Impact: Qualitative Themes

All participants wrote responses to open-ended questions, which provided additional information about knowledge and understanding. Tables 2, 3, and 4 summarize qualitative themes, including the percentage of participants who were coded as discussing each theme. Participants discussed a range of challenging impacts of a TBI with almost 40% highlighting concerns about cognitive changes. Other prominent themes included physical changes, impacts to social lives, and losses in independence. The most frequently mentioned responses about changes or consequences to overcome after a TBI injury reflected themes such as relearning skills or adjusting to new normal, reestablishing social relationships, and dealing with challenging emotions or new behaviors (see Table 3). One-fourth of the participants also acknowledged the importance of regaining independence. As one participant wrote, “I have always been independent and took care of myself – having to rely on others would be challenging and difficult…. In relation to ways to support survivors, consistently mentioned themes (over one-third of participants) highlighted the importance of being responsive to survivors and offering emotional or practical support. Advocacy represented another central theme, including community events (e.g., run/walk) to help build awareness about TBI (see Table 4 for additional examples).
Table 2. Most Frequently Mentioned Themes in Response to “What is an impact of traumatic brain injury (e.g., physical, cognitive, emotional, or behavioral) that would be most challenging or frustrating for you?” (N = 44)

<table>
<thead>
<tr>
<th>Theme (Percentage of Participants)</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Changes (39%)</td>
<td>“Cognitive” changes, such as changes in thinking and memory</td>
<td>“I believe it would be cognitive. I believe the mind is a sacred gift; therefore losing it partially would be very frustrating.”</td>
</tr>
<tr>
<td>Independence (27%)</td>
<td>Loss in the ability to live independently or care for oneself</td>
<td>“Not being able to do what I had previously done before the injury. I’m a do-it-myself person – hate asking for help.”</td>
</tr>
<tr>
<td>Physical Changes (25%)</td>
<td>“Physical” changes, such as the ability to walk and balance</td>
<td>“…Physical I think. My workday, and family...life is very demanding physically, plus I like to exercise and stay fit.”</td>
</tr>
<tr>
<td>Social Consequences (23%)</td>
<td>Changes in relationships and/or interpersonal communication</td>
<td>“I would be most frustrated if the people around me changed how they related to me....to lose the support of either friends or family would be devastating.”</td>
</tr>
<tr>
<td>Relearning or Readjusting (16%)</td>
<td>Needs to relearn skills and activities or to adjust to a new sense of normal</td>
<td>“Relearning simple tasks or creating a normal life.”</td>
</tr>
</tbody>
</table>

Table 3. Most Frequently Mentioned Themes in Response to “What do you think are some difficult changes or consequences to overcome after a traumatic brain injury?” (N = 44)

<table>
<thead>
<tr>
<th>Theme (Percentage of Participants)</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relearning or Readjusting (41%)</td>
<td>Needs to relearn skills and activities or to adjust to a new sense of normal</td>
<td>“…[to] re-learn all walks of life. You would have a difficult time trying to get back into the swing of things that once we took for granted.”</td>
</tr>
<tr>
<td>Social Consequences (41%)</td>
<td>Changes in relationships and/or interpersonal communication</td>
<td>“…Speech – finding the words you need to express your feelings. Losing relationships you had prior.”</td>
</tr>
<tr>
<td>Emotional &amp; Behavioral Changes (34%)</td>
<td>Dealing with difficult emotions or changes in behavior, like impulsivity</td>
<td>“…not being the same anymore and realizing it, would be super depressing. So I can see why people... can have fits of rage, and sadness.”</td>
</tr>
<tr>
<td>Independence (25%)</td>
<td>Loss in the ability to live independently or care for oneself</td>
<td>“I have always been independent and took care of myself – having to rely on others would be challenging and difficult....”</td>
</tr>
<tr>
<td>Cognitive Changes (20%)</td>
<td>“Cognitive” changes, such as changes in thinking and memory</td>
<td>“The constant slow brain stimulation. Your body is slower and your brain is slower it would be very difficult....”</td>
</tr>
</tbody>
</table>
Table 4. Most Frequently Mentioned Themes in Response to “What are ways you or your community could provide support to a survivor and his or her family?” (N = 44)

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsiveness</td>
<td>Respond to the various needs of survivors and families as they arise</td>
<td>“...Ask what they need help with. Call once in a while to see if they need or want anything that you can provide.”</td>
</tr>
<tr>
<td>Emotional Support</td>
<td>Offer general emotional support, acceptance and understanding</td>
<td>“Take time to treat them like a person, be their friend, listen and be patient.”</td>
</tr>
<tr>
<td>Practical or Material Support</td>
<td>Help meet daily needs for goods and services</td>
<td>“Fundraising, offer transportation and help with child care and household chores.”</td>
</tr>
<tr>
<td>Advocacy and Awareness</td>
<td>Advocate or build awareness about the needs of survivors and families</td>
<td>“I think promoting awareness is important. It would be neat to hold a run/walk to raise money and awareness.”</td>
</tr>
<tr>
<td>Social Connection</td>
<td>Spend time with or involve survivors and families socially</td>
<td>“Provide opportunities for socializing, ... playing cards....”</td>
</tr>
</tbody>
</table>

Ratings of Overall Quality and Program Aspects

Participants rated the overall quality of the program and components. Table 5 results show that, on average, participants rated the quality of the program high to very high including the rating of overall effectiveness ($M = 4.64$). They also responded favorably about the clarity of program objectives and lecture content. The results suggest that participants found the instructional strategies (e.g., video vignettes) to be especially valuable aspects of the program. A series of Mann-Whitney U tests further evaluated the distribution of ratings between participants assigned to the two groups; results showed that participants assigned to the classroom and electronic conditions did not significantly vary from one another with regard to their post-program ratings of program quality and its different features for learning ($p > .05$).
Table 5. Overall Mean Ratings and Standard Deviations of Program Quality and Learning Aspects

<table>
<thead>
<tr>
<th>Post-Program Questionnaire Item</th>
<th>All Participants (N = 44)</th>
<th>Classroom Condition (N = 22)</th>
<th>Electronic Condition (N = 22)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (S. D.)</td>
<td>Mean (S. D.)</td>
<td>Mean (S. D.)</td>
</tr>
<tr>
<td><strong>Program Quality</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall effectiveness</td>
<td>4.64 (0.49)</td>
<td>4.64 (0.49)</td>
<td>4.64 (0.49)</td>
</tr>
<tr>
<td>Stimulating you to think more deeply about the subject matter</td>
<td>4.59 (0.54)</td>
<td>4.64 (0.49)</td>
<td>4.55 (0.60)</td>
</tr>
<tr>
<td>The likelihood of changing your behavior or actions towards survivors of TBI &amp; families</td>
<td>4.48 (0.63)</td>
<td>4.36 (0.66)</td>
<td>4.59 (0.59)</td>
</tr>
<tr>
<td><strong>Learning Aspects of Program</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clarity of goals and objectives</td>
<td>*4.60 (0.54)</td>
<td>4.55 (0.60)</td>
<td>**4.67 (0.48)</td>
</tr>
<tr>
<td>Explaining the subject matter so that you understood</td>
<td>4.82 (0.46)</td>
<td>4.86 (0.47)</td>
<td>4.77 (0.43)</td>
</tr>
<tr>
<td>Presentation materials contributed to understanding (text, graphs, photos, animations)</td>
<td>4.73 (0.50)</td>
<td>4.77 (0.53)</td>
<td>4.68 (0.48)</td>
</tr>
<tr>
<td>Helpfulness of videos vignettes to understanding</td>
<td>4.70 (0.55)</td>
<td>4.68 (0.65)</td>
<td>4.72 (0.46)</td>
</tr>
<tr>
<td>Taking a moment to reflect after the videos helped me to understand the perspective of an individual with traumatic brain injury</td>
<td>4.16 (0.78)</td>
<td>4.36 (0.73)</td>
<td>3.95 (0.79)</td>
</tr>
<tr>
<td>Print materials (Tip Sheets) participants will read and use as a resource</td>
<td>4.27 (0.76)</td>
<td>4.41 (0.80)</td>
<td>4.14 (0.71)</td>
</tr>
</tbody>
</table>

* N = 43, ** N = 21

Discussion

The results of this study provide support for a health program designed to increase public knowledge about traumatic brain injury. Participants’ self-ratings of understanding suggested substantial increases in their knowledge for impacts and consequences of TBI, the importance of community support, and an online directory of community resources (TBIoptions: Connecting to Resources). Quantitative findings reflected consistently higher self-ratings of understanding in comparing pre- to post-program experiences for all participants regardless of their group assignment (classroom vs. electronic mode of program delivery).

Of additional interest were the results of the qualitative analysis, which provided a deeper understanding of which specific aspects of knowledge impacted participants. Themes of Cognitive Changes (such as differences in thinking or memory), Social Consequences (changes in relationships and/or interpersonal communication), Independence (loss in the ability to live independently or care for oneself), and Relearning or Readjusting (need to relearn skills and activities to adjust to a new sense of normal) emerged with high frequency in response to open-ended questions that targeted participants’
perceptions about the most challenging/frustrating impacts (Table 2) and most difficult changes or consequences to overcome after TBI (Table 3).

Qualitative findings highlight the potential for a health education program to increase awareness and modify beliefs about traumatic brain injury. The themes of Cognitive Changes and Social Consequences suggest that participants may have gained increased awareness about the “invisible” aspects of TBI, which is important given that the absence of visible injury for many survivors contributes to misconceptions about their recovery and disability. Participants also wrote about frustrations related to “relearning simple tasks or creating a normal life,” emotional challenges or behavioral changes, impacts to work lives, or concerns about lacking community or governmental support, further substantiating many of the related needs expressed by survivors and families following their return to home.

The participants’ ratings supported the use of instructional strategies, especially the first-hand accounts (video vignettes from a survivor) as a technique to augment understanding. One participant wrote, “The people telling their stories is what really grabbed me. Charts and graphs are very impersonal but when ‘mothers’ tell her story you can feel her emotions and it really hits you.” Personal accounts provide a means to learn from others, benefit from personal insights, and learn of important supports for recovery. Participants’ written comments were consistent with reported findings that first-hand accounts can provide “meaning to the experience of chronic illness through the attitudes, perspectives, feelings and approaches of specific individuals in the context of their lives” (p. 322).

The self-reported need to increase community awareness and support for individuals with TBI and their caregivers can be met by programs like TBIoptions. Participants that completed the program were better able to recognize and understand the physical, cognitive, emotional, and behavioral changes associated with TBI. Without an understanding of the characteristics of brain injury, people often confuse problematic behaviors with negative personality traits. When people understand the medical reasons why a behavior is occurring, they are much more likely to be accepting of that behavior. In terms of community support, participants in the educational program indicated that they would be able to provide emotional support or resources on an individual basis, but that they would also be able to create community-wide events related to TBI.

The TBIoptions: Promoting Knowledge health education program offers two methods for learning, including a community-based, leader-led curriculum and a computer-based, self-directed version (www.tbioptions.ksu.edu). Development of these two methods allows community members an educational option that works best for them. Results reflected a similar pattern of ratings across both modes of program delivery. The equally positive result from the electronic condition is consistent with other reported findings regarding the value of such resources to health education.

Limitations & Future Considerations

The results of this study represent a sample of 44 participants from Kansas. It is acknowledged that their perceptions may not represent the views of others. Additionally, the pre- and post-test measures rely on self-ratings of understanding, which may or may not accurately reflect actual knowledge. Although the use of self-assessment could be viewed as a limitation, participants’ responses to the open-ended questions provide evidence to support their self-ratings of understanding and perceptions of
improved awareness. We also acknowledge that participants in the electronic condition experienced the educational program in a lab setting, which may not fully represent a home-based experience.

Future considerations include the use of alternative assessment measures. In addition to a different method of assessing pre- to post-program knowledge, changes to qualitative assessment measures should be explored. One consideration is the use of verbal (versus written) responses to open-ended questions to allow for follow-up questioning. A second consideration is the use of a protocol to interview participants three to six months after the program experience for determining whether gains in perceived knowledge are sustainable over time. Post-program questionnaire ratings also suggested a “high” to “very high” likelihood that participants would change “behaviors or actions towards survivors of TBI and families” in the future. Additional interview questions that ask about concrete actions taken by the individual to impact survivors or their local communities would provide useful information related to whether the program is effective for creating behavior change.

The leader-led curriculum of TBIoptions: Promoting Knowledge is planned for implementation through Cooperative Extension in the State of Kansas. Extension agents provide educational programming within their local communities (e.g., presentations to civic groups and community organizations). Future steps might include expansion of the program for use in other states within the network of Cooperative Extension, as well as for use by state organizations that provide advocacy for traumatic brain injury (e.g., state leaders of Brain Injury Associations). Options to present the 60 minute program in separate modules of decreased length will enhance its application across learning environments.

TBIoptions: Promoting Knowledge provides introductory content that appears to positively impact the awareness and knowledge of the general public, which raises its potential application as a formal educational tool for professionals and care providers less familiar with the topic of traumatic brain injury. Survivors and their family members seek care and services from a diverse group of providers in their communities including home health aides, case managers/social workers, mental health professionals, and vocational and rehabilitation counselors. These providers, also members of the community, may lack knowledge about TBI which impacts the appropriateness or effectiveness of their services4. A future consideration in program development also includes expansion of course content for continuing education credits, especially in light of reported benefits of online instruction23. As the two delivery modes of TBIoptions: Promoting Knowledge showed similar outcomes across groups for enhancing awareness about TBI, this type of adaptation shows promise for continued program development.

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