Original Research Article

A study to assess the effectiveness of the video-assisted teaching on anorexia nervosa among adolescent girls in selected colleges

ABSTRACT

Background: Anorexia nervosa (AN) is a debilitating psychiatric disorder associated with a wide array of negative health complications and psychiatric comorbidity. Existing evidence for AN treatment in adults is weak, and no empirically supported treatment has been reliably established. The primary objective of this study is to gain knowledge about the effectiveness of enhanced cognitive behavioral therapy (CBT-E) for anorexia nervosa delivered in a public hospital setting. Baseline predictors of treatment outcome and dropout are studied. Furthermore, there will be collected blood and stool samples for a general biobank to be able to initiate research on possible pathophysiological mechanisms underlying anorexia nervosa **Method:** This study was based on a Quasi-experimental one-group pre-test and post-test research design. In this study, 60 adolescent girls are included. The sampling technique used in this study was the nonprobability convenience method of sampling. Data was collected by using questionnaires. **Results:** that in pre-test 14(28%) of the adolescent girl were having poor knowledge, 68% of them had average and 4% of them had a good level of knowledge score. The minimum score in pre-test was 3 and the maximum score was 11, the mean score for the pre-test was 6.88 ± 2.04with a mean percentage score of 34.40 ±10.23 whereas in post-test 8(16%) of the adolescent girl were having average knowledge, 70% of them had good and 14% of them had an excellent level of knowledge score. **Conclusion:** Thus, it is concluded that the planned teaching on prevention of anorexia nervosa among adolescent girls was effective in improving the knowledge.

Keywords: Anorexia Nervosa, Knowledge, Adolescent Girl.

Introduction

Anorexia nervosa (AN) continues to have a serious prognosis despite considerable efforts to improve its treatment. Poor outcomes and a chronic course of the disease have been reported in 15%–20% of cases, and premature death occurs. In the Global Burden of Disease Study 2013 eating disorders in women aged 15–19 in Western Europe rank as number 7. However, in Sweden, mortality due to AN has decreased dramatically. The most recent lethal case of AN in a person under 20 was recorded in 1991 by the Swedish Causes of Death Register.[1]

There are ambiguous findings concerning the prognosis of AN with adolescent-onset. Some studies report a better prognosis compared to later-onset AN, whereas others report that pre-menarche onset has a poorer outcome. Most studies are from specialist units where the referral system may cause selection bias. Also, randomized controlled trials (RCTs) that have been performed are difficult to interpret as many patients evade randomization and follow-up.[2]

There is increasing consensus that the start of treatment for adolescent AN should focus on weight restoration. Psychosocial treatment with reinforcement of parental engagement, the Maudsley model, has shown the best long-term outcome in adolescent AN. The evidence supporting individual psychotherapy is weak. Costly in-patient treatment, with disruption to everyday life, is still used for initiating weight restoration. However, outpatient and day-patient treatment are equally effective and may have fewer untoward effects. Therefore, the latest recommendations emphasize treatment provided by specialized eating disorder (ED) services in out-patient settings with parents involved in treatment. The ED service at Uppsala University Hospital, serving Uppsala County, was reorganized in line with these emerging recommendations in 2003. Moreover, the referral system was improved to shorten waiting lists and to enable assessment without delay. We have analysed the 1-year outcome of a cohort of adolescent girls diagnosed with AN or an eating disorder not otherwise specified with restrictive eating behaviors (EDNOSr) in Uppsala County, Sweden, treated between 2004 and 2006. Since there is no universally accepted measure of recovery from an ED, we have used the following three outcome measures: 1) Not fulfilling the diagnostic criteria for AN, bulimia nervosa (BN), or eating disorder not otherwise specified (EDNOS) of the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-

IV); Good outcome according to the Morgan–Russell Outcome Assessment Schedule (MROAS); and School attendance on a full-time basis. For each of the outcome measures, a prediction analysis based on the data registered at the presentation of the ED was performed. Furthermore, we calculated the incidence of AN among girls up to the age of 18, based on the treatment-seeking patients in our catchment area. Eating is a basic need that is taken for granted by most human beings. However, disorders of eating are severe mental disorders that are listed among the most common chronic illnesses among youth and are often associated with high personal, familial, and societal costs. In anorexia nervosa (AN), the mortality risk is higher than for other serious diseases of adolescence, such as asthma, type 1 diabetes, or any other psychiatric disorder. [3,4,5]

There is some evidence that the age of onset of AN has been decreasing in recent decades and that childhood and adolescent AN are on the rise. However, despite the seriousness and high chronicity of the illness, it remains a relatively small research area with significantly fewer publications than in other fields of mental disorders. Research on AN treatment has been particularly neglected. Only 12 papers among the top 100 cited papers published in the AN field address therapeutic strategy, although there have been some scientific advances that may be translated into new treatment methods. This article aims to present a clinically relevant overview of recent progress in the treatment of childhood and adolescent AN to support early intervention and effective treatment strategies in this serious disorder of youth. New developments in the concept and definition of eating disorders, especially of AN, as effectuated in DSM-5 and the beta draft of ICD-11.[6]

Background of the Study

Anorexia nervosa (AN) is a debilitating psychiatric disorder associated with a wide array of negative health complications and psychiatric comorbidity. Existing evidence for AN treatment in adults is weak, and no empirically supported treatment has been reliably established. The primary objective of this study is to gain knowledge about the effectiveness of enhanced cognitive behavioral therapy (CBT-E) for anorexia nervosa delivered in a public hospital setting. Baseline predictors of treatment outcome and dropout are studied. Furthermore, there will be collected blood and stool samples for a general biobank to be able to initiate research on possible pathophysiological mechanisms underlying AN. [7]

Although the nutritional status of children and adolescents is of great concern various interventions and modifications aiming at the promotion of healthy eating behaviors have limited impact due to insufficient understanding of dietary habits between different age groups and genders. The aim of this study is not only evaluation of nutritional knowledge, practice, and dietary habits of primary school and junior high school students in Isfahan province, but also this research explore crucial differences regarding gender and living area of the above-mentioned population in Iran. [8]

Need of the study

Anorexia Nervosa is an eating disorder that primarily affects adolescent girls and young adult females, and is considered to be rare among males. It is estimated that 1 in 200 adolescents between the ages of 12 and 18, the high-risk group, develop anorexia nervosa and 90% of those affected are females. There has been a study increase in the reported incidence of male anorectics, from approximately 5% to as much as 10% in due to the cultural pressures for girls to be thin, professionals and parents are alert to the potential for risky dietary behavior; however, many male anorectics remain unnoticed. [9]

A national survey was conducted in found that 1 teenage girl in 8, and 4% of teenage boys had serious symptoms of anorexia nervosa and bulimia, and that one-third of both adolescent boys and girls have engaged in food binges. It also found that more than half of these adolescents resort to vigorous exercise, fasting, vomiting, and using purgatives to control their weight. Thus, contrary to common perception, these statistics indicate that boys, as well as girls, are engaging in destructive dietary practices. [10]

They collected data from 59 girls with anorexia nervosa and 58 girls with bulimia nervosa. These girls ranged in age from 12 to 17 years, with an average age of 15.4 years. All but three of the girls were non-Hispanic, White. In the process of completing measures during the intake evaluation at the university-based clinic, the girls indicated whether they had ever used each of eight substances: alcohol, amphetamines, barbiturates, hallucinogens, marijuana, tranquilizers, cocaine, and cigarettes. They were also asked whether they had ever experienced several problematic behaviors: attempted suicide, physical self-harm, stealing, and sexual intercourse. Nearly all of the girls completed the Eating Disorders Inventory. The eating disorders inventory is a

widely-used instrument designed to measure several characteristics which often accompany disordered eating, including drive for thinness (fear of fat), bulimia (or loss of control over eating), body dissatisfaction, sense of personal ineffectiveness, perfectionism, interpersonal distrust, maturity fears (or the desire to remain a child), and relative lack of interoceptive awareness (confusion and apprehension in recognizing and accurately responding to emotional states). [11]

A study was conducted on osteoporosis among adolescent girls with anorexia nervosa and may result from the premature conversion of red to yellow bone marrow. They performed right knee magnetic resonance imaging on a 1.0 T extremity scanner in 20 patients and 20 healthy controls, aged 16.2 +/- 1.6 years. Blinded radiologists visually assessed red bone marrow in the distal femoral and proximal tibial metaphysis in T (1)W images using a scale of signal intensity from 0 to 4. Subjects with anorexia nervosa exhibited nearly 2-fold lower. [12]

A study was conducted to describe the prevalence of eating disorders among Spanish adolescents and to present the reliability of the Catalan version of the EDE-12. the method used as a community sample of 1155 participants, and a risk sample of 93 participants, aged between 10.9 and 17.3 years old, from the city of Barcelona participated in the study. The study involved 2 stages: first, an initial screening with the Eating Disorder Inventory-2 and second, a structured clinical interview. The result showed that 1.28% of the total sample was detected as an eating disorder (2.31% of girls and 0.17% of boys). The researcher concluded that Symptoms of anorexia and bulimia nervosa were higher among girls than boys. [13]

A study was conducted on the perception of Sociocultural factors are important in the pathogenesis of eating disorders. They examined some core features of eating disorders, i.e., drive for thinness and dissatisfaction with the weight of the abdomen, hips, and thighs among women in Canada and India. The method uses a total of 65 Canadian (mean±SD. age: 21.4±2.0 years) and 47 Indian (mean±SD. age: 18.7±4.1 years) women who completed the Drive for Thinness and Body Dissatisfaction subscales of the Eating Disorder Inventory and in addition rated the degree to which they believed all major regions of their body were overweight. The result showed that after the effects of body mass index were partially out statistically, the Drive for thinness and body dissatisfaction scores were not significantly different between the two countries. In

both groups, concerns about the weight of the abdomen, hips, thighs, and legs loaded on a factor that essentially described the 'body dissatisfaction' construct. The researcher discussed that in contrast to the Canadian women, the Indian women did not overestimate the 'fatness' of their abdomen, hips, thighs, and legs. Among the Indian women, concerns about the weight of the upper torso (i.e., face, neck, shoulders, and chest) emerged as a distinct body image construct. [14]

Objectives

1. To assess the pre and post-test level of knowledge of anorexia nervosa among adolescent girls as measured by video-assisted teaching.
2. To evaluate the effectiveness of video-assisted teaching in terms of gain in mean post-test knowledge score regarding anorexia nervosa among adolescent girls.
3. To find out the association between the mean pre-test knowledge score with selected socio-demographic variables.

Hypothesis

- **H1-** There will be a significant difference in the knowledge, attitude, and practice of the anorexia nervosa among adolescent girls in the selected area
- **H2-** There will be a significant association among the knowledge, attitude, and practice, and selected demographic variables

Assumption

1. The degree college female students will have some knowledge anorexia nervosa
2. Feel free to express their attitude toward anorexia nervosa.
3. The adolescent girls are interested to participate and give reliable information regarding anorexia nervosa

Methodology

An evaluatory approach was used in this study. The research design used in this study is a pre-experimental - one-group pre-test post-test design. The sample is primary school teachers in selected schools in Wardha Dist. probability convenient sampling technique used as a sampling technique and sample size is 60 adolescent girls.

Inclusion Criteria

1. An adolescent girl can read or write Hindi or Marathi
2. Who are available at the time of data collection

Exclusive Criteria

1. An adolescent girl who is not willing to participate in the study
2. Adolescent girls do not know to read or write Hindi or Marathi

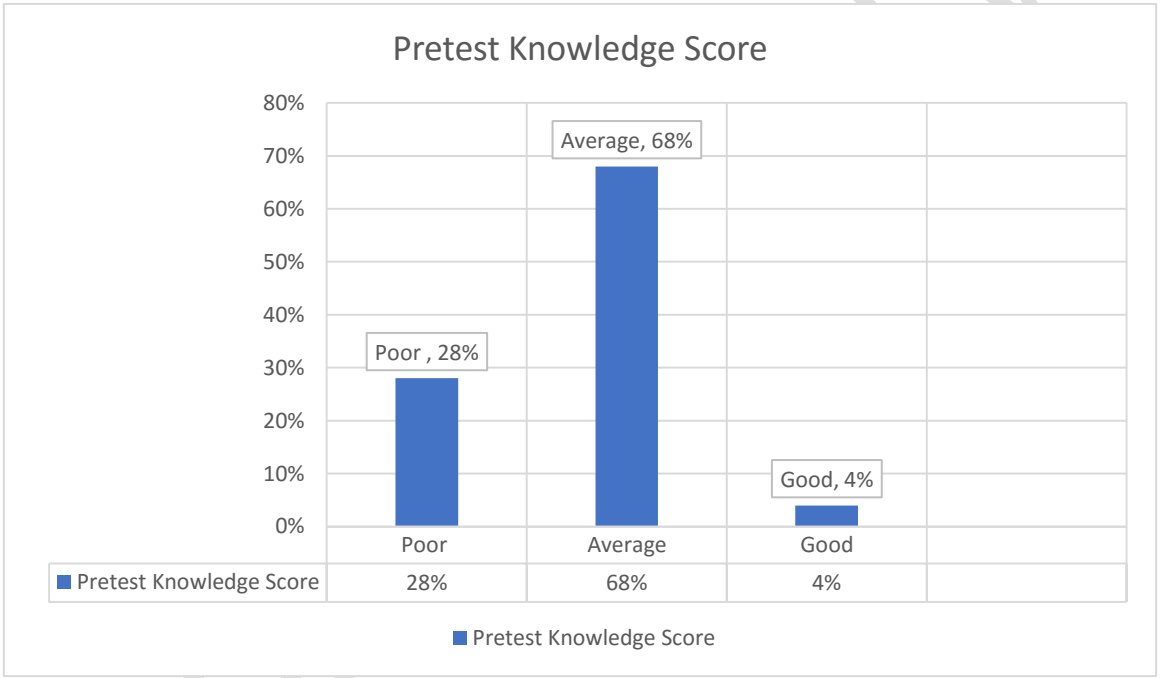
Result

Major Findings of the Study and Discussion

This study shows that 46.0% of the samples were in the age group of 21-24 years. Religion reveals that the majorities 80.0% of the samples were having Hindu; educational status reveals that the majority 58.0 % of the samples were having higher secondary education. Occupation shows that the majority 94.0%of the samples were housewives. Their income illustrates that the majorities 50.0% had a family income below 20000-30000(Rs.). 64.0% of the sample were in a nuclear family. 66.0% of the sample were mixed vegetarian.

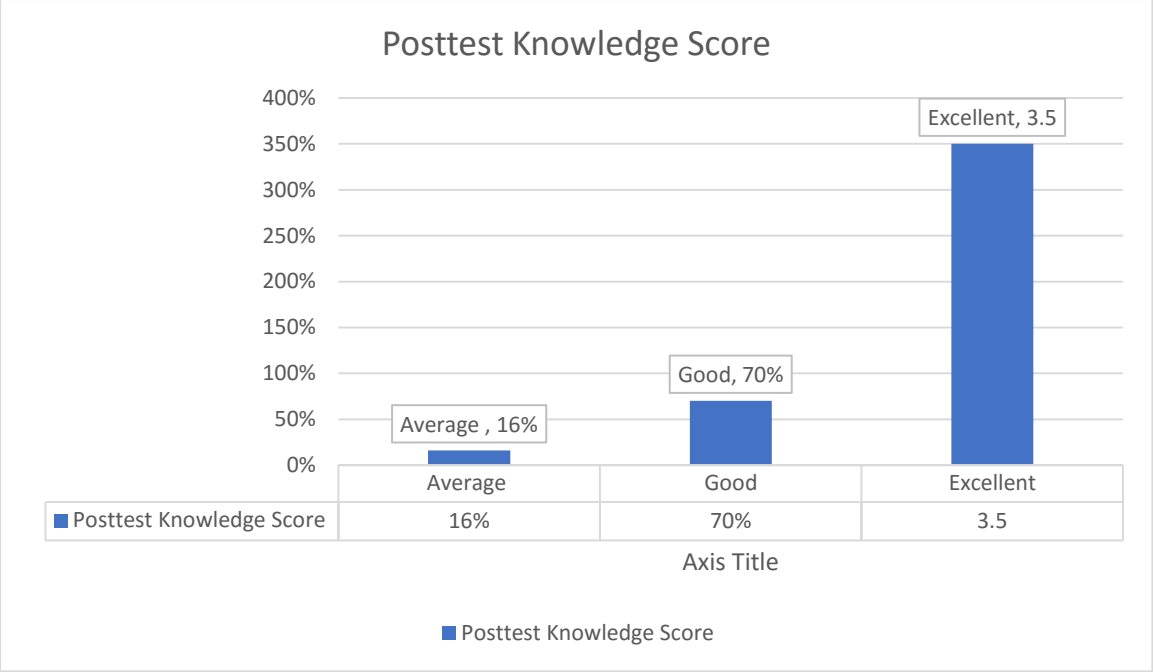
The study shows that in pre-test 14(28%) of the adolescent girl were having poor knowledge, 68% of them had average and 4% of them had a good level of knowledge score. The minimum score in pre-test was 3 and the maximum score was 11, the mean score for the pre-test was 6.88 ± 2.04with a mean percentage score of 34.40 ±10.23 whereas in post-test 8(16%) of the adolescent girl were having average knowledge, 70% of them had good and 14% of them had an excellent level of knowledge score. The minimum score in the post-test was 8 and the maximum score was 19, the mean score for the post-test was 13.28 ± 2.49 with a mean percentage score of 66.40 ± 12.45. The video teaching program on overall knowledge regarding prevention of anorexia nervosa among adolescent girls of selected colleges in Wardha district was effective. Thus, the H1 is accepted. This shows the association of knowledge scores with age in years of an adolescent girl. The tabulated 'F' values were 2.76 (DF=3, 46) which is much less than the calculated 'F' i.e., 2.89 at a 5% level of significance. Also, the calculated 'p'=0.045 which was much less than the acceptable level of significance i.e., 'p'=0.05. Hence it is interpreted that age in years of an adolescent girl is statistically associated with their post-test knowledge score. There was no association with demographic variables.

Level of satisfaction	Pre-test score
Poor	28%
Average	68%
Good	4%
Maximum	3
Minimum	11



Graph no.1: Pre-test knowledge score effectiveness of the video-assisted teaching on anorexia nervosa among adolescent girls.

Level of satisfaction	Post-test score
Average	16%
good	70%
excellent	14%
Maximum	8
Minimum	9



Graph no.2: Post-test knowledge score effectiveness of the video-assisted teaching on anorexia nervosa among adolescent girls.

Discussion

The study shows that in pre-test 14(28%) of the adolescent girl were having poor knowledge, 68% of them had average and 4% of them had a good level of knowledge score. The minimum score in pre-test was 3 and the maximum score was 11, the mean score for the pre-test was 6.88 ± 2.04with a mean percentage score of 34.40 ±10.23 whereas in post-test 8(16%) of the primigravida mothers were having average knowledge, 70% of them had good and 14% of them had an excellent level of knowledge score. The minimum score in the post-test was 8 and the maximum score was 19, the mean score for the post-test was 13.28 ± 2.49 with a mean percentage score of 66.40 ± 12.45.[15] The planned teaching program on overall knowledge regarding the prevention of low-birth-weight babies among adolescent girls of selected colleges in Wardha district was effective. Thus, the H1 is accepted. This shows the association of knowledge scores with age in years of an adolescent girl. The tabulated 'F' values were 2.76 (DF=3, 46) which is much less than the calculated 'F' i.e., 2.89 at a 5% level of significance. Also, the calculated 'p'=0.045 which was much less than the acceptable level of significance i.e., 'p'=0.05. Hence it is interpreted that age in years of an

adolescent girl is statistically associated with their post-test knowledge score. There was no association with demographic variables.

Nursing Implications

Implication In Nursing Practice: Nurses should enhance their professional knowledge. The findings of the study can be used to bring about awareness among adolescent girls regarding the prevention of anorexia nervosa. It can be useful for the future generation in the improvement of knowledge.

Nursing education: The student nurse can use the instrument for the study for collecting information regarding the prevention of anorexia nervosa among adolescent girls during their community posting and can give proper education to both the students and to parents.

Nursing Administration: Nursing administration can use the findings of the study in formulating educational policy for an adolescent girl. It will help to give awareness among adolescent girls to take action against the prevention of anorexia nervosa,

Nursing Research: The nurse researcher can use the findings of the study as baseline data to conduct large international research to assess the knowledge and attitude of the adolescent girl regarding the prevention of anorexia nervosa.

Recommendations

- A large-scale study among adolescent girls can carry out to generalize the findings.
- A study to assess the attitude and knowledge of adolescent girls the prevention of birth anorexia nervosa.

Conclusion

The higher secondary school students have average knowledge regarding the prevention of anorexia nervosa among adolescent girls. There was a significant increase in the knowledge of the subjects after the administration video assessed teaching. The paired 't' test computed for pre-test knowledge and post-test knowledge score which indicate a highly significant difference in the knowledge scores among the adolescent girls. Thus, it is concluded that the video assessed teaching on prevention of anorexia nervosa among was effective in improving the knowledge.

References

1. Bordo S. Anorexia nervosa. University of California Press; 2020 Sep 30.
2. Sullivan PF. Mortality in anorexia nervosa. American Journal of Psychiatry. 1995 Jul 1;152(7):1073-4.
3. Fombonne E. Anorexia nervosa. The British Journal of Psychiatry. 1995 Apr 1;166(4):462-71.
4. Steinhausen HC. The outcome of anorexia nervosa in the 20th century. American journal of Psychiatry. 2002 Aug 1;159(8):1284-93.
5. Russell G. Bulimia nervosa: an ominous variant of anorexia nervosa. Psychological medicine. 1979 Aug;9(3):429-48.
6. Ecklund, Vajapeyam S, Buzney CD, mulkern RV, Kleinman PK, el, Bone marrow changes in adolescent girls with anorexia nervosa, J Bone miner Res. 2010, Feb;25(2): pp298-304.
7. M. A Gupta, S, K Chaturvedi, P.C Vhandranna, A.M Johnson, Weight- related body Image concerns among 18-24 years old women in Canada and India: an empirical comparative study, Resaved 28 November 1999; accepted 5th oct 2000.
8. Patal DR, Phillips EL, Pratt HD, Eating disorder, Indian J pediatr-1998 Jul- Aug;65(4): pp487-94.
9. Divasta AD, Walls CE, Feldman HA, el, malnutrition and hemodynamic status in adolescents hospitalized for anorexia nervosa, Arch Pediatr Adolescent Med, 2010 Aug:164(8): pp706-13
10. Ulger Z, Gurses D, Ozyurek AR, Arikan C el, Follow-up of cardiac abnormalities in female adolescent with anorexia nervosa after refeeding, Acta cordial.2006, Feb;61(1): pp49-3-9
11. Lesinskiene S, Barkus A, Ranceva N, Dembinskas A. A meta-analysis of heart rate and QT interval alteration in anorexia nervosa. The World Journal of Biological Psychiatry. 2008 Jan 1;9(2):86-91.
12. Roche F, Barthélémy JC, Mayaud N, Pichot V, Duverney D, Germain N, Lang F, Estour B. Refeeding normalizes the QT rate dependence of female anorexic patients. The American journal of cardiology. 2005 Jan 15;95(2):277-80.

13. O'Connor G, Nicholls D. Refeeding hypophosphatemia in adolescents with anorexia nervosa: a systematic review. Nutrition in Clinical Practice. 2013 Jun;28(3):358-64.
14. Kelly NR, Shank LM, Bakalar JL, Tanofsky-Kraff M. Pediatric feeding and eating disorders: current state of diagnosis and treatment. Current Psychiatry Reports. 2014 May 1;16(5):446.