



Review Report

Evaluation of Psychological and Nutritional Interventions for Eating Disorders in Nigeria: A Scoping Review

Charity N. Onyishi^{1*} 

¹Department of Educational Psychology, Faculty of Education, University of Johannesburg, Auckland Park campus, 2006, Johannesburg, South Africa

***Correspondence:** Charity N. Onyishi, Department of Educational Psychology, Faculty of Education, University of Johannesburg, Auckland Park campus, 2006, Johannesburg, South Africa (E-mail: cnyonishi@uj.ac.za)

Abstract: The objective of this scoping review is to map and analyze literature which utilized any kind of psychological or nutritional intervention in treating patients with eating disorders (ED) in Nigeria as well as to assess the effectiveness of such interventions in helping ED patients. This study follows the methodology provided by the Joanna Briggs Institute (JBI) for scoping reviews. A database search of Google Scholar, PubMed, PsychINFO and Cochrane, from where 68 articles were selected using carefully developed search terms. Six studies were finally selected after two reviewers read the full text to ensure they ticked all the boxes stipulated in the inclusion criteria, while other papers were excluded. Findings revealed that psychological and nutritional interventions were used in treating eating disorders in Nigeria, and the interventions proved effective. Findings indicate that anorexia nervosa is the most frequently diagnosed and treated ED in Nigeria. This is because the majority of studies reviewed focused on anorexia nervosa, only two of the studies analysed eating disorders in general, and none of the studies focused on bulimia nervosa. This finding showed that psychological and nutritional interventions have been used to treat various patients in Nigeria, including adolescents, pupils and undergraduates. Findings from this study build on existing research to assert that psychological and nutritional interventions have proven highly effective in treating eating disorders. This is because the majority of eating disorder cases were treated using either or both of these interventions and, in the end, succeeded in helping patients overcome the disorder.

Keywords: Eating disorders, Interventions, Patients, Psychological Conditions, Treatments.

1. Introduction

The term eating disorder refers to a psychological condition characterized by abnormal eating habits, either excessive or insufficient food intake to the detriment of an individual's mental and physical health (Iruloh & Wilson, 2017). Eating disorders (ED) have been said to have had the highest mortality risk among other psychiatric diagnosis (Smink et al., 2012). Reports show that although 50% of people with ED were treated for emotional disorders at certain stage of their life, less than 45% sought specific medical aid specific for ED, and even when they do, it is usually in general hospitals rather than specialized units (Ehimigbai, 2014). A survey study of over one thousand female Nigerian students show that 58% of the students indicated a predisposition to two eating disorders namely, anorexia and bulimia (Dike, 2009). Oyewumi and Kazarian (1992) analysed the incidence of both Bulimic and anorexia behaviours among Nigerian youths and found that eating disorders are a worldwide trend that goes beyond culture. This is contrary to the initial notion that such conditions were restricted to Western countries. But there is a dearth of research on the impacts of nutritional and psychological interventions for eating disorders in African countries like Nigeria. This scoping review is aimed at mapping, investigating and analyzing literature on eating disorders and the outcomes of psychological and nutritional interventions on various types of eating disorders among Nigerians (children, adolescents and adults, students and patients).

1.1. Categories of Eating Disorders

The American Psychiatric Association (1994) classifies ED into three formal categories of Anorexia Nervosa (AN), Bulimia Nervosa (BN), and Eating Disorders Not Otherwise Specified (ED-NOS), that encompasses the Binge-Eating Disorder (BED). Patients who do not satisfy all the criteria for either anorexia nervosa or bulimia nervosa may be classified as having ED-NOS. Anorexia nervosa (AN) involves a person's pursuit of weight loss through measures such as dietary restrictions ultimately leading to a body weight lower than the standard range. This is often caused by fear and feelings of being too fat/overweight and the profound need to stay in shape through semi-starvation and restrictive eating patterns. The act of achieving weight loss, the development of unusual behaviour that is characterized by a morbid fright of potential fatness, as well as the indication of an endocrine problem, amenorrhea in women, and a loss of sexual strength and interest in men are some of the criteria that have been recommended as a means of diagnosing anorexia nervosa in patients (Itulua-Abumere, 2013). The American Dietetic Association (2006) recommends



that nutritional interventions which include nutritional treatment of patients with eating disorders should include a registered dietician. Additionally, Itulua-Abumere (2013) notes that dietary rehabilitation and weight loss are not independent of cognitive behavioural therapy (CBT) in the treatment of patients with anorexia nervosa, but are closely linked to the continuing assessment of the patient's core beliefs in order to achieve success. Page | 74

Bulimia Nervosa (BN) has to do with an uncontrolled consumption of large amounts of food regularly in order to control the body's shape or weight. It is believed that someone suffering from bulimia nervosa consumes an abnormally large quantity of food in one sitting, has lost control of his or her eating habits, and is incapable of ceasing to eat or control the quantity or kind of food consumed (Uher & Rutter, 2012). Eating Disorder Not Otherwise Specified (EDNOS) encompasses a category of eating disorders involving disparities of bulimia nervosa and anorexia nervosa or combining features of both. Conditions in this category are usually heterogeneous and with poor diagnostic criteria except for binge-eating disorder (BED). There has been evenness in research from diverse nations suggesting that categories of disorder under EDNOS are the most common ED encountered by healthcare professionals in regular clinical practice (Fairburn & Bohn, 2005). Often, BED and BN are not clearly distinguished, and they may be manifestations of the same disorder at different stages (Uher & Rutter, 2012).

1.2. Interventions/Treatments for Eating Disorders

Like every other health problem, there have been several interventions and treatment plans for patients diagnosed with eating disorders. Among such interventions are psychological and nutritional remedies aimed at treating ED patients. Other times, there have been attempts to treat eating disorders using other means such as cultural, religious or therapeutic remedies. In an outpatient setting, it is quite common for ED to be treated by health professionals who lack nutritional credentials, who do so in a nonclinical approach, while dietitians are left out of the treatment plan, with only a limited role within it (Jeffrey & Heruc, 2020). Jeffrey and Heruc (2020) propose that dietitians should assess and advise ED patients as part of a multidisciplinary team that is treating eating disorders. According to these authors, a dietician should offer nutritional care in conjunction with mental health professionals who provide psychological care. The authors of another study contend that psychological therapies that are based on evidence are currently the most effective treatment for adults suffering from bulimia nervosa (BN) and binge-eating disorder (BED) (Wilson

et al., 2007). Considering that weight maintenance is the major intent of nutrition interventions for hospitalized patients, a variety of nutritional approaches are used in different treatment programs due to the diverse goal rates for weight gain (Rock & Curran-Celentano, 1996). It is also worthy to note that effective psychological and pharmacological interventions for ED have been identified to include family-based therapy (i.e. Maudsley approach) which has overtime been acknowledged as an effective program for adolescents with anorexia nervosa (Wilson et al., 2007). Interpersonal therapy (Fairburn & Bohn, 2005), cognitive-behaviour therapy (Hay et al., 2009), and dialectical-behaviour therapy (Chen et al., 2008) have all been deemed successful in managing bulimia nervosa. The treatment of anorexia nervosa must include psychological intervention such as individual and family therapy, behaviour therapy, and CBT (Unuhu et al., 2009). Finally, CBT has gained recognition as the alternative treatment for BN and BED (Hay et al., 2009).

1.3. Study Rationale

Over the years, eating disorder has been misconstrued to be a Western phenomenon, but subsequent research has proven that it is also prevalent among non-westerners. Several researchers have succeeded in finding out the prevalence rate among different populations in Nigeria. But what remains unclear is the quality of interventions used in helping ED patients overcome their conditions. To investigate such interventions, this review mapped and analyzed all available interventions to assess their effectiveness and efficiency. The study is consistent with Goal 3 of the Sustainable Development Goals of the United Nations. This goal aims to ensure healthy lives and foster well-being for everyone (United Nations General Assembly, 2015). The achievement of sustainable development requires a focus on better health and well-being as a prerequisite for all other goals. The main objective of this scoping review is to be able to identify the main concepts in eating disorder interventions and to categorize such interventions as either psychological or nutritional.

1.4. Research Questions

- (a) What types of eating disorders have been treated in Nigeria?
- (b) Which population is targeted for psychological and nutritional interventions in Nigeria?
- (c) Are psychological and nutritional interventions effective in treating eating disorders in Nigeria?

2. Materials and Methods

2.1. Design for the Study

Since scoping reviews provide an effective method for mapping how research on a specific topic has been designed and conducted, this study was conducted in concurrence with the methodology of the Joanna Briggs Institute (JBI) for scoping reviews while following the PRISMA extension (Trico et al., 2018). The adapted PRISMA-ScR flow chart illustrates the process for this scoping review.

2.1.1. Ethics Statement

Not required for a scoping review.

2.2. Information Sources and Database Search

The search databases were Google Scholar, PubMed, PsychINFO and Cochrane. The reference section of applicable studies was also reviewed for more studies. Upon completion of the database search, results were moved to Zotero where duplicates were eliminated; articles were then selected in a 2-step procedure by two independent reviewers using the screening web tool, Rayyan. Search terms aimed at providing relevant search results for each of the concepts considered in this research were developed: (a) eating disorder in Nigeria, (b) nutritional interventions for eating disorder, (c) psychological intervention for eating disorder, (d) binge eating disorder in Nigeria, (e) bulimia nervosa in Nigeria, and (f) anorexia nervosa in Nigeria. Following the preliminary search, the researcher added additional search terms to the list based on the results of the first search.

2.3. Eligibility Criteria

2.3.1. Inclusion Criteria

The review included studies that attempted to treat participants of all ages with ED. It considered studies on interventions used in treating any kind of ED. The review considered studies conducted in any state or region within Nigeria. It also considered research studies which utilized any psychological and/or nutritional intervention for treating eating disorders.

2.3.2 Exclusion Criteria

The study excluded systematic reviews, books, opinion papers, and abstracts of pre-conferences

2.4. Study Screening and Selection

2.4.1. Screening

Following a thorough search of each database, relevant papers were selected and imported to Zotero from where they were uploaded to the web tool, Rayyan. Two reviewers then screened all the



titles and abstracts of papers using stipulated inclusion and exclusion criteria. Papers with uncertain eligibility status at this stage were kept aside for further review in the assessment stage (see Figure 1).

2.4.2 Selection

Full text of articles selected after the screening were independently read by two reviewers to determine eligibility. Discrepancies were resolved and the final set of papers which met standards for inclusion selected for data extraction.

2.5. Data Extraction Process

In the extraction phase, relevant information from all included papers were extracted following the JBI scoping review methodology, and placed in a table with the following columns: Author and study year, design, location, methodology, findings, population (age, number of participants, gender), and interventions performed in the research (including form of eating disorder addressed, methods, length).

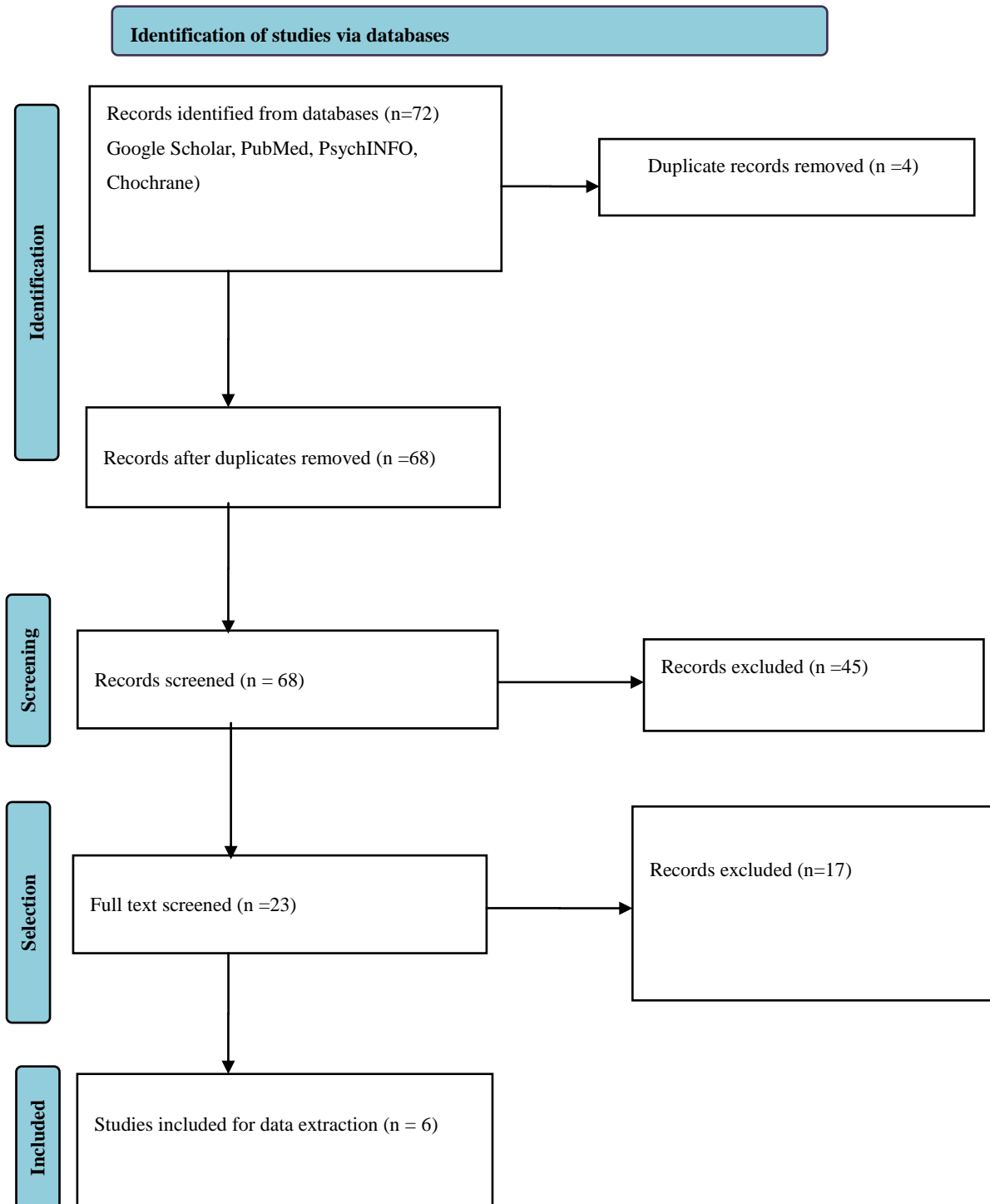


Figure 1. Flow chart illustrating the screening and selection process of this scoping review

3. Results and Discussion

3.1. The Selection of Sources of Evidence

The electronic search of the five databases identified articles that had to do with eating disorders in Nigeria. 68 papers remained after the removal of duplicates. The first screening which involved

reading of titles and abstracts was done by two independent researchers who assessed papers using stipulated criteria to exclude some papers. The 23 papers which remained were screened a second time by reading the full text while still looking out for the inclusion criteria. After this, only six papers ticked all the boxes and were selected for data extraction.

Below is a breakdown of reasons for excluding other papers out of the 68 identified during the database search. (i) Unrelated keywords: these are articles which were off-topic or which combined the topic under review with other keywords. A total of 14 articles fell in this category. (ii) Other article types: 19 articles were in line with the topic but were not qualitative or quantitative research works but mere analyses, texts and opinion articles by experts. (iii) Other study design: these were articles that employed mostly systematic reviews and literature review methods of study. 12 studies were found in this category and therefore excluded. (iv) Other study location: these were articles that did not focus on the country under review. 10 articles were excluded for this reason. (v) No intervention: following a more detailed review of some articles selected for data extraction, this researcher discovered that they merely surveyed participants to find out the incidence of ED and/or the correlation between ED and several other health conditions, but did not employ any treatment or intervention method to help them. These 7 studies were excluded as they did not meet the criteria for this current study.

3.2. Study Characteristics

Findings from this scoping review reveal that the six articles selected for data extraction were published between 1981 and 2022. Four out of the six studies reviewed were conducted in Nigeria's Southwestern states (Osun and Lagos States), one was conducted in Southeastern state (Enugu State) and the other, in Northwestern state (Kaduna State). Also, four of the six papers reviewed were case reports of women suffering from anorexia nervosa, one assessed 30 female undergraduate students while the other targeted over a hundred basic school children consisting of both males and females. Findings from this review also show that four studies employed both psychological and nutritional interventions in the treatment of eating disorders, while the other two used either nutritional or psychological interventions. The duration of the administration of reviewed interventions ranged from 4 weeks to six months excluding weeks of follow-ups and monitoring of patients for results. Five of the six studies reviewed for this current study assessed adults and undergraduate students with just one focusing on basic school pupils (see Table 1).

Table 1: Empirical literature that captured the interventions used in treating eating disorders in Nigeria

Author (Study year)	Intervention goal	Study design	Location	Duration	Eating disorder	Population	Intervention	Results
(Adebimpe & Idehen, 2015)	To establish the efficacy of Cognitive Behaviour Therapy (CBT) in the treatment of eating disorders	30 participants considered to be highly at risk of eating disorders were separated into experimental and control groups and then exposed to seven sessions of Cognitive Behaviour Therapy.	Ile-Ife, Osun State.	Seven therapy session	Eating disorder (ED-NOS)	Female undergraduate students	Cognitive Behaviour Therapy	Findings from the study reveal that modified CBT may help reverse eating disorders.
(Dike et al., 2021)	To evaluate the effect of community-based nutritional counselling as an intervention for eating habits among children in rural communities.	Simple randomization of 108 participants into 2 groups of 54 each. One group received 20 nutrition counselling sessions while the other did not	Enugu, Enugu State.	10 weeks		Basic school pupils	Nutritional counselling	Children's eating habits in the treatment group improved positively after the community-based nutritional counselling intervention



(Unuhu et al., 2009)	To identify the psychosocial factors that may have precipitated the patient's anorexia nervosa and helping her to arrive at realistic ways of balancing not being too fat with healthy living.	Case report of a 19-year-old anorexia nervosa patient who thinks she is too fat and so deliberately skipped meals for two years.	Bamawa, Kaduna State	4+ weeks	Anorexia nervosa	19 years old patient	Weekly counselling and therapy sessions	on. The patient's weight increased from 42.0kg to 42.8kg by the fourth week of commencing therapy.
(Lawal et al., 2022)	To document procedures taken towards the psychological and nutritional treatment of an ED patient.	Case report of a 20-year-old anorexia nervosa patient who deliberately started skipping meals to lose weight causing cessation of her menstrual flow.	Ile-Ife, Osun State	29 weeks	Anorexia Nervosa	20 years old patient	Psychotherapy, meal plan.	The patient gained an average of 0.5 kg weekly following intervention, The beliefs about her body image changed and her menstruation commenced again.
(Famuyiwa, 1988)	To achieve weight gain through noncoercive supervised	Case report of two women aged 24 and 26 diagnosed with anorexia	Lagos State	5-12 weeks	Anorexia Nervosa	Patients aged 24 & 26 years	Supervised feeding, and psychological support.	Patients recorded significant improve



	feeding, and nervosa who							ment in
	providing were referred							weight
	psychological for treatment							gain after
	support.							treatment
(Nwaefuna, 1981)	To stimulate the patient's appetite and achieve weight gain.	Case report of a 22-year-old lady who attempted weight loss by reducing her food intake and using purgatives.	Lagos State	6 months	Anorexia Nervosa	22 years old patient	Hypnotherapy and tube-feeding	Followin g treatment, the patient regained weight from 30kg to 56kg and her initially ceased menstrual flow returned.

The objective of this scoping review was to map and analyze literature which utilized any kind of intervention in treating patients with eating disorders in Nigeria as well as to assess the effectiveness of such interventions in helping ED patients. The discussion for this scoping review would be divided into subgroups which would answer the research questions earlier posed in this study. Findings from this study reveal that only six studies were analysed based on inclusion criteria for interventions and treatments of all kinds of eating disorders. The majority of these interventions aimed at treating women with anorexia nervosa as against other kinds of eating disorders. The fact that these studies focused mostly on women points to the idea that women are more concerned about their body shapes and weight and are also more likely to take extreme measures such as refusing food to maintain their body size. Women tend to report body checking and avoiding, binge eating, fasting, and vomiting more frequently than men. Furthermore, the prevalence of weight dissatisfaction, dieting as a means of weight control, and purging is higher among women than men (Striegel-Moore et al., 2009).

The papers analysed for this study utilised either nutritional and/or psychological interventions



in treating patients with eating disorders (e.g. Adebimpe & Idehen, 2015; Dike et al., 2021; Unuhu et al., 2009). This corroborates earlier submissions by Jeffrey and Heruc (2020) that treatment for eating disorders should ideally involve a dietitian to offer nutritional care in conjunction with mental health professionals who provide psychological care. From the available literature reviewed in this current study, Adebimpe and Idehen (2015) used cognitive behaviour therapy to manage eating disorders among female undergraduate students. Dike et al. (2021) assessed the effectiveness of nutritional counselling in maintaining healthy eating among basic school children. On the other hand, Unuhu et al. (2009) utilised weekly counselling and therapy sessions to help an anorexia nervosa (AN) patient arrive at realistic ways of balancing not being too fat with healthy living. Lawal et al. (2022) also used psychotherapy, and meal plans in the treatment of an AN patient in Nigeria. Two cases of anorexia nervosa were also reported involving two Nigerian women who were both treated using supervised feeding; after several weeks of hospitalisation, patients recorded significant weight gain in response to treatment (Famuyiwa, 1988). Another case is that of a 22-year-old who attempted to lose weight by reducing her food intake and using purgatives leading to emaciation and ceased menstruation; the patient weighed 30 kg upon admission into the hospital but regained her initial weight of 56kg following months of hypnotherapy and tube feeding; her menstruation also returned (Nwaefuna, 1981). It should be noted that no other literature within the scope of review was found to have used a different intervention in treating eating disorders. However, a few studies outside Nigeria were found to have used either music therapy, art therapy, or internet-based treatments for eating disorder patients.

The interventions used in the literature under review were found to have been used mostly in hospitals as evidenced in four out of the six studies reviewed. Most of the interventions were administered by medical professionals in general hospitals which show their significance in clinical practice as well as their effectiveness in treating eating disorders. Having established that eating disorders are prevalent among Nigerians, and while noting that only six studies documented the intervention strategies used in treating ED patients from 1981 to date, it is safe to say that eating disorder is not considered a serious medical condition requiring urgent medical attention in Nigeria. This also enhances the notion that most Nigerians do not see the need to visit the hospital for conditions such as ED but prefer either self-treatment or religious remedies. Even those somehow referred to hospitals for treatment of eating disorders are either skeptical about the treatment process,



and most end up defaulting along the line. This was evidenced in 50% of the studies analysed for this review where patients were found to have failed to keep appointments (Famuyiwa, 1988; Unuhu et al., 2009) and/or preferred spiritual home therapy (Famuyiwa, 1988). Only two of the studies reported patient adherence to treatment protocol leading to successful treatment and discharge (Lawal et al., 2022; Nwaefuna, 1981).

Findings from this study build on existing research to assert that psychological and nutritional interventions have proven highly effective in treating eating disorders in Nigeria. This is because the majority of eating disorder cases were treated using either or both of these interventions and in the end, succeeded in helping patients overcome the disorder. This scoping review would serve as a resource for researchers in deciding what to consider for future research which could primarily focus on bulimia nervosa, binge eating disorder or eating disorder in general but from the perspective of men. However, the fact that this study is only a scoping review but not a systematic review makes it less efficient to serve as a resource for decision-making. This is partly because it only mapped available interventions used in treating ED in Nigeria as well as the efficiency of such interventions but did not look into the rigor or quality of the studies. Another limitation of this study is that it did not assess other kinds of interventions which could have been used in treating eating disorders but focused on nutritional and psychological interventions. Therefore, it is recommended that future reviews diversify by considering all kinds of interventions that may have been used.

4. Conclusion

The limited number of available literature reviewed for this research suggest that either there are few cases of eating disorders in Nigeria or that they have not been given adequate attention by researchers. Findings indicate that anorexia nervosa is the most commonly diagnosed and treated eating disorder in Nigeria. This finding also showed that psychological and nutritional interventions have been effectively used to treat various patients in Nigeria including adolescents, pupils and undergraduates. It is recommended that more research is done on eating disorders among adults, young men in Nigeria. This is because most of the literature found during this review focused on women, adolescents and children. Future research should focus on the incidence of eating disorders among men. Also, the majority of studies reviewed by this research focused on anorexia nervosa, only two of the studies analysed eating disorders in general and none of the studies focused on

bulimia nervosa.

Acknowledgements

The author is grateful to the reviewers for their helpful suggestions that improved this article.

Page | 85

Conflict of Interest

The author declares that there is no conflict of interest.

Author Contributions

CNO was responsible for all aspects of this research including but not limited to conceptualization, methods, data analysis, language editing, discussion, writing and approval of this article for publication.

Data Availability Statement

The original contributions presented in the study are included in the article. Further inquiries can be directed to author.

Funding Information

The author has no funding to disclose.

References

- Adebimpe, O. A., & Idehen, E. (2015). Cognitive behaviour therapy in the management of eating disorder among female undergraduates of Obafemi Awolowo University Ile-Ife. *Gender and Behaviour, 13*(1), 6535–6539.
- American Dietetic Association. (2006). Position of the American Dietetic Association: Nutrition intervention in the treatment of anorexia nervosa, bulimia nervosa, and other eating disorders. *Journal of the American Dietetic Association, 106*(12), 2073–2082. <https://doi.org/10.1016/j.jada.2006.09.007>
- American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders: DSM-IV (Vol. 4)*. American Psychiatric Association.
- Chen, E. Y., Matthews, L., Allen, C., Kuo, J. R., & Linehan, M. M. (2008). Dialectical behavior therapy for clients with binge-eating disorder or bulimia nervosa and borderline personality disorder. *International Journal of Eating Disorders, 41*(6), 505–512. <https://doi.org/10.1002/eat.20522>.



Dike, I. (2009). Anorexia and bulimia nervosa: The scenario among Nigerian female students. *Journal of Psychology and Counseling, 1*(2), 26–29. <https://doi.org/10.5897/IJPC.9000002>

Dike, I. C., Ebizie, E. N., Chukwuone, C. A., Ejiofor, N. J., Anowai, C. C., Ogbonnaya, E. K., Ugwu, E. I., Nkechinyere, U. S., Chigbu, E. F., & Ezeaku, M. N. (2021). Effect of community-based nutritional counseling intervention on children's eating habits. *Medicine, 100*(30), e26563. <https://doi.org/10.1097/MD.00000000000026563>

Ehimigbai, M. (2014). Prevalence and correlates of eating disorders among adolescents in secondary schools in Ikpoba-Okha Local Government Area of Benin City. (Dissertation), University of Benin Teaching Hospital.

Fairburn, C. G., & Bohn, K. (2005). Eating disorder NOS (EDNOS): An example of the troublesome “not otherwise specified”(NOS) category in DSM-IV. *Behaviour Research and Therapy, 43*(6), 691–701. <https://doi.org/10.1016/j.brat.2004.06.011>

Famuyiwa, O. (1988). Anorexia nervosa in two Nigerians. *Acta Psychiatrica Scandinavica, 78*(5), 550–554. <https://doi.org/10.1111/j.1600-0447.1988.tb06383.x>

Hay, P. P., Bacaltchuk, J., Stefano, S., & Kashyap, P. (2009). Psychological treatments for bulimia nervosa and bingeing. *Cochrane Database of Systematic Reviews, 4*, Art. No.: CD000562. <https://doi.org/10.1002/14651858.CD000562.pub3>

Iruloh, B.-R. N., & Wilson, C. J. U. (2017). Family distress and eating disorders among undergraduate students of University of Port Harcourt, Rivers State, Nigeria. *Journal of Education and Practice, 8*(5), 76–80.

Itulua-Abumere, F. (2013). Anorexia Nervosa and Bulimia Nervosa Critical Analysis of Its Treatment: Implications and Interventions. *The Open Access Journal of Science and Technology, 1*, Article ID 100007. <https://doi.org/10.11131/2013/100007>

Jeffrey, S., & Heruc, G. (2020). Balancing nutrition management and the role of dietitians in eating disorder treatment. *Journal of Eating Disorders, 8*(1), Art. No. 64. <https://doi.org/10.1186/s40337-020-00344-x>

Lawal, R. O., Ugalahi, T. O., Mosaku, S., & Oginni, O. A. (2022). Unmasking anorexia nervosa in a Nigerian female undergraduate: A case report. *Journal of the Nigerian Academy of Medicine, 1*(1), 28-30. https://doi.org/10.4103/jnam.jnam_6_21

Nwaefuna A. (1981). Anorexia nervosa in a developing country. *The British journal of Psychiatry:*



the Journal of Mental Science, 138, 270–271. <https://doi.org/10.1192/bjp.138.3.270>

Oyewumi, L. K., & Kazarian, S. S. (1992). Abnormal eating attitudes among a group of Nigerian youths: II. Anorexic behaviour. *East African Medical Journal*, 69(12), 667–669.

Rock, C. L., & Curran-Celentano, J. (1996). Nutritional management of eating disorders. *Psychiatric Clinics of North America*, 19(4), 701–713. [https://doi.org/10.1016/S0193-953X\(05\)70376-2](https://doi.org/10.1016/S0193-953X(05)70376-2)

Smink, F. R., Van Hoeken, D., & Hoek, H. W. (2012). Epidemiology of eating disorders: Incidence, prevalence and mortality rates. *Current Psychiatry Reports*, 14(4), 406–414. <https://doi.org/10.1007/s11920-012-0282-y>

Striegel-Moore, R. H., Rosselli, F., Perrin, N., DeBar, L., Wilson, G. T., May, A., & Kraemer, H. C. (2009). Gender difference in the prevalence of eating disorder symptoms. *International Journal of Eating Disorders*, 42(5), 471–474. <https://doi.org/10.1002/eat.20625>

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., ... & Straus, S. E. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Annals of Internal Medicine*, 169(7), 467–473. <https://doi.org/10.7326/M18-0850>

Uher, R., & Rutter, M. (2012). Classification of feeding and eating disorders: Review of evidence and proposals for ICD-11. *World Psychiatry*, 11(2), 80–92. <https://doi.org/10.1016/j.wpsyc.2012.05.005>

UN General Assembly (2015). Transforming our world: the 2030 Agenda for Sustainable Development. <https://www.refworld.org/docid/57b6e3e44.html> [accessed May 2, 2023]

Unuhu, F., Ebiti, N., Oju, G., & Aremu, S. (2009). Anorexia nervosa in a Nigerian-A case report. *Nigerian Medical Journal*, 50(1), 23–24.

Wilson, G. T., Grilo, C. M., & Vitousek, K. M. (2007). Psychological treatment of eating disorders. *American Psychologist*, 62(3), 199–216. <https://doi.org/10.1037/0003-066X.62.3.199>

Publisher: Department of Home Economics and Hospitality Management Education, University of Nigeria, Nsukka 41001, Nigeria

© 2023 the Author(s), licensee Department of Home Economics and Hospitality Management Education, University of Nigeria, Nsukka, Nigeria. This is an open access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>)