Rumination Syndrome in Ethiopia: A Case Study

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ABSTRACT

Eating disorders are commonly believed to be rare or nonexistent in Africa. However, due to exposure to Western culture, a rise in eating disorders among African women is reported in the literature. This case study describes a 17-year-old Ethiopian girl who meets the *DSM-IV-TR* and *DSM-5* diagnostic criteria for bulimia nervosa and the *Rome III Diagnostic Criteria for Functional Gastrointestinal Disorders* criteria for rumination syndrome. The article discusses the diagnostic delays, the difficulties in terms of therapy, and the context determinants that—combined with individual psychopathological features—are thought to contribute to the disorders. Health professionals should be informed about the prevalence of eating disorders in Africa and, more specifically, of rumination syndrome in young women with normal intelligence. In light of this case study, it seems necessary to raise awareness with regard to the insufficient evidence on effective therapies for rumination syndrome in individuals without intellectual impairment.

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According to the *DSM-5*, "The essential feature of rumination is the repeated regurgitation of food over a period of at least 1 month. Regurgitated food may be rechewed, reswallowed, or spit out. In rumination disorders, there is no evidence that an associated gastrointestinal or another medical condition (eg, gastroesophageal reflux) is sufficient to account for the repeated regurgitation."[1(p332)] The term *rumination* is not meant in the classical psychopathological acceptation of perseverative cognition that focuses on negative content, generally past and present, and results in emotional distress. Rumination is well documented in infants and persons with developmental disorders. In infants, rumination is often referred to as *merycism*. However, there is growing evidence that this disorder is increasingly detected in adult individuals without intellectual impairment.[2]

Eating disorders are traditionally regarded as Western culture-bound conditions; this has often been attributed to the belief that, in non-Western cultures, including Africa, thinness is not as valued as it is in Western cultures.

While in Western cultures thinness is a synonym for beauty, in non-Western cultures, it may have different connotations. For example, in Japan, thinness may relate to delayed maturation within the social context of the time,[3] while in Fiji, it is connected with economic and social competition and identification with media role models of success.[4]

In Africa, despite little available evidence, 2 major antithetic trends seem to occur. On one hand, thinness is historically not valued due to ideals that view plumpness as a metaphor for attractiveness, fertility, and prosperity,[5] while on the other hand, the Westernizing process that is affecting the region puts pressure on African females to value thinness. Ethiopia is no exception, as it is developing rapidly and is embracing many aspects of Western culture presented through the media. In this article, an unusual case of rumination syndrome in a young Ethiopian girl is presented. Further discussion regarding how this syndrome may relate to culture and context is also provided.

CASE REPORT

Clinical Features

Ms A is a 17-year-old girl from Addis Ababa, Ethiopia. She presented to a private informal setting per personal request with the major complaint of ruminating food for the past year. Various distinct clinical phases could be identified in her clinical history. She reported that her difficulties began a few years ago when she gained 22 lb (10 kg). Being overweight, Ms A felt uncomfortable, and she was teased by her classmates, who called her "the fat girl" (overweight phase). As a result, Ms A attempted to reduce her caloric intake by eliminating the food she had eaten through self-induced emesis (bulimic phase). This process proved effective, and she succeeded in her goal of losing the excess weight.

As the frequency of her induced vomiting increased, Ms A became more capable of inducing vomiting without the assistance of her fingers or other device. Ms A found that chewing the regurgitated food was "tasty" and pleasurable, and this triggered the onset of the rumination symptom (rumination phase). The regurgitation and rumination phase did not supersede the bulimic symptoms.

Clinical Points

- Eating disorders, such as bulimia nervosa and rumination syndrome, seem to be on the increase in low and middle income countries. In these countries, including the African region, health workers, including physicians, very often are not equipped to detect, treat, and/or refer persons with these disorders.
- The status of mental health in Africa is generally low due to the limited capacity of health workers to diagnose and treat mental illness. More capacity building, mentorship, and supportive supervision are needed in low and middle income countries for health professionals to upgrade their skills.
- Health professionals should be informed about the prevalence of eating disorders in Africa.

The process of rumination occurs almost continuously throughout the day and follows a fixed pattern: the food is frequently ruminated and then reswallowed; less frequently, the food is spat out, normally after dinner. Ms A chooses specific combinations of foods based on the taste of the regurgitated substance, but also to ensure that the consistency of the bolus is easily ruminated. She stated, "I cannot think of any food as delicious as the ruminated food."

Ms A adjusts her daily fluid intake to facilitate and optimize the rumination. Her posture was also determined to be an important element of the rumination. While sitting, Ms A would have the optimal position to facilitate rumination; standing would make it more difficult, while lying down would make the rumination process uncomfortable, as the regurgitated material would enter the nose.

Associated Medical Complaints and Clinical Tests

Ms A had gastroscopies performed 6 and 12 months prior to being seen in the private informal setting. The first investigation was negative, but the subsequent gastroscopy revealed the presence of a small ulcer, which was most likely associated with the frequent vomiting and ruminating. However, there was no evidence of other medical or gastroenterological pathologies that could explain her symptoms. During the bulimic phase, Ms A's electrocardiogram displayed irregular beats (arrhythmias).

Generally speaking, her bowel habits are regular, with approximately 1 episode of diarrhea per week. In addition, Ms A often complains about an acute and generalized toothache.

Diagnosis and Diagnostic Features

Rumination is considered a disorder of infancy or of persons with developmental disorders. When rumination occurs in adults with normal intelligence, the diagnosis may pose a challenge to clinicians. Furthermore, in an African context, in which, historically, eating disorders are believed to be nonexistent or extremely uncommon, the diagnosis is even more challenging.

The diagnostic process for Ms A was indeed very complicated and lasted for more than a year. She had visited several specialists, including a gastroenterologist, who were unable to diagnose the disorder. She was finally diagnosed by a psychiatrist.

Today, Ms A meets all criteria for rumination syndrome. Rumination syndrome was diagnosed according to the *Rome III Diagnostic Criteria for Functional Gastrointestinal Disorders* (Table 1).[6] She also meets all criteria for bulimia nervosa according to both *DSM-IV-TR*[7] (purging type) and *DSM-5* (severity: extreme), which are substantially identical.

From the case history, it appears that the criteria for *ICD-10*[8] were all met during the bulimic phase (Table 2), but 1 criterion is currently not met (criterion C: a self-perception of being too fat, with an intrusive dread of fatness, usually leading to overweight).

Treatment

Ms A is currently receiving support and psychotherapy on a weekly basis. After the bulimic phase, Ms A is relatively satisfied with her weight; however, her weight is not stable but keeps fluctuating. Ms A has been referred to a nutritionist, who has given her a diet of 2,000 calories per day.

Social Implications

Social interactions are severely affected because of the rumination process. Rumination is not socially accepted, and Ms A attempted to disguise her behaviors. For example, during school hours, Ms A was asked what she was chewing, and she indicated that she was chewing gum. In addition, she would often wear a scarf around her face in order to hide the rumination. However, the primary and most effective coping strategy appears to have been social isolation. Ms A spent most of the time in isolation, as this enabled her to ruminate freely.

Schooling is not negatively affected by the condition. Ms A is an excellent student; she attends one of the most demanding schools in the country and achieves very good scores.

The regurgitation, remastication, and reswallowing of food goes on continuously during the day and, according to Ms A, is a precondition for her to be able to study. As she attempts to stop the rumination, she feels sleepy to the extent that she cannot study any longer and may fall asleep.

It is of note that Ms A is highly religious and a devout Christian. She does not belong to the main Christian church of Ethiopia, which is the Ethiopian Orthodox Church, but she belongs to the Church of Christ. The Ethiopian Orthodox Church imposes several important limitations on the types of food that can be consumed by its followers. The Amharic words *Abiyi Tsome* mean "big fasting." In the Christian Orthodox religion of Ethiopia, big fasting represents the longest period of fasting; it precedes Easter and lasts 55 days. During this time, believers are supposed to follow several restrictions related to their diet, including abstaining from food until 3:00 PM.

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Table 1. Rome III Diagnostic Criteria for Functional Gastrointestinal Disorders: Rumination Syndrome in Adults, Adolescents, and Infants[a]

Rumination syndrome in adults
Must include both of the following:
Persistent or recurrent regurgitation of recently ingested food into the mouth with subsequent spitting or remastication and swallowing
Regurgitation is not preceded by retching
Supportive criteria
Regurgitation events are usually not preceded by nausea
Cessation of the process when the regurgitated material becomes acidic
Regurgitant contains recognizable food with a pleasant taste
Rumination syndrome in adolescents
Must include all of the following:
Repeated painless regurgitation and rechewing or expulsion of food that
Begin soon after ingestion of a meal
Do not occur during sleep
Do not respond to standard treatment for gastroesophageal reflux
No retching
No evidence of an inflammatory, anatomic, metabolic, or neoplastic process that explains the subject's symptoms
Rumination syndrome in infants
Must include all of the following for at least 3 mo:
Repetitive contractions of the abdominal muscles, diaphragm, and tongue
Regurgitation of gastric content into the mouth, which is either expectorated or rechewed and reswallowed
Three or more of the following:
Onset between 3 and 8 mo
Does not respond to management for gastroesophageal reflux disease or to anticholinergic drugs, hand restraints, formula changes, and gavage or gastrostomy feedings
Unaccompanied by signs of nausea or distress
Does not occur during sleep and when the infant is interacting with individuals in the environment

[a]Reprinted with permission from Rome Foundation.[6]

Apart from big fasting, there are several other occasions when believers would fast, including *Gena Tsome* (before Christmas), *Filseta* (St Mary's fasting), and *Nenewe Tsome* (in January). Two times a week (on Wednesdays and Fridays), meat and animal products are forbidden. Some foods are categorically prohibited to followers, such as pork. To the contrary, the Church of Christ is much more flexible in terms of fasting, and believers do not fast according to confessional prescriptions.

DISCUSSION

This case study raises several important issues on many levels. Three main thematic areas are presented here.

Detection Issues

Rumination syndrome was initially thought to occur in children and in persons with developmental disability. Today, it is clear that rumination syndrome occurs in patients of all ages and cognitive abilities.[9]

Despite this wide range of patient ages and cognitive abilities, making this diagnosis seems problematic. In this case study, the diagnosis was missed by several physicians, including a gastroenterologist, and was made by a psychiatrist. As pointed out in the literature, one reason for this oversight might be that other physicians are not aware of this condition.[10] However, other reasons may also include confusing terminology with regard to the word *rumination*, especially in those cases that encompass psychiatry and gastroenterology. Also, various diagnostic standards have several criteria in common—such as rumination syndrome according to *Rome III Diagnostic Criteria for Functional Gastrointestinal Disorders* and rumination disorders according to *DSM-IV-TR* and *DSM-5*. Unfortunately, there is no interdisciplinary effort to link different disciplines and facilitate differential diagnoses.

Even more problematic is the detection of such conditions in low and middle income countries such as Ethiopia. Historically, in low and middle income countries, persons with mental disorders are neglected due to the absence of mental health services (in Ethiopia, there are less than 50 psychiatrists for a population of around 90 million) and nonspecialized health workers (eg, physicians, general nurses, health officers) do not have a robust background in mental health.

Technically, diagnostic criteria for rumination disorder (for both *DSM-IV-TR* and *DSM-5*) are not met because bulimia nervosa cannot be excluded. However, the bulimia nervosa diagnosis in isolation is unsatisfactory because the rumination component, which is currently a predominant feature, is completely missed. As stated in the *DSM-5*, "The essential feature of rumination disorder is the repeated regurgitation of food occurring after feeding or eating over a period of at least 1 month (criterion A)."[1(p332)] This feature is not captured in the bulimia nervosa diagnosis (*DSM-IV-TR*, *DSM-5*, *ICD-10*) but is captured in the rumination syndrome diagnosis (*Rome III Diagnostic Criteria for Functional Gastrointestinal Disorders*).

Therapy and Prognosis

Literature on effective treatment of rumination syndrome is scant and fragmented.

Table 2. Synopsis of Diagnostic Criteria Met and Not Met by the Patient According to *DSM-5* (for rumination disorders and bulimia nervosa), *ICD-10* (for bulimia nervosa), and Rome III Diagnostic Criteria for Functional Gastrointestinal Disorders (for rumination syndrome in adults)[a]

Condition	Diagnostic Manual	Criteria	Criteria Met (Yes) or Not Met (No)
Rumination disorder	*DSM-5*	Repeated regurgitation of food over a period of at least 1 mo; regurgitated food may be rechewed, reswallowed, or spit out	Yes
		The repeated regurgitation is not attributable to an associated gastrointestinal or other medical condition (eg, gastroesophageal reflux, pyloric stenosis)	Yes
		The eating disturbance does not occur exclusively during the course of anorexia nervosa, bulimia nervosa, binge-eating disorder, or avoidant/restrictive food intake disorder	No
		If the symptoms occur in the context of another mental disorder (eg, intellectual disability [intellectual developmental disorder] or another neurodevelopmental disorder), they are sufficiently severe to warrant additional clinical attention	Yes
Bulimia nervosa		Recurrent episodes of binge eating; an episode of binge eating is characterized by both of the following: Eating, in a discrete period of time (eg, within any 2-h period), an amount of food that is definitely larger than what most individuals would eat in a similar period of time under similar circumstances A sense of lack of control over eating during the episode (eg, a feeling that one cannot stop eating or control what or how much one is eating)	Yes
		Recurrent inappropriate compensatory behaviors in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, or other medications; fasting; or excessive exercise	Yes
		The binge eating and inappropriate compensatory behaviors both occur, on average, at least once a week for 3 mo	Yes
		Self-evaluation is unduly influenced by body shape and weight	Yes
		The disturbance does not occur exclusively during episodes of anorexia nervosa	Yes
Bulimia nervosa	*ICD-10*	Recurrent episodes of overeating (at least 2 times per wk over a period of 3 mo) in which large amounts of food are consumed in short periods of time	Yes
		Persistent preoccupation with eating and a strong desire or a sense of compulsion to eat (craving)	Yes
		The patient attempts to counteract the fattening effects of food by 1 or more of the following: Self-induced vomiting Self-induced purging Alternating periods of starvation Use of drugs such as appetite suppressants, thyroid preparations, or diuretics	Yes
		A self-perception of being too fat, with an intrusive dread of fatness (usually leading to underweight)	Yes
Rumination syndrome in adults	*Rome III Diagnostic Criteria for Functional Gastrointestinal Disorders*	Persistent or recurrent regurgitation of recently ingested food into the mouth with subsequent spitting or remastication and swallowing	Yes
		Regurgitation is not preceded by retching	Yes

[a]Based on Rome Foundation,[6] American Psychiatric Association,[7] and World Health Organization.[8]

Changing Society and its Effects on Health Conditions

Ethiopia, like many other countries in the region, sees its society rapidly changing. In particular, the increasing exposure to Western culture has major repercussions on the Ethiopian people. One area in which the population may experience change is with regard to certain mental disorders; some mental disorders, and certainly eating disorders, belong to the domain of so-called "culture-bound syndromes." Historically, eating disorders belong to Western cultures. However, there is growing evidence that eating disorders are on the increase in non-Western countries. This increase might also be due to the effects of westernization in non-Western countries.

CONCLUSIONS

More awareness of rumination syndrome and related conditions is needed. Raising awareness should involve many cadres and health professionals, from generalists to specialized health workers. More interdisciplinary collaboration is needed between gastroenterology and mental health; collaboration should be enhanced on many levels, ranging from diagnostic manuals and standards to clinical practice.

Research on the detection, diagnosis, and treatment of rumination syndrome is needed, as the available evidence is insufficient. In the cases of rumination syndrome reported

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by Attri et al[10] and Chial et al,[11] reassurance and behavioral therapy seem to be effective, and the prognosis is thought to often be favorable, with positive outcomes in more than 80% of cases. Increasing awareness of rumination syndrome should play a role in giving this condition due consideration. Also, more research is needed in mental health on the effects of westernization in non-Western countries. More capacity building, mentorship, and supportive supervision are needed for health professionals in low and middle income countries to upgrade their skills with regard to diagnosing and treating mental disorders.

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