A Survey of Adolescents’ Knowledge About Depression


Adolescent depression and suicide are major public health concerns. Best practices for suicide prevention and education in high schools are not well understood. The Adolescent Depression Awareness Program (ADAP) was developed to address depression education as an effective means towards decreasing the morbidity and mortality associated with adolescent depression. Adolescents’ baseline knowledge about depression was assessed to enhance curriculum development. The survey was administered to 5,645 high school students between 1999 and 2003. Results indicated that students had a cursory knowledge of depression facts but had gaps in knowledge about treatment and symptom identification.

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DEPRESSION AFFECTS approximately 5% of today’s teenagers (Shaffer et al., 1996a) and is considered the fourth most important disease in the estimation of disease burden (Murray and Lopez, 1996). The impact of adolescent depression on the individual and society is far reaching, as depression in teenagers has been found to significantly increase the risk of major depression and anxiety disorders, social dysfunction, nicotine dependence, alcohol dependence and abuse, educational underachievement, unemployment, early parenthood, suicide attempts and completed suicide (Fergusson & Woodward, 2002; NHMRC, 1997). Suicide, perhaps the most serious potential outcome of depression, was the third leading cause of death in 10 to 20 year olds in the United States from 1999 to 2001 (Centers for Disease Control and Prevention, 2003). Research suggests that as many as 7% of teenagers who develop major depressive disorder may commit suicide as young adults (Weissman, et al., 1999). This relationship between major depression and suicide cannot be overlooked, as research repeatedly shows that between 90% and 98% of teenagers who complete suicide are found to have a psychiatric diagnosis (Brent et al., 1999; Marttunen, Aro, Henriksson, & Lonnqvist, 1991; Shaffer et al., 1996b).

Given this strong correlation between depression and suicide, it was our belief that a school-based depression education curriculum would offer effective suicide prevention, while addressing the immense morbidity of major depression. Nurses are well poised to play a collaborative and integral role in developing, implementing and evaluating such a curriculum. As an initial step in developing and testing an adolescent depression education program, it was important to understand students’ baseline knowledge of depression to develop the content around gaps in knowledge. No studies were found that surveyed this group about knowledge of depression. What we know is largely anecdotal or based on individual clinical experiences.
The purpose of this article is to report the findings of a survey of 5,645 adolescents, conducted to assess teenagers’ knowledge of depression and bipolar disorder. Description of the education program and reports of the posttest results are presented in a separate publication (Swartz et al., 2004).

BACKGROUND

The high school population is an optimal target group for depression education because of the aforementioned high rate of suicide in this population coupled with the fact that depressive disorders often start in adolescence, with marked increase in period prevalence estimates from middle to late adolescence (Fergusson & Horwood, 2001; Hankin, et al., 1998). High schools themselves are excellent venues for health education programs, as schools are recognized as the most universal setting for delivering services to children and consequently are a major focus of the effort to improve children’s mental health services (Weist, Axelrod Lowie, Flaherty, & Pruitt, 2001; Leaf et al., 1996). Furthermore, today’s adolescents are accustomed to being taught in school about a myriad of health issues, from eating disorders to smoking to cardiovascular health to sex education (Wade, Davidson, & O’Dea, 2003; Thomas, 2002; Hoelscher et al., 2004; Buston, Wight, Hart, & Scott, 2002).

With regards to depression, however, we have found no publication to date, describing a school-based depression education program, although there are several reports of school based depression prevention programs (Burns & Hickie, 2002; Merry et al., 2004; Shochet et al., 2001; Oria, Cureton, & Canham, 2001). There are many reports of suicide prevention programs; however, in a large survey of such programs (Garland, Shaffer, & Whittle, 1989), the authors found only 4% of these studies adhered to the theory that suicide is usually a consequence of mental illness. Of these programs, 95% included in the survey espoused the view that youth suicide is most commonly a response to extreme stress or pressure and could happen to anyone. Many of these programs have been criticized for denying the role of mental illness in suicide and normalizing suicidal behavior (Burns & Patton, 2000). Despite the lack of knowledge about the best way to educate teenaged children about suicide, 75.1% of U.S. high schools require that some sort of suicide prevention curric-

um be taught (School Health Policies and Programs Study, 2000). Given this combination of inconclusive research on how to best teach suicide prevention, and the large number of schools requiring suicide prevention be taught, it seems imperative that we consider educating our teenagers about the illness of depression as a means to address both the morbidity and mortality of the illness. Furthermore, a collaborative approach to this type of education is fundamental for lessening the burden on our education systems and to strengthen the relationships among the education, mental health and public health systems (Weist, Axelrod Lowie, Flaherty, & Pruitt, 2001; Weist & Christodulu, 2000). The Adolescent Depression Awareness Program (ADAP) was developed to address these needs for depression education to be taught in high schools.

METHOD

ADAP was initiated in 1999 by a team of psychiatrists and psychiatric nurses from the Johns Hopkins University School of Medicine, and the Depression and Related Affective Disorders Association (DRADA), a nonprofit community-based organization and support group. Based on their clinical experiences and knowledge of the field, this team developed ADAP based on the fundamental premise that depression education is a critical means towards suicide prevention in teenagers. The mission of ADAP is to develop a school-based curriculum to educate high school students, teachers and parents about teenage depression. Over the 5 years since its inception, the ADAP team has developed and assessed a 3-hour curriculum which is currently being taught in local high schools by psychiatric nurses and psychiatrists. Thus far, ADAP has trained nine psychiatrists and psychiatric nurses to teach this curriculum. To date, it has been taught to over 5500 students in high schools in three East Coast states and the District of Columbia. ADAP’s development has been further enhanced by a strong collaborative approach, with a team that incorporates the expertise of psychiatric health care professionals, high school teachers and counselors, business professionals and teenagers and families affected by depression and suicide.

The ADAP team designed the program to incorporate rigorous methodology in curriculum development and assessment of students’ learning and attitude changes. Each time the curriculum is taught, the students are given a pretest of their
depression knowledge before the program is presented. The same survey is given as a posttest approximately 6 weeks after completion of the curriculum to evaluate changes in students’ knowledge. For the purpose of this article, however, we will focus on the pretest results to provide the important data on the scope of knowledge of teenagers before the intensive intervention. This will fill an important gap in our understanding of the current status of teen knowledge in this area. Data are reported for 5 years of the program.

Setting and Participants

The 5,645 students included in the survey were from 29 different public, private, and parochial high schools in three eastern states and the District of Columbia. The protocol received exemption status from the institutional internal review board as no identifying information or personal data were collected from the students. The schools were selected in two ways. In some cases the school contacted DRADA or ADAP staff directly and requested the curriculum be brought to the school. In other cases, the school was part of a large public school district that was already working with the ADAP team to incorporate the curriculum into all of its ninth grade health classes. Although we did not collect demographic data on individual students, the schools are well recognized as economically and ethnically diverse. As well, the students had a broad range of cognitive abilities, from honors students to those receiving special education services.

Procedure

After a brief introduction to the program, and before any teaching on the subject of depression, the ADAP instructors administered a pretest survey to each of the students in the class. An identical posttest survey was then administered at follow-up to assess for changes in knowledge and attitudes, following the teaching of the ADAP curriculum. A sign-in sheet was used to match the pretests with the posttests. The sign-in sheet was kept by the classroom teacher and destroyed after completion of the final survey to maintain anonymity.

Instrument

The survey, the ADAP Depression Knowledge Questionnaire, was developed specifically for this program to assess the extent to which the students had learned the curriculum and developed what we called “depression literacy.” The survey questions were revised slightly from year to year, based on feedback from students and analysis of the data from the previous year. The survey expanded from 8 to 13 “yes/no” questions over the first 3 years. Final refinement of the survey questions was completed in year 4 and the same survey was administered again in year 5. Only questions that were included for at least 2 years are reported in the findings. Questions 1 through 13 were dichotomous “yes/no” questions (Tables 1-3). Question 14 (Table 4) asked the student to list five symptoms of depression and question 15 (Table 5) asked the students to list two symptoms of mania. Only correct symptoms were counted when tallying data. The final section of the survey consisted of four open-ended “attitude” questions that are not summarized in this report.

RESULTS

Table 6 outlines the summary scores or “grade” on the yes/no questions of the pretest. The majority of students were not able to answer 80% of these questions correctly. Tables 1-3 reflect the individual questions on the pretest, categorized according to the years the specific questions were asked. Most of the students were able to answer questions.
1, 2, 3, 7, and 13 correctly. Questions 4, 5, 6, 8, 9, 10, and 11 were answered correctly by 50% to 80% of the students and less than one third of the students were able to answer question 12 correctly. Tables 4 and 5 reflect the students’ responses to questions 14 and 15, which required the students to list symptoms of depression and mania, respectively. Less than half of the students were able to list four or five correct symptoms of depression and the majority of students were not able to correctly list two symptoms of mania.

DISCUSSION

The goal of the ADAP was to increase adolescents’ knowledge about depression with the intent of decreasing the number of teenagers who suffer from affective disorders without treatment. The data clearly showed that the intervention of depression education in high schools is necessary, as only 245 or 4.3% of the 5,643 students who took the pretest were able to answer 100% of the dichotomous yes/no questions correctly. Lowering the benchmark further for assessing depression literacy, 3,603 or 63.8% of the students answered less than 80% of the questions correctly. Clearly, there is a significant gap in depression knowledge, justifying ADAP’s focus of depression education in the high schools.

Despite the impressively low overall scores on the pretest, on closer examination of each individual yes/no question, it appears that these teenagers do have a basic, cursory knowledge of affective disorders. For example, 80% or more of the surveyed teenagers knew the following: prevalence of depression, that it is not a normal part of adolescence, it runs in families, no one is immune from the illness, and a major stress does not always cause a depressive episode. Furthermore, 70% or more of the teenagers were aware that the cause of depression is not well understood, that changes in behavior or the use of drugs and alcohol can be symptoms of depression and that depression is a treatable medical illness. These results are encouraging, although serious gaps remain particularly for the roughly 20% of students who did not answer these questions correctly.

When we examined the questions that 70% or less of the students answered correctly, several interesting findings emerged. First, looking at question 4 (“depression can be controlled through willpower”) and question 12 (“major depression is a curable illness”), we noted that the teenagers were not well versed in concepts related to treatment. Almost half of the total sample (n = 2,558) indicated that they believed that depression can be controlled through willpower. This is an alarming
number, given that the converse is true and treatment is imperative to getting a teenager back on track socially, academically and emotionally and decreasing the possibility of suicide. Further, more than half of the sample (n = 3,458) indicated that they believed that depression is curable. This has major implications for treatment. If teens believe that depression can be cured, concerns emerge about long term noncompliance with treatment that might threaten a teenager’s ability to get well and stay well.

Another question where the teens appeared to have a gap in knowledge was in question 9 (“a person with depression always feels sad”). Almost one third of the sample, or 1,647 teenagers answered this question incorrectly. We know that teenagers with depression more often describe an irritable or angry mood rather than a sad mood. Misunderstanding of this concept also has treatment implications, as teens might not believe themselves or someone else to be suffering from depression if their affect is not appearing sad and consequently might not seek help. Finally, for question 11 (“bipolar disorder is more common than major depression”) almost half of the sample or 2,175 teenagers indicated that they believe that bipolar illness is more common than major depression. This is of less concern than the aforementioned knowledge gaps, but also noteworthy, as only 1% of teenagers suffer from bipolar disorder (Lewinsohn, Klein, & Seely, 1995). It may also reflect a broader misunderstanding of bipolar illness in general.

Finally, responses to questions 14 and 15 bring further treatment implications to light. Question 14 (“list 5 symptoms of depression”) was included because a teenager’s ability to list symptoms of depression is crucial if they are going to be able to identify the illness in themselves and in peers. A total of 3,112 students were only able to list three or fewer symptoms of depression. As the requirement for a diagnosis of depression is five or more symptoms present for 2 or more weeks (DSM-IV-TR), it is imperative that teens need to know what the symptoms are to recognize the illness. The symptoms of mania are even less understood, as more than 80% or 3,663 students could not even list one symptom of mania, an illness that requires three symptoms to be present for 1 week to receive the diagnosis of bipolar disorder (DSM-IV-TR). Although bipolar illness is less common than depression, the implications of it going untreated in an adolescent are extremely severe.

Although the survey was conducted with a large sample size, we recognize that there are limitations. First, the instrument used to collect the data was developed for the study. The psychometric properties of the survey need to be evaluated in future studies and the questions perhaps modified as a result. Second, the lack of demographic information on the students limits our ability to make inferences and tailor the educational program to meet the needs of different student populations. Third, the sample population was not randomly selected and conclusions based on this sample might not be applicable to the general adolescent population. Finally, we do not know that an

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<tr>
<th>Table 4. Question 14: List Five Symptoms of Depression for Years 2-5*</th>
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<tbody>
<tr>
<td>Number of Correct Symptoms Students Listed</td>
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<tr>
<td>0</td>
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<td>1</td>
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<td>2</td>
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<td>3</td>
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<td>4</td>
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<tr>
<td>5</td>
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<td><strong>Total N = 5,121</strong></td>
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*Fall 2000 to Fall 2003.

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<th>Table 5. Question 15: List Two Symptoms of Mania for Years 3-5*</th>
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<tbody>
<tr>
<td>Number of Correct Symptoms Students Listed</td>
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<tr>
<td>0</td>
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<tr>
<td>1</td>
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<tr>
<td>2</td>
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<td><strong>Total N = 4,401</strong></td>
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*Fall 2001 to Fall 2003.

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<th>Table 6. Summary Scores for Dichotomous Yes/No Questions on the ADAP Depression Knowledge Questionnaire: Fall 1999 to Fall 2003 Semesters</th>
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<tbody>
<tr>
<td>Summary Score</td>
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<td>100%</td>
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<td>≥80%</td>
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<td>&lt;80%</td>
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*Two subjects with individual missing questions not included in calculations.
crease in knowledge about affective disorders will necessarily impact behavior in this population.

Despite the limitations, implications for practice, research and policy can be considered. Psychiatric health care practitioners, as well as school-based educators and school nurses, must not ignore the gaps in knowledge about depression in this age group and might tailor educational interventions to include more content on depression. If educators have limited time to deliver information on affective disorders to high school students, priority needs to be given to symptom recognition and treatment issues, particularly reiterating that depression cannot be controlled through willpower and long term treatment is essential to a full and safe recovery. Furthermore, the delivery of a curriculum about depression is well suited for a psychiatric practitioner with a wide breadth of knowledge in the field, as the teenagers might need more detailed and specific information than what a health teacher is able to deliver. The school nurse might be an ideal resource for further clarifying the information and reiterating the concept through his or her role that depression is a medical illness that needs evaluation by a medical professional.

The research implications arising from these data are numerous. Gathering biographical data on the students would enable us to apply the findings more confidently to different populations of teenagers. Correlations between level of knowledge and subsequent behavior must also be investigated to determine if depression education programs are effective in case identification, accessing treatment and long term compliance to treatment. More specifically, the relationship of depression education in this format to the suicide rate among teens must be examined. Finally, replication of this survey in other settings and geographic locations would further enhance the generalizability.

Answers to these research questions will help to drive public policy in this arena, as current suicide prevention programs are still not well understood and are generally not scientifically based. Through careful research, we may learn what is the most effective intervention to decrease the morbidity and mortality of adolescent affective disorders.

This large-scale survey of adolescent knowledge about depression and mania is significant in beginning the discussion and furthering the research of whether or not depression education is an effective form of suicide prevention. The statistics certainly suggest that it cannot be overlooked as a possible strategy. High school students seem to have a good basic knowledge of the illness, although the nuances that will facilitate treatment and compliance with care need to be brought to the classroom. Too many of our nation’s teenagers are suffering unnecessarily and even taking their lives due to misconceptions about the illness of depression and its treatment. Understanding what they know is a crucial step in formulating interventions to end the suffering of teenagers grappling with affective disorders.

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REFERENCES


