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Feasibility of Cognitive Behavioral Therapy in the Treatment of Suicidality of Children

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Abstract

Background: Suicidal ideation and attempts are increasing in the adolescent population and suicide is now the second leading cause of death for youth 10-24 years of age (Center for Disease Control and Prevention [CDC], 2016). Children that continue to struggle with suicidality and depression after treatment as usual have an increased length of stay, from an average of five days to nine days per admission. Recidivism rates are also increasing, with some patients requiring readmission the same day as discharge.

Method: The purpose of project was to check the feasibility of the use of cognitive behavioral therapy-based group called Creating Opportunities for Personal Empowerment (COPE) in the treatment of children with depression and suicidality. The study patients participated in up to 7 groups of a 60-minute lesson of COPE each day, combined with interactive activities that helped them practice problem solving and coping skills. The feasibility of the COPE groups were measured by the consistent decrease of Columbia Suicide Severity Rating Scale at the beginning and conclusion of lessons as well as consistency of engaged participation in the COPE groups on the unit based of staff observation obtained from Staff Survey.

Results: The results analyzed using the two-tailed Wilcoxon signed rank test were significant based on an alpha value of 0.05, $V = 0.00$, $z = -3.64$, $p < .001$. This indicated that the differences between Pre-CSSR and Post-CSSR were not likely due to random post variation. The median of Pre-CSSR (Mdn = 1.00) was significantly lower than the median of Post-CSSR (Mdn = 2.00).

Discussion: The results proved feasibility of a cognitive behavioral therapy-based group in the treatment of depression and suicidality of children in an inpatient unit.

Keywords: *Suicidal ideation, attempts, youth, depression, COPE, cognitive behavior therapy*

Feasibility of Cognitive Behavioral Therapy in the Treatment of Suicidality of Children

Suicidal ideation and attempts are increasing in the youth across the United States. Suicide is currently the second leading cause of death for children 10-24 years of age (Center for Disease Control and Prevention [CDC], 2016). Emotional dysregulation is proposed as a process connected to adolescent suicide attempts and ideation, which through clinical interventions could be improved successfully. The National Strategies for Suicide Prevention suggest suicide prevention activities that strengthen social supports, problem-solving and decrease the stigma of seeking help for mental health (Hatkevich, Penner & Sharp, 2019).

Background and significance

Children with a history of suicide attempts or those hospitalized for suicidal ideation are at risk for attempting suicide a second time within one month following discharge from the hospital. In some cases, children have a baseline of suicidal thinking and self-harming behaviors (Shain, 2016). This makes it difficult for providers to treat them with medication alone. A solution to this problem is providing these children with a clinical intervention that helps them regulate themselves and deal with the pressures of the world. Suicide is difficult in any age group, but it is much harder to accept when a child takes their own life before getting a chance to live.

There are factors that may predispose the child to risk of suicidality. These risks include single-parent families, violent environments, sexual abuse, substance abuse, gender identity struggles, preexisting mental health disorders, bullying and victimization (Wetherall et al., 2018; Lu, 2019; Shain & Committee on Adolescents, 2016). Mental health disorders that increase suicide risk include depression, anxiety, and attention deficit hyperactivity disorder (ADHD). According to Lan et al. (2015), ADHD is a strong risk factor for suicidality in adolescents.

ADHD may include impulsiveness, which is often present in suicide attempts (Lan et al., 2015). Healthy People 2020 includes objectives to reduce the proportion of adolescents who experience major depressive episodes and to reduce suicide attempts by adolescents to 1.7 attempts per 100 population (Office of Disease Prevention and Health Promotion, 2019).

Description of problem

It is important to know the difference between self- injury and suicidal attempts because patients may present with the same symptoms and they usually occur at the same time. Suicide attempts and nonsuicidal self-injury are strong predictors of death by suicide for the adolescent population (Iyengar et al., 2018; Olfson et al., 2018; Seymour et al., 2016; Knopf, 2017). There is also a common theme regarding lack of resources and the stigma associated with mental health disorders. Despite the focus on increasing rates of suicide for younger children, Singer, O'Brien, and LeCloux (2017) report that 40% of children with suicidality are never treated or diagnosed.

Problem solving and coping skills are deficient in adolescents with suicidal thinking and attempts (O'Brien, Singer, LeCloux, Duarte-Velez & Spirito, 2014). Evaluation of interventions to address these deficits reveals (CBT) as a standard treatment used with adolescents with suicidality and mood disorders. CBT is effective for improving mood and decreasing suicidality in adolescents. Hetrick et al. (2014) studied a web-based CBT program to aid in development of problem-solving and coping skills of adolescents with suicidal behaviors including suicidal thoughts. The 21 participants used the web-based CBT program and completed a pre/post assessment to determine if the coping skills, and problem-solving skills of the group would improve. The participants had better problem-solving skills and were also able to use positive coping skills to help regulate their emotions.

According to Lusk (2011), COPE is a CBT based program that can be implemented in a group setting or with a computer program. COPE is for children and adolescents who are struggling with depression and anxiety. It helps the patient recognize triggers for negative emotions and negative thinking to prevent negative behavior or suicidality. Alavi, Sharifi, Ghanizadeh, and Dehbozorgi (2013) evaluated the effectiveness of CBT on decreasing depression and suicidality in children and concluded that it was effective in helping improve the two variables. However, these studies did not evaluate COPE or the use of COPE on an acute Psychiatric inpatient unit.

There is an increase in length of stay for persistent suicidality of children in acute care hospital units. The patients are filling emergency departments, inpatient units, and stand-alone facilities with difficult to treat depression and suicidality. The child acute inpatient unit at child inpatient psychiatry unit have also experienced an increase in children and adolescents that have attempted suicide and have constant thoughts of suicide and self-harming behaviors. The self-harming behaviors are cutting, biting, drug overdose, and meal restricting. The child inpatient psychiatry unit has a high recidivism rate with a few patients returning the same day as discharge or weeks later with another suicide attempt.

The child psychiatry unit has recently added a psychology group to the programming that a social work facilitates that helps the patient understand their emotions and the coping skills they can use to apply to these emotions. The recreational therapist, behavior health technicians and nurses also do some therapeutic groups that are creative in nature to get the patients to talk about things that are bothering them. However, child psychiatry unit does not currently imply any CBT approaches such as COPE. The study not only had these elements but also included problem-solving that the children seem to lack in their day to day interactions and behaviors.

Purpose and rationale

The purpose of this Evidence-Based Practice project was to evaluate COPE to see if it is a feasible therapeutic group that can be performed on the inpatient child psychiatry unit. The goal of COPE was to provide tools for healthy living. Children are struggling to cope with stressors from their environment and their body image. Failure to cope increases depression and hopelessness. The suicide rates for children and adolescents continues to increase despite improvement in suicide awareness. Improving coping and problem-solving strategies may decrease SI and attempts. Suicide prevention can only be effective if the community is aware of the problem and recognizes when a child is showing the patterns and behaviors of suicide or suicidal ideation.

Epidemiological data

The CDC (2019) reports that the morbidity and mortality rate increased 56% for youth 10-24 years of age from 2007 to 2017, which accounts for 6.8 suicides per 100,000 youth. This surpassed the number of deaths from homicide, with a total of 2,553 deaths from suicide in 2016 compared to a total of 1,963 violent deaths in the same population (CDC, 2016). Part of this increase in child suicide may be that it has become a contagion among youth. There are increased reports of deadly incidents and a media sensationalism of death (Randall, Nickel & Colman, 2015). Suicide contagion happens when suicide attempts and self-harming of one group influences other children that are vulnerable to behave the same way (Randall, Nickel & Colman, 2015). The United States Department of Health and Human Services reports that in 2017, analysis of a survey of 9th to 12th grade students report that Arizona had a 19% suicidal ideation rate and 11% of students had one or more suicide attempts within the last year. This rate is compared to the national percentages of 17% for suicidal ideation and 7% for students that had

one or more suicide attempts. This places Arizona above national average percentages for suicide and suicidal ideation (HHS, 2017).

Internal evidence

The stakeholders of the child psychiatry unit reported a lack of problem solving and coping skills, self-regulation, and decision-making to have the ability to cope in normal life. Stakeholders wanted to implement a program that improved the coping strategies of the child and adolescent population in their care. The stakeholders wanted to implement more therapeutic groups and would start with COPE. COPE was chosen due to it being an evidenced based therapeutic group that has shown improvements in the deficits of suicidal and depressed children. The goal was to provide the children with tools to help with coping with life situations and crisis.

The patients are already screened twice a day for suicidality via the Columbia Suicide Severity Rating Scale which will be reviewed to provide additional support of feasibility of COPE in this population. The hoped outcomes were that patients scoring high/red scoring on the Columbia Suicide Severity Rating Scale at admission will decrease their scores down to low/yellow or negative scores after participation in the lessons of COPE. Along with the Columbia Suicide Severity Rating Scale a survey for the staff to complete once all 7 lessons for all the cohorts was implemented. This survey was to gain the thoughts and opinions of if the COPE groups are something that they see as added value to the program and feasible to sustain.

Based on the previously mentioned information, the following PICOT question emerged: “In children with depression and suicidality (**P**), is a CBT/COPE program based groups a feasible treatment (**I**) compared with medication alone (**C**) in the decrease of depression and suicidality (**O**) in a 10-14-day hospital stay (**T**)”?

Evidence synthesis

The search produced some articles that did not fit the aim of the project however, they provided information regarding the problem of suicidality in adolescents. At the beginning, the search was focused on looking for articles to include some younger participants, but there is minimal research regarding that population. Further into the search the intervention of CBT was searched for use in treating suicidal adolescents. Minimal articles were identified, but they provided information regarding the prevalence of the problem and skills that adolescents lack regarding coping. Many articles were found regarding adolescents with suicide and depression. It was difficult to find articles with effective treatment strategies that were published within the last five years.

Search strategy

An exhaustive search of the literature was conducted using the databases of Cochrane Library, PubMed, Trip, PsychInfo and Cumulative Index to Nursing and Allied Health Literature (CINAHL). Each database was searched with words similar to adolescents such as child, youth, teenager and teens. In collaboration with treatment, medications, treatment as usual, guidelines, and best practice. This search resulted in over 1,200 articles. Additional qualifiers were added to the search reducing the results by one-half. The next search had criteria in the advanced search box with terms to describe CBT such as Cognitive Behavior Therapy, individual therapy, and C.O.P.E. This provided minimal articles that focused on comparing the treatment as usual with CBT. Efforts to broaden the results of the search the population along with depression was searched, as well as with and without medication and CBT.

Foundation of research

Ten articles were selected for this literature review and were evaluated for quality using the Melnyk and Fineout-Overholt (2011) rapid critical appraisal questions. Six randomized controlled trials (RCTs), one dataset survey review, and one set of guidelines places the research at a high level of evidence (Appendix A). The remaining articles have a low level of evidence and are primarily opinion articles and a chart review (Appendix A). The sample sizes were adequate in all but three articles, where the numbers were below 30. Bias was denied in most of the articles with only one fully disclosing affiliation with large pharmaceutical companies. There were an equal number of articles from international sources, and the United States.

Evidence influences

A review of the literature guides the choice for scales that were used in the pre and post intervention. The Columbia Suicide Severity Risk Scale (CSSR-S) was used to assess status and to monitor trends. The scales will provide information regarding patients' feelings, thoughts, and action plan. Outcomes to be evaluated based on scales provided from patients pre/post intervention. C.O.P.E is the CBT- based intervention that was used to provide problem-solving skills and improve self-efficacy.

Eight of the studies used CBT with medications and resulted in decrease of depression and suicidality in adolescents. This evidence supported the use of a daily CBT group such as cope being used on an acute inpatient unit for adolescents and young children. The statistically significant results and homogeneity of these studies place them with a firm reliability and validity (Appendix B). These studies provided support for moving forward with the use of CBT based groups in hopes of decreasing suicidality and depression amongst children. In addition to

this research education was provided to parents during consent to provide the support needed as described in one of the studies that had better outcomes with parental involvement.

Evidence of foundational synthesis

Most of the articles were homogeneous, using the same scales to evaluate depression, suicidality, and suicide attempts. There was minimal exception to the use of CBT or medications, building a greater case for homogeneity. A significance number of the articles included decreasing depression and suicidality for adolescents with the use of medication, CBT or both (Appendix A). There were various scales used in the studies that had all the same outcome measures. Also, multiple types of CBT interventions were used to help decrease suicidality in adolescents (Appendix B).

Theoretical and implementation framework

The theoretical framework that was used for this project was the self-efficacy model, the rationale behind using this model was to help empower the children that they have a choice in how their feelings, thoughts and behaviors respond to crisis, uncomfortable situations or their surroundings. The implementation framework that was used was the evidence-based practice model, the rationale behind this was that an evidence-based CBT program, COPE was used on the participants to see if CBT based groups would be feasible in helping decrease suicidality and depression of children in an acute inpatient unit.

Theoretical framework

Adolescent suicidality starts with a feeling, that then turns into thoughts, which becomes an act of behavior; the goal is to stop negative thoughts before they become maladaptive behavior. This is the concept of CBT, to change the thinking from negative to positive to change the way that it is perceived. The ABC's of C.O.P.E identifies the pathway of the trigger event or

“Antecedent”, thoughts “Belief” and actions “Consequences”. The triggering event increases emotions and feelings going into a negative or positive thought, which then turns into negative or positive behaviors (Melnyk, 2011). C.O.P.E is trying to provide skills to recognize the triggering event, stay in the moment, and then move past it, instead of leading to negative behaviors.

The Conceptual Theory of Self-Efficacy described by Bandura (1977) is the belief in one’s own capabilities to follow a course of action and manage a positive situation. CBT motivates one to believe that you can change the negative thinking and actions into positive situations. Self-efficacy will empower those with little self-esteem and help them to accomplish all their goals if they belief in themselves. Positive and negative experiences can influence the ability of an individual to perform a given task. If one has performed task well in the past, he or she is more likely to feel competent to perform well in a similarly associated task (Bandura, 1977). Self-efficacy is the conceptual framework that aligns with the intervention of C.O.P.E.

Evidence-Based Practice model

Rosswurm and Larrabee’s (1999), Evidence-Based Practice (EBP) Model guides the implementation of evidence-based practice change. This EBP model will guided the therapeutic programming change that is supported by best practice. Key stakeholders include, the chief of psychiatry, the medical director of the unit, attending physicians, nurse practitioner, social workers, nurses, recreational therapist, behavioral health technicians (BHT), and the patients and their families. Concerns regarding the needs of the unit, lack of access to resources, limited skills teaching, and increased recidivism were discussed. The primary goal of the therapeutic programming change was to increase personal coping skills to decrease suicidal thoughts, suicide attempts, and to help decrease recidivism. Incorporating this in an acute inpatient child

psychiatry unit was feasible for the unit staff to teach the patients individually, and to use for therapeutic groups.

Project methods/description

The study patients participated in up to 7 groups of a 60-minute lesson of COPE each day, combined with interactive activities that helped them practice problem solving and coping skills. Although, it was hoped that the participants complete all 7 lesson sessions, some were discharged home prior to completion of all lessons. In this event their data will still be collected from their start and endpoint survey screens. The 7 lessons consist of group discussions of the following:

Lesson one: Goes over the connection of thinking, feeling and behaving

Lesson two: Covers self-esteem and positive thinking

Lesson three: Reflects on stress and coping

Lesson four: Incorporates solving problems and setting personal goals

Lesson five: Teaches children how to deal with their feelings in healthy ways

Lesson six: Instructs participants how to cope in stressful situations

Lesson seven: Pulls all the lessons together.

The feasibility of the COPE groups was measured by the consistent decrease of Columbia Suicide Severity Rating Scale at the beginning and conclusion of lessons as well as consistency of engaged participation in the COPE groups on the unit. The Columbia Suicide Severity Rating Scale was validated for the inclusion age of this study. This survey is a short version of the screenings and will take an average of 3-5 minutes to complete total and is already done twice daily on the inpatient psychiatry unit. The Medications, age of child, race and gender of each participant was also collected for detailed results of study. No labs, video or audio recordings are

included in this study. As previously mentioned, a staff survey was completed by as many staff as possible, post intervention implementation to gain input from staff on feasibility of COPE groups working on the inpatient psychiatry unit. Any concerning issues that come up during the groups were reported to assigned clinical provider by group facilitator. The provider met with the patient to assess for safety issues. If safety issues were identified the patient was placed on a 1:1 staffing around the clock with increased suicide precautions for safety monitoring.

Upon Admission to the child psychiatry unit participants that meet the inclusions criteria were identified by the nursing staff. They were given a flyer/letter that described the project. If parents were interested, they contacted, the researcher to discuss the study. If they gave consent, then the study will be reviewed with the child to obtain their assent.

Institutional review board (IRB) approval

Project site approval was received prior to implementation and further IRB approval was granted January 20, 2020. The Facility IRB, scientific review board and ASU IRB approval were all needed for this project. Each patient was given an anonymized ID unrelated to their identifiable information. The de-identified data was stored in a locked cabinet in the Latasha's office on the child psychiatry unit. Consents and the table linking the patients with the anonymized ID were stored in a separate locked cabinet in researcher's office. Deidentified Data was manually entered into an Intellectus Statistics database for analysis. The digital data was kept on a limited access server within the study site system. The data was stored for the length of time required by study site's IRB and until informed that data can be destroyed. Before a COPE lesson, each participant received a closed manila envelope with an anonymized identifier indicating the COPE group and lesson number (but not their ID). After each lesson the information went in the same envelope along with the screening surveys score for that day of the

study. They were collected and data was placed and stored in Intellectus Statistics for tracking and analysis.

Population

The project site was at a children's hospital, located in downtown central Phoenix in an acute inpatient psychiatry 23 bed co-ed unit. Twenty participants were enrolled to evaluate the feasibility of COPE being part of the Inpatient Child Psychiatric Unit curriculum. The inclusion criteria are as follows:

- Children 8- 12 years of age. This is the age we accept into the inpatient child psychiatry unit and age of development to complete lessons.
- Inpatient on the Child Psychiatry Unit with the main report of suicidal thoughts, gestures, behaviors (attempts) or depressed, already on medication for depression.
- Patients with a positive score on the Columbia Suicide Severity Rating Scale gathered clinically at admission.

The exclusion criteria are as follows:

- Participants that do not speak, read and write English.
- Participants that are of inclusion age but cognitive development of a lower age.
- Patients that are hearing impaired and/or blind

Instrumentation

Instruments used in this study include COPE manuals that include all the lessons with the homework assignments for patient to bring to next lesson to show that they retained information provided in lessons. The Columbia Suicide Severity Rating Scales (CSSR) for baseline and post intervention. The CSSR was completed per shift on the unit so data just had to be obtained prior to start of lessons and post intervention. CSSR is ranged low risk, medium risk and high risk for

suicide. The last instrument used was a researcher created Staff Survey asking for their opinion of the observations of the groups. The answers of the surveys were broken down into yes or no responses.

Data collection, and data analysis plan

Data collection was performed prior to start of first lesson and at the end of all lessons for each cohort. The data was entered into a locked Excel worksheet and upon the completion of all cohorts the data was uploaded to Intellectus Statistics program to help with analysis of data. The Staff Survey took some time to get back from staff, but once collected they were made into a separate Excel worksheet to be uploaded to Intellectus Statistics Program along with patient data.

The data analysis plan was to breakdown the demographics of participants by age, race and gender. Then to analyze the difference between the baseline CSSR scores with the post intervention CSSR scores for each participant. The analysis plan for the staff survey data was to demonstrate patient engagement effectiveness, sustainability and feasibility of COPE groups for the unit during study.

Results

Twenty youth participants demographic results of females (n=16, 80%) and males (n=4, 20%) for gender making females the majority for this project. Ages ranged from 10- 12 years old, 12-year olds (n=11, 55%) leading the group, followed by 10-year-olds (n=5, 25%) and 11-year olds (n=4, 20%). Caucasians and Hispanics tying at (n=9, 45%) for each race and coming in lowest of was African Americans (n=2, 10%). For this sample size there was a good range of age, gender and race.

Pre-lessons and post-lessons CSSR scores from screening tool were compared to evaluate the effectiveness of COPE on depression and suicide of the participants at baseline and

after intervention. The most frequently observed category of pre-CSSR was high ($n = 18, 90\%$). The most frequently observed category of post- CSSR was low ($n = 15, 75\%$) A two-tailed Wilcoxon signed rank test was conducted to examine whether there was a significant difference between pre-lesson CSSR scores and post-lessons CSSR scores intervention. The results of the two-tailed Wilcoxon signed rank test were significant based on an alpha value of 0.05, $V = 0.00, z = -3.64, p < .001$. This indicates that the differences between pre-CSSR and post- CSSR are not likely due to random variation. The median of pre- CSSR ($Mdn = 1.00$) was significantly lower than the median of post- CSSR ($Mdn = 2.00$).

Data collected from Staff Surveys resulted in the most frequently observed category of Staff was BHT ($n = 14, 56\%$). The most frequently observed questions on the survey of do the groups add value to program, do you think the groups are sustainable for the unit, does COPE groups help patients, and are patients engaged in groups? was yes ($n = 25, 100\%$). This indicates that all staff that completed surveys observed the COPE groups as effective and sustainable for patients on the unit.

Impact

The project had an impact on patients, guardians, providers and staff. The impact that was surprising during this project was the engagement and enthusiasm of the patients. Multiple patients were eager each day for group to start and to share their situations that aligned with the lesson topics. Guardians shared positive changes that they noticed in their child's behavior and mood. The providers were discharging patients earlier than their previous set discharge date and noticed a turnaround in the patients' mood, behaviors and engagement to treatment. The staff were engaged in the lessons as well, sharing with the group made the environment safe for the patients to share their situations without fear of judgment. One staff even was struggling with his

daughter at home and did the first lesson with her and reported that his relationship with his daughter was more open and they talked through problems. A huge success that impacted the unit was the one patient that had an eating disorder and suicidality. She had a nasal gastric tube placed for feedings and scored high on CSSR for weeks. Her disposition was to be sent to a eating disorder facility. After starting the lessons, she started to eat, participate in other therapeutic groups and mood stabilized bringing her CSSR score down to low. She was then able to have nasal gastric tube removed and she went home to her parents with linkage to an outpatient provider for her eating disorder and depression. All of this impacted the morale of the unit, it gave staff an increase in motivation and awareness of the help they provide the children.

Discussion

This DNP project aimed to check the feasibility of a CBT based group, COPE on the engagement and effectiveness of the group on the depression and suicidality of children in an acute inpatient psychiatric unit, which resulting in a significant improvement in the engagement and mood of the patients. The use of the self-efficacy model demonstrated the patients' changes in mood, feeling and behaviors was through their own empowerment in changing negatives into positives. This helped them adjust to their situations without it changing their behaviors. So essentially it permitted them self-efficacy in their lives. The overall project was stalled longer than expected due to IRB approval but in the end came together to prove that COPE is feasible in the treatment of treating this population.

Barriers

Limitations of this project was based on age, race, and gender that was admitted at the time of the implementation of the project limiting these categories. For example, the unit had minimal male patients that met inclusion criteria, so majority of project participants were

females. Some barriers were contacting guardians to gain consent for the patients to participate due to a good amount of the patients in the custody of Department of Children Services, which made it hard to get these patients consented. Another barrier was working around the unit program schedule as well as visitation, so it didn't disrupt the structure of the unit. Lastly, the site IRB process was very difficult due to the meeting times and different members thoughts on what the project should address, changed the project goals last minute.

Related findings

This study supported that CBT is effective in treating depression, suicide, self-harming and mood disorders. The project produced was ineffective for a small group of patients that were suicidal at baseline, they enjoyed sharing their suicidal thoughts, suicidal attempts and comparing self-harming scars with group. This is what this researcher labeled "sick group" these patients are a huge dynamic that will require other therapy modalities such as Dialectical Behavior Therapy (DBT). DBT is a known treatment of treating mood disorders, suicidality, change in behaviors including self-harm as well as the known treatment of borderline personalities. We had a small "sick group" in the last cohort that came to the first three lessons then they decided to withdrawal from the project. This outcome showed that CBT is not the only modality to work for the patients and multiple therapeutic modalities need to be available on the unit to reach all patients.

Recommendations

In review on the project the following recommendations are suggested, education and training of all staff on CBT specifically the COPE program so that they can continue with CBT based therapeutic groups as a part of the regular programming. In addition, there needs to be continued research to evaluate in real numbers the effectiveness of COPE on recidivism,

patients' length of stay, and how many patients it helps with depression and suicidality rates for this population. These recommendations will ensure the sustainability of COPE working in this inpatient unit's programming. The education to the staff will also provide for them the framework and understanding of CBT in hope that it will be something they can apply to any creative or activity group provided to patients. The supplementary research will also evaluate what other measures are needed to reach every patient that comes to the unit for help.

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Högberg et al. (2018). Mood regulation focused cbt based on memory reconsolidation, reduced suicidal ideation and depression in youth in a randomised controlled study Funding: none, authors report no conflict of interest Bias: Small sample group; Dysfunction of negative memories. Depressed individual has difficulty retrieving positive memories Country: Sweden	Theoretical Framework Memory reconsolidation Model Counter conditioning Concept	Design: RCT Purpose: Compare MR-CBT with TAU for suicidal DA	AG = 32 DG = 5 N = 27 n = 15 (MCBTG) n = 12 (TAUG) Setting: Four different outpatient units of BUP Children Psychiatric Clinics in Stockholm Sample Demographics: No significant difference in the groups Gender: Female: n = 19 Male: n = 7 Undetermined: n= 1 MA: 14.2 with SD 1.1 (MCBTG) 15.2 with SD 0.9 (TAUG) Inclusion:	DV1: Suicidality DV2: Depression DV3: Wellbeing IV1: MR-CBT IV2: TAU MR-CBT: Focuses on changing negative emotions surrounding reason for suicide and depression. With and without medication TAU: Medication without MR-CBT	C-SSRS, SMFQ and WHO-5	FET- compared the proportion of suicidal events and remission of depressive symptoms Wilcoxon matched pairs test- differences between baseline and endpoint data were estimated Mann-Whitney test- endpoint score difference between treatments was	Findings: In MCBTG and TAUG there was a significant reduction in scores pre/posttest of SMFQ In MCBTG and TAUG there was a significant increase in scores of WHO-5 index Both groups found some declined in depression after treatment DV1: MCBTG (p<0.001) TAUG: (p =0.2) DV2: MCBTG: significant with (p < 0.01)	LOE: II Strengths: The DV's looked at all side of depression and matched measurement tools that met each DV. Another strength would be all groups received treatment as needed. Weakness: The weakness would be small sample size, not enough quantitative data/statistics. Uneven observation of both groups. Conclusion: was that MR-CBT did show a clinically significant decrease in suicidality in depressed adolescents compared to TAU.

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	<p>critera was depression according to the SMFQ score</p> <p>Exclusion: criteria were need of a translator, and refugees lacking a residency permit</p>	<p>calculated</p> <p>Cohen's d- effect size was calculated with this</p> <p>SS- p = < 0.05 with two- tailed test</p>	<p>TAUG: (p= 0.2) not significant</p> <p>DV3: After treatment both groups scored normal but it difficult to interpret since there was minimal observation of the TAUG.</p>	<p>Feasibility/Application to patient population: This study was able to show clinical significance reducing suicidality with MR-CBT compared to TAU in depressed adolescents with a small sample size which makes this study applicable to the patient population and practice. The feasibility is there also in that providers can be trained in 6 days and it just a different approach to CBT.</p>
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<p>Ghaziuddin et al. (2014). A naturalistic study of suicidal adolescents treated with and SSRI: Suicidal ideation behavior during 3-month post-hospitalization</p> <p>Funding: National Institute of Mental Health</p> <p>Bias: economic disadvantage, high anxiety and parental characteristics</p> <p>Country: United States</p>	<p>Chart Reviews</p>	<p>Design: Retrospective Cohort Study</p> <p>Purpose: the purpose is to see if SSRI's alone or in combination with a mood stabilizer, an antipsychotic or both increase suicidality in depressed adolescents.</p>	<p>N = 120 n= 71 (SSRI) n= 17 (SSRI+ MS) n= 20(SSRI+ AP) n= 12 (SSRI +BOTH)</p> <p>Sample Demographics: Male: 25.8 Female: 74.2 W-80.8% AA-50% H-7.5 % O- 5.8% Mean Age: 15.1 Income: <\$40,000:17.9% \$40,000-80,000:35.7% >\$80,000:46,4% Public assistance:3.4 Inclusion: -recent SA and severe SI -ages 13-17 -Guardian consent and patient assent Exclusion: -Severe cognitive impairment or psychosis -direct transfer to medical unit</p>	<p>SRE: based on a parent's or the adolescent's report about a suicide attempt, psychiatric hospitalization (for any reason), or suicide-related visit to the emergency department.</p> <p>IV: SRE DV: SSRI</p>	<p>CIC BHS CASAFS KSAD-PL SIQ-JR YSR SAR MASC</p>	<p>T-test Chi-square ANOVA</p> <p>The medication groups differed significantly on baseline aggressive behavior (F [3] = 2.713, p = .046) and baseline thought problems (F [3] = 5.631, p = .001) identified on YSR subscales</p>	<p>. Participants who were prescribed SSRI + AP reported significantly greater thought problems than those prescribed SSRI alone or SSRI + MS; however, this group (SSRI + AP) did not significantly differ from SSRI + BOTH. Problems with aggressive behavior were significantly more common among those prescribed SSRI + BOTH, than among those prescribed an SSRI alone. There were no other group differences on the YSR.</p>	<p>LOE: IV</p> <p>Strengths: Depressed and simultaneously suicidal patient were a part of the study</p> <p>Weakness: The absence of control group, Lack of randomization of pharmacotherapy and checking blood levels or pill counts.</p> <p>Feasibility/Application to Practice: This will help be able to prescribe antidepressants to these families with proof that it does not exacerbate SI and families can be at ease with child taking SSRI</p> <p>Conclusion: That suicidal thoughts and suicidal behavior among depressed and suicidal adolescents who are receiving an</p>
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-transfer to residential placement
-Live > 40miles or hour driving from hospital.

Additionally, there were no medication group differences
SSRI, either alone or combined with another agent, are not likely to be exacerbated during treatment with these agents

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Citation	Theory/ Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables & Definitions	Measurement/ Instrumentation	Data Analysis (stats used)	Findings/ Results	Level/Quality of Evidence; Decision for practice/ application to practice
Alavi et al. (2013). The effectiveness of cognitive-behavioral therapy in decreasing suicidal ideation and hopelessness of the adolescents with previous suicidal attempts. Funding: Shiraz University of Medical Sciences. Bias: none Country: Iran	Open Label Clinical Trial	Design: RCT Method: Scales	N=30 n= 30 Setting: Patients admitted to Shiraz, Iran during summer 2011 to winter 2012	IV: Suicidal adolescents DV: CBT	-Scale for suicidal ideation BHS and Beck's Depression inventory.	T-test and Chi-square test using the SPSS software Determined significant level set at: 0.05	-Inventories in the control group did not change significantly P>0.05 -Inventories decreased significantly in the intervention group P<0.001	LOE: II Strengths: all participants stayed from beginning to end of trial Weakness: small sample size, lack of motivation to attend CBT Feasibility/ Decision for practice: This is a feasible intervention to recommend for the patient it that it helps change negative thoughts of the patient along with medication to lower SI. Conclusion: that CBT is effective in improving the mood of patient with SI and recent SA while providing the problem-solving skills.
Citation	Theory/Conceptual Framework	Design/ Method	Sample/Setting (describe)	Major Variables Studied and Their Definitions	Measurement/ Instrumentation (focus group, 1:1, researcher(s))	Data Analysis	Findings/ Themes	Level/Quality of Evidence; Decision for practice/ application to practice/ Generalization

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Knopf (2017). The program uses cbt in youth suicide prevention. Funding: unknown Bias: Up to therapist perceptions Country: US	CBT fit analysis Enhance psychopharm education for parents.	Design: RCT Method: CBT with patient and parent separately and together	N=42 n=42 Demographics: 21% gay or bisexual Patients and their families Inclusion: 12-18 years Self-harming or SU Exclusion: not noted.	DV1: SAFETY Program DV2: TAU	Therapist assessments Parent education CBT fit analysis	Descriptive analysis	That the program lost its benefits once patients were done with modules.	LOE: V Weakness: not enough information provided Strength included the family in therapy and provided education to parents. Feasibility and application to practice: Not feasible due to most therapist not having that time to give to each patient and parents with the different therapies. It would take commitment of the patient and their families for it to work as an application to practice.
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Randall et al. (2015). Contagion from peer suicidal behavior in a	Assortive relating	Design: Data set survey Review Method;	N=6504 n=3953 Demographics: Age 11-17	Variables based on subject questions:	ADDhealth Surveys	Regression Analysis Post HOC sensitivity	Although there were significant findings, they did not	LOE: II Strength: large sample size from multiple areas Weakness- to many

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<p>representative sample of American adolescents.</p> <p>Funding: Research grants from University of Manitoba's GETs program</p> <p>Bias: Type 1 error creating bias and other individuals in group effecting others.</p> <p>Country: Canada</p>	<p>Cluster sampling method</p>	<p>Mean age 14.5</p> <p>Inclusion: age 11-17</p> <p>Exposure or experience with SI/SA</p>	<p>analysis</p>	<p>explain the peer suicidal behaviors and exposure on future suicide risk.</p>	<p>variables.</p> <p>Feasibility/Application: Not feasible too much information to sort through. Application to practice could make provider aware of patient exposure to suicide to be able to monitor situation.</p>
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Robinson et al. (2015). Adolescent suicide: a primary care issue	Individual's thoughts and feelings are on how they see the world.	Narrative Review of interventions	Primary care office Adolescents with SA/SI	DV: Management IV: SA IV2: SI	BDI, MFQ, CDI GLAD-PC	That prevention of asking about depression with visits decreases the chances of	Health care providers must be cognizant of the risk for suicide among this	LOE: 1V Feasibility/ Practice to application: Primary care providers can just give surveys and review at each visit this can catch

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Funding: N/A Country: US						the patient seeing SA as only option	vulnerable population and screen for potential tragic but preventable phenomenon.	something before it is too late.
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Shain (2016). Suicide and Suicide Attempts in Adolescents Funding: reports no	Guidelines	Narrative Best practice	Hospitals, primary care office, crisis centers Increase in SI and SA in adolescence Inclusion: Adolescents age	DV- TAU DV2-CBT DV3- Interpersonal therapy IV- Adolescents with	Assessments and surveys	The best steps to take is assess the patient for depression and SI Medication management	Use of these guidelines will have better outcomes for depressed, suicidal adolescents.	LOE: IV Weakness: none Feasibility: Guidelines evidence-based instructions on treating this population with these

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external funding Bias:	9-18 with SI/SA/depression	depression IV2: adolescents with SI IV3 adolescents with SA	with SSRIs Therapies	mental health issues.
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Application to practice:
 These guidelines will provide a blueprint path to take to help with deciding on treatment of adolescents for depression and anxiety.

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Lusk et al. (2011). COPE for the treatment of	Evidence-based practice model	Design: RCT Method: pre and post evaluation	N= 15 n= 15 setting:	DV1: COPE IV1: Depression IV2: SA	Beck Youth Inventory II Scale and Personal Belief	Paired sample t-Test	pre-COPE (M = 58.33, SD = 11.80) to post-COPE	LOE: II Weakness: The research was done only with small

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depressed adolescents: lessons learned from implementing an evidence-based practice change	with follow up surveys	Community health setting in rural area Demographics: Mean age 14 Race: W Males: 6 Females: 9	Scale 10 Group: adolescents that complained of depression or SI in community health setting	(M = 46.13, SD = 7.47), t (14) = 4.75, p ≤ .0005 (two-tailed). The mean decrease in BYI scores was 12.20 with a 95% confidence interval ranging from 6.69 to 17.71	sample size in the same area. Feasibility/ application to practice: This study was conducted in the 30 min sessions and found to be effective in decreasing depression. Only requires a book and patient so very doable. This will provide a 7-lesson plan for provider to use with patient so that they are able to build rapport and obtain the information they need while supplying the patient with skills.
Bias: Author denies					
Country: United States					
Funded: Author Denies					

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<p>Kennard et al. (2014). Sequential treatment with fluoxetine and relapse-prevention CBT to improve outcomes in pediatric depression</p> <p>Bias: Dr. Emslie has some conflicts of interest with major pharmaceutical companies and labs.</p> <p>Country: United States</p> <p>Funding: NIMH grant</p>	<p>Concept: Resilience</p>	<p>Design: RCT</p> <p>Method: Continuation treatment</p>	<p>N=200 n=144</p> <p>Setting:</p> <p>MA</p>	<p>DV1: Depression</p> <p>IV1: fluoxetine</p> <p>IV2: CBT</p> <p>IV3: Both</p>	<p>CDRS-R and BDI-II, Clinical Global Impression scale</p>	<p>independent sample t test for continuous variables and chi-square or Fisher's exact test for categorical variable</p>	<p>the medication management plus CBT group had a significantly lower risk of relapse than the medication management only group (hazard ratio=0.31, 95% CI=0.13, 0.75). The estimated probability of relapse by week 30 was lower with medication management plus CBT than with medication management</p>	<p>LOE: II</p> <p>Weakness: Pharmaceutical connections.</p> <p>Feasibility/Application to practice: It is feasible but may lose patient in the process of gathering information.</p>
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APPENDIX B

Table 2

Synthesis

Author	Högberg,	Ghaziuddin	Alavi	Hetrick	Knopf	Randall	Robinson	Shain	Lusk	Kennard
Year	2018	2014	2013	2014	2017	2015	2015	2016	2011	2014
Design	RCT	Retro Chart Review	RCT	Pilot Study	RCT	Data Review	Guidelines	Guidelines	RCT	RCT
LOE	II	IV	II	II	V	II	IV	IV	II	II
Study Characteristics										
Sample size	27	120	30	21	42	3953			15	144
Setting	Outpatient Clinic	Inpatient	Inpatient	School	Outpatient	Community	All	All	Rural PCP	RCT
Age/Mean Age	14.2	15.2	15.1	15.6	16.2	14.5	Adolescents	Adolescents	14	
Measurement Tools	C-SSRS, SMFQ & WHO-5	KSADS-PL, CDRS-R, BHS, SIQ-JR, YSR, MASC, CASAFS & DISC-IV	Scale for SI, BHS, BDI-II	Coping Inventory, Patient Safety questionnaire	Therapist Assessment & patient's parent survey	ADDHealth survey & questions of the participant	BDI-II, MFQ, CDI, GLAD-PC	Assessments & Survey	BYI-II, PBS10, & assessment	CDRS-R, CGIS, BDI-II
IV										
CBT	•		•	•	•	•		•	•	•
TAU (SSRI)	•	•					•	•		•
MD		•								
Care Management							•	•		
AP		•								
Interpersonal Therapy								•		
DV										
SI	•	•	•	•	•	•	•	•	•	•
SA	•						•	•	•	•
Depression	•						•	•	•	•
Wellbeing	•						•			
SRE		•								
Outcomes										
Positive Outcomes	•	•	•	•			•	•	•	•

Author	Högberg,	Ghaziuddin	Alavi	Hetrick	Knopf	Randall	Robinson	Shain	Lusk	Kennard
Not Significance/Negative outcomes					•	•				
Improved mood/thoughts/behaviors	•	•	•	•			•	•	•	•

APPENDIX C

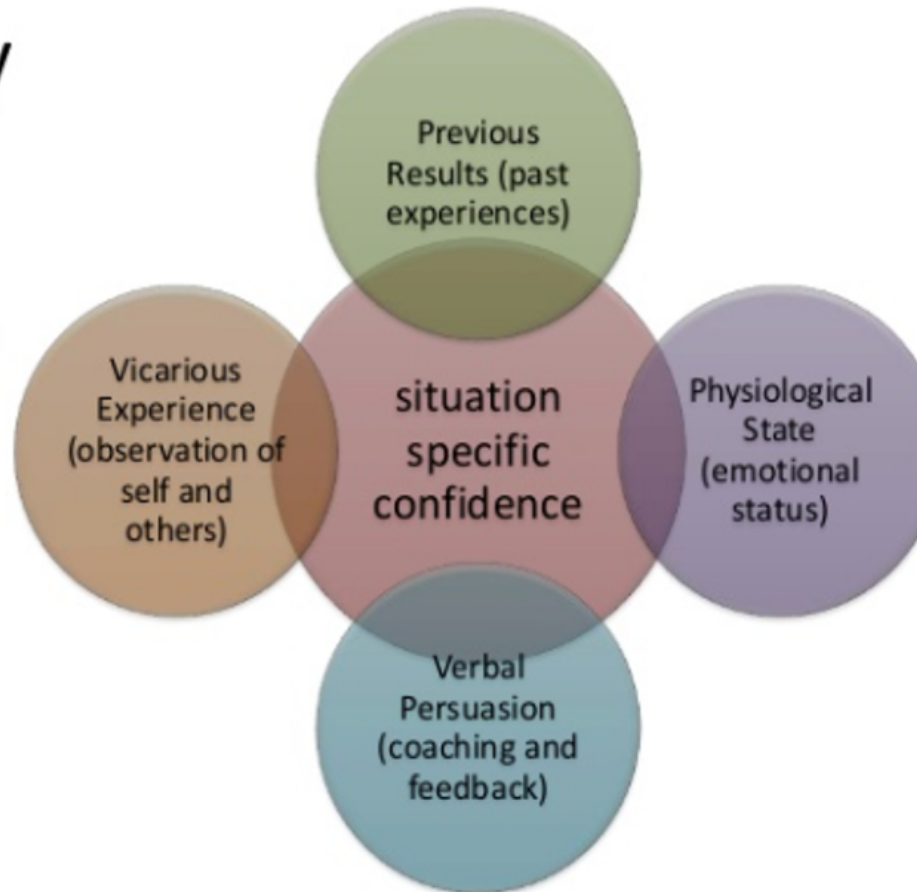
Illustration I

Self-efficacy Model

Self-Efficacy

Albert Bandura (1986)

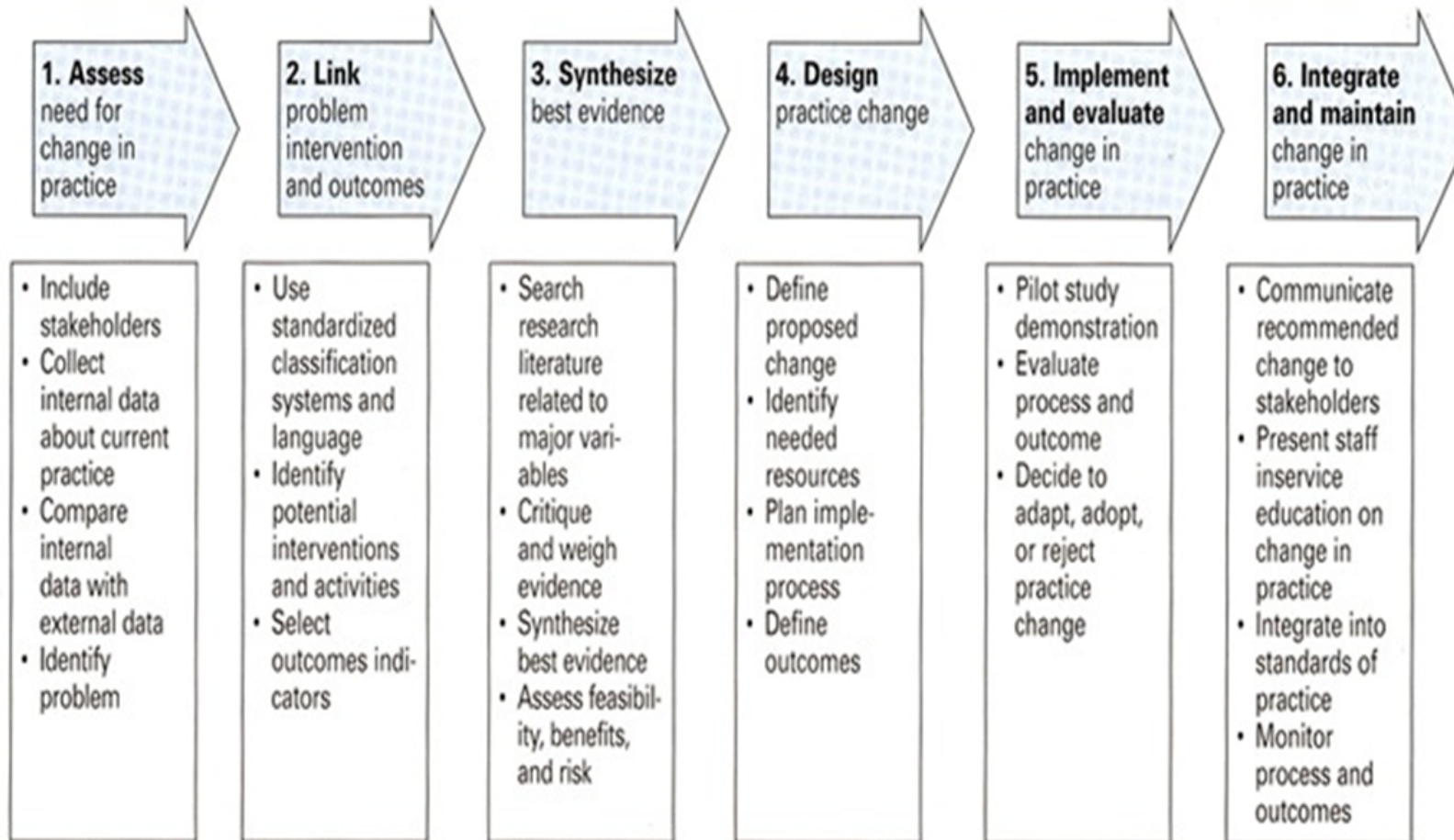
“the belief in one’s capabilities to organise and execute the courses of action required to manage positive situations”



APPENDIX D

Illustration II

EBP Model: Rosswurm & Larrabee



APPENDIX E

ILLUSTRATION III

Columbia Suicide Severity Rating Scale

<p>*Questions should be asked in reference to since last RN assessment. If admission assessment, ask questions in context of if patient had thoughts in last month</p>	<p>Since Last Contact*</p>	
<p>Ask questions that are bold and underlined</p>	<p>YES NO</p>	
<p>Ask questions 1 and 2</p>		
<p>6) Wish to be Dead: Pt endorses thoughts about a wish to be dead or not alive anymore or wish to fall asleep and not wake up. <u>Have you wished you were dead or wished you could go to sleep and not wake up?</u></p>		
<p>2) Suicidal Thoughts: General non-specific thoughts of wanting to end one's life/die by suicide, <i>"I've thought about killing myself"</i> without general thoughts of ways to kill oneself/associated methods, intent, or plan. <u>Have you actually had any thoughts of killing yourself?</u></p>		
<p>If YES to 2, ask questions 3, 4, 5, and 6. If NO to 2, go directly to question 6</p>		
<p>3) Suicidal Thoughts with Method (without Specific Plan or Intent to Act): Person endorses thoughts of suicide and has thought of a least one method during the assessment period. This is different than a specific plan with time, place or method details worked out. <i>"I thought about taking an overdose, but I never made a specific plan as to when where or how I would actually do it...and I would never go through with it."</i> <u>Have you been thinking about how you might do this?</u></p>		
<p>4) Suicidal Intent (without Specific Plan): Active suicidal thoughts of killing oneself and patient reports having <u>some intent to act on such thoughts</u>, as opposed to <i>"I have the thoughts, but I definitely will not do anything about them."</i> <u>Have you had these thoughts and had some intention of acting on them?</u></p>		
<p>5) Suicide Intent with Specific Plan: Thoughts of killing oneself with details of plan fully or partially worked out and person has some intent to carry it out. <u>Have you started to work out or worked out the details of how to kill yourself and do you intend to carry out this plan?</u></p>		
<p>6) Suicide Behavior <u>Have you done anything, started to do anything, or prepared to do anything to end your life?</u> Examples: Collected pills, obtained a gun, gave away valuables, wrote a will or suicide note, took out pills but didn't swallow any, held a gun but changed your mind or it was grabbed from your hand, went to the roof but didn't jump; or actually took pills, tried to shoot yourself, cut yourself, tried to hang yourself, etc.</p>		

APPENDIX F

Illustration IV

Staff Survey

Staff Survey Questions

1. In what way does the COPE groups add to the therapeutic programming on the unit for this patient population?
2. Do the COPE groups engage the patients in learning how to deal with behaviors, feelings and emotions?
3. Do you think that the COPE groups add to the value of the inpatient psychiatry programming?
4. Are the COPE groups in your opinion affective in helping this population problem solve and have coping skills?
5. Did you feel that the COPE groups were something the patient talked about or looked forward to attending?
6. Do you feel that the COPE groups could be something that could be done on the unit and sustainable?