

THE MEDICAL STUDENT ESSAY PRIZE IN GENERAL AND COMMUNITY PSYCHIATRY 2009

“Anorexia Nervosa is a disorder of the 21st and late 20th centuries and confined to the developed world”. Critically discuss this statement with reference to historical, epidemiological and social sciences sources. What measures do you think should be taken to reduce the prevalence of Anorexia Nervosa?

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Abstract:

The statement in question reflects a prevalent but imprecise opinion that anorexia nervosa is a disease of the modern “Western” world. Although classification of anorexia nervosa has occurred within the last 50 years there is ample evidence that the disease itself has been prevalent for centuries. Emerging and intriguing data from the “developing” world is also forcing many psychiatrists to rethink what constitutes the core of anorexia. Historical accounts from as early as the ninth century demonstrate cases of extreme self-starvation. From detailed accounts we can see a striking resemblance between the behaviour of medieval Saints who fasted themselves to death and modern patients with anorexia. The principal difference lies in the absence of “fat phobia”, replaced instead by extreme religious servitude. Equally in emerging data from “developing” countries one finds a high proportion of non-fat phobic patients who clearly demonstrate the core pathology of a self-motivated, uncontrollable desire to self starve. By appreciating that “fat phobia” may be a cultural manifestation of a non-culture bound disease we can begin to identify risk factors for the core disorder and consider cultural influences that endanger “at risk” individuals. By targeting both the “at-risk” and the respective cultural pressure we can begin to reduce the prevalence of anorexia nervosa.

Introduction:

The statement in question captures a prevalent viewpoint regarding anorexia nervosa. If scrutinised this statement can help us gain greater understanding of a serious mental illness. This essay will consider the problem in three parts, by discussing the historical aspects and evidence, followed by the geographical component and then analysing the findings to suggest methods of reducing the prevalence of anorexia nervosa. Table 1 (on separate page) gives the current DSM IV and ICD 10 criteria for the diagnosis of anorexia nervosa^{1 2}. They act as useful guides to interpreting the term *anorexia nervosa* (referred to as anorexia) although their validity will be challenged later. Many authors hold the more distilled opinion that the essential characteristic of anorexia is “a low body weight that is attained by sustained and motivated eating restraint”³. As well as presenting data this essay will argue that historical and cross-cultural data demonstrates that anorexia nervosa is not a culturally bound disorder and a re-evaluation of diagnostic criteria can help us better understand the core of the disorder allowing us to better target resources to reducing prevalence.

“Anorexia Nervosa is a disorder of the 21st and late 20th centuries”

The advent of modern psychiatry has resulted in the classification of modern illnesses, among them anorexia nervosa. Modern classification reflects growing understanding of a disorder but does not mean that it was not prevalent before. The statement above suggests that anorexia nervosa was simply not present before 1900 AD. Evidence below will demonstrate that this is untrue and that anorexia nervosa was present in both name and characteristics before the 20th century.

There is evidence that eating disorders have existed for centuries, some of the earliest records of bulimic behaviours seen in the decadence of the ancient Roman Empire⁴. Evidence of eating disorders compatible with anorexia can be seen as early as the ninth century in a case of self-starvation, atypically in a male, which was apparently successfully treated⁵. In medieval Europe there have been numerous cases over the past one thousand years of self-starving female saints. It is difficult to ascertain the complete history in such cases but there are some self-starving saints whose stories have been well documented. One example is that of Princess Margaret of Hungary

(1242-1271) ⁶ who practiced excessive fasting, sleep deprivation and intensive physical work. This rigorous behaviour pattern cost St. Margaret her life, aged 28. The parallels with anorexia are self-evident but one notable difference is the absence of “fat phobia”, replaced by servitude to religion. In his book, *Holy Anorexia*, Bell (1985) ⁷ found that 170 of 261 Italian saints from 1200 AD demonstrated some form of eating disorder and half of these cases could be regarded as “holy anorexia” - emaciation motivated by religious belief.

Printed case reports of self-starving girls began to emerge in the 17th century from numerous sources. Richard Morton’s description in 1689 is classically thought of as the first case description of anorexia nervosa or “nervous consumption” as he called it ⁸. There were, however, case reports before this such as John Reynolds describing the case of an 18-year old girl called Martha Taylor ⁹. Ms. Taylor, with a past medical history trauma and subsequent depression, went on to lose her periods, experience a “siege of vomiting” and eventually overtly refuse food that resulted in severe weight loss, some describing her as being so thin that “her belly [touched] her backbone”. Such cases were not new to Reynolds who wrote: “most of the Damosells fall to this abstinence between fourteen and twenty years”. He went on to propose that “Tis probably the feminal humours in these virgins may by long abode in their vessels grow acids”. We can dismiss his aetiological theory but not the striking resemblance between the case history and his epidemiological observation, and those seen in modern anorexia.

Sir William Gull coined the phrase itself in his Lancet paper of 1888 ¹⁰. In his paper “Anorexia Nervosa”, Sir Gull described the case and recovery of a 14-year-old girl with the condition. Having previously ascribed the condition to “a failure of the powers of the gastric branches of the pneumogastric nerves” he stated that most cases of anorexia nervosa were due to “perversions of the ego” ¹¹. Although Gull does not mention weight concerns as a motivation for this condition, others in this era were beginning to highlight an association ¹². Habermans et al (2005) ¹² who argue that weight concern is a critical part of the diagnosis suggest that it was missed by clinicians like Gull. Case reports describing weight concern in similar patients had preceded Gull and others and so it is equally as valid to conclude that they were aware of the growing association but just did not find it in some patients. Equally, no one

can definitively conclude that all patients who were not noted as having a weight phobia were simply hiding it from all the clinicians who saw them.

Given the prevalence of weight concern in anorexic patients today it is worth considering why it was not a prominent feature in historical cases. Modern “Western” culture, with its obsessional emphasis on smaller sizes for women, is believed to play an important role in the genesis of this symptom, as discussed below. Comparatively, historical images of female beauty, as demonstrated by artwork from ancient Roman statues through to Renaissance paintings, typically depict a larger female size. In a time of considerable poverty a thin, undernourished figure was associated with lower social class and being poor, rather than glamour or celebrity. Therefore obsessive weight concern and pursuit of an unattainably slim figure seems an unlikely motive in historical cases. Given the precedent set by medieval saints, religious penance was seemingly a socially acceptable motivation to rationalise food and weight restrictions. Those who went on to develop anorexia may have become obsessed with the idea of weight loss for a higher religious gain rather than for aesthetic reasons. It is important to state that a religious pressure generating anorexia does not exclude the possibility of weight pre-occupation in these patients, but rather suggests that weight concerns are not the only social pressure capable of increasing the risk of developing anorexia.

“Anorexia nervosa is a disorder confined to the developed world”

Before addressing this viewpoint it is worth considering the meaning of the “developed world”. This is not an easy task as the phrase has come to have many different meanings to many different people and organisations. The United Nations¹³ consider that:

There is no established convention for the designation of "developed" and "developing" countries or areas in the United Nations system. In common practice, Japan in Asia, Canada and the United States in northern America, Australia and New Zealand in Oceania, and Europe are considered "developed" regions or areas.

The countries listed share economic prosperity and advanced industry, and all have high human development indices ¹⁴. It is also worth noting that with the exception of Japan, the above countries are classically referred to as having a “Western” culture. For the time being we can accept the above list as those representing “developed” countries and ask whether there is data supporting the existence of anorexia nervosa outside of these countries.

The opinion that anorexia is a disorder of the developed world was not born out of ignorance but rather a lack of data. Evidence disproving this opinion began to emerge in the 1980’s and 1990’s. Eventually case reports surfaced, including Buchan (1984) who described a case of anorexia in a black Zimbabwean girl. Similar case reports were noted in Egypt, India, Singapore and China ¹⁵⁻¹⁸. Further studies such as those by Buhrich et al ¹⁹ and Lee et al ²⁰ have shown that these are not isolated occurrences but part of an increasing caseload in the developing world. This data demonstrates that anorexia nervosa transcends geographical boundaries and is found far beyond “developed” countries.

It is worth considering the aetiological theory behind the idea that anorexia would be confined to developed countries and whether the same theories can be applied to cases in the rest of the world. The concept of “Western” culture as the causative agent for eating disorders is often suggested. More specifically the excessive value placed on being slim and maintaining or reducing one’s weight, is distinct from “non-Western” countries whose aesthetical values can be markedly different. The relentless reinforcement by the media and popular culture of this aesthetic ideal has often been considered a powerful force in the generation of psychological pressure. Such beliefs have triggered multiple high profile campaigns to reduce pressure including the B-EAT campaign. Whilst such campaigns may have marked effects on other eating disorders, evidence does not indicate that “Western” culture acts as the causative agent for anorexia.

A social experiment examining the effect of migration into Western culture shows intriguing results. Mumford et al compared the results of south Asian and Caucasian schoolgirls in Bradford using two eating disorder questionnaires, the EAT-26 and the BSQ. In their analysis they found that girls from homes with a more traditional Asian

background in fact scored higher than their counterparts although they were not exposed to the same degree of “Western” culture ²¹. This finding may suggest that these girls faced issues regarding identity conflict and this manifested itself as an eating disorder.

The idea of “Western” cultural pressure as a causative agent of anorexia is further challenged by epidemiological studies in the “developed” countries. Hoek et al reviewed epidemiological data from long-term studies in Sweden, Scotland

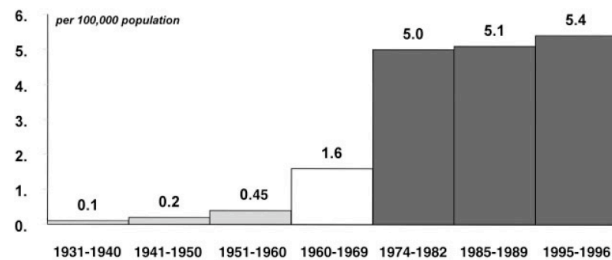


Figure 1: From Hoek et al 2003

and The Netherlands and combined data to produce a figure showing the change in incidence of anorexia nervosa from 1931-1996 ²² (Figure 1). Interestingly their findings suggest that from the 1970’s the incidence of anorexia nervosa has not dramatically increased across northern Europe. Curin et al also showed the same result from 1980-2000 ²³. The mechanism by which the “Western” obsession with figure has spread through society is often thought to be modern media, including magazines, television advertisements and the Internet. Arguably the nature and impact of the media on society has risen exponentially from the 1970’s but this is not reflected in the epidemiological data regarding anorexia. It cannot be said that modern changes have had no impact as data from Hoek shows a dramatic rise in the incidence pre and post 1970. Whether this reflects a true rise in incidence of anorexia or an artefact of increased awareness of the disorder and therefore more diagnosis and presentation remains debatable.

As discussed, there are numerous cases of anorexia in countries without a significant “Western culture”. A review by Keel and Klump found 8 out of 19 articles written about non-Western anorexia reported at least one case of anorexia where the patient had no exposure to Western culture or exposure was extremely unlikely ²⁴. Therefore it seems unlikely that “Western” culture is the causative agent in anorexia. How then has “Westernization” affected anorexia nervosa in “non-Western” or “non-developed countries”?

In 2000 Lee and Lee et al examined disordered eating patterns in high-school girls in three socio-economically distinct cities in China reflecting a gradient of modernization ²⁵. They found that a gradient of fat concern ran parallel to a gradient of “modernity and socioeconomic status”. One could argue that the socioeconomic gradient reflected a gradient of “Westernization” but the authors contend that this is too simplistic, proposing that the shift in fat phobia results from the multiple complex gendered forces involved in globalization. These included changes in education, urbanization and women’s rights, as well as consumerism and the pressure of “Western” media images.

In China, for example, these forces have not spread as ubiquitously through society as they have in Europe. One would therefore expect the proportion of anorexic Chinese patients experiencing intense fat phobia to differ from that in Europe. Indeed data from the same authors shows this. In 1993 Sing Lee et al studied the symptoms of 70 anorexic patients in China ²⁰. They found that nearly 60% of the group did not show fat phobia throughout the course of their illness citing “epigastric bloating (31.4%), no appetite/hunger (15.7%) or simply eating less (12.9%)” as excuses for legitimizing their condition. It will be interesting to see whether this profile changes as the impact of globalization spreads.

This evidence once again raises the question posed at the beginning of this essay, namely the validity of diagnostic criteria, such as DSM-IV/ICD-10, including fat phobia as a requirement for diagnosis. Multiple authors have suggested that by retaining these criteria the profession is biasing epidemiological data from fairly reflecting prevalence or incidence in other parts of the world ^{24 22 26 27}. The same may be true of research instruments such as EAT and BSQ ²⁸. It could be argued that the absence of fat phobia indicates another eating disorder or that patients simply concealed fat phobia. The latter argument may be valid in case reports but it is unlikely to remain valid in the larger studies mentioned above. Whether the absence of fat phobia represents a unique disorder is contentious. It is more likely, given the other striking similarities between non-fat and fat phobic patients, that the two are at most subsets of an underlying core of anorexia, “a low body weight that is attained by sustained and motivated eating restraint” ³.

Heterogeneity of symptoms due to cultural factors is by no means rare in psychopathology. For example schizophrenia, a disorder not believed to be culturally bound, demonstrates culturally relevant positive symptoms, such as paranoid psychosis involving the FBI in the USA, which if included into international diagnostic criteria would significantly “alter” worldwide epidemiology. Whilst the cultural influence on anorexia is by no means as simple as this, one can understand the danger of including culturally bound symptoms in the diagnostic criteria of a disorder that may not be culturally bound.

Reducing the prevalence of anorexia nervosa

Prevalence rates of anorexia have been estimated at 0.3% for young females. Western culture does not “cause” anorexia but it does influence it. The above epidemiological data supports this. In Figure 3, I have created a diagram demonstrating how incidence and prevalence would increase change if a cultural pressure were the causative agent. Figure 4 on the other hand acknowledges the role of a cultural pressure but suggests that instead of causing the disorder it primarily affected those people in the population who were significantly at risk of developing it. If the number of “at risk” individuals remained roughly static in the population then even a wide spread cultural pressure would not change the overall incidence or prevalence. From this model and the above data we find two targets for reducing prevalence: those at risk and the cultural influence inducing anorexia in them.

There have been many studies examining the risk factors associated with developing anorexia nervosa. It is fast emerging that like many diseases a delicate interplay between genetics and the environment puts a person at risk. There have been several twin studies examining the contribution of genetics to the development of anorexia; for example Holland and colleagues showed a 56% monozygotic concordance as compared to a dizygotic concordance of 5%²⁹. Other studies have had difficulty replicating this finding, primarily because anorexia itself is quite rare and when looking within twin populations the sample sizes tend to be small. Candidate genes are equally difficult to pin down, as reviewed by Bulik et al³⁰. Serotonergic, dopaminergic, neuropeptide and other gene systems associated with feeding, weight

regulation and hunger have been studied. Unfortunately findings of association are either underpowered or not replicated.

Psychological risk factors have been implicated in anorexia nervosa. As referenced above in migrant studies internal identity conflict may contribute. Other factors that have been associated include negative childhood experience, low self-esteem, obsessive-compulsive behaviour, perfectionism and autism^{31 32 33 34}. Interestingly childhood and parental obesity and dieting history have repeatedly been shown not to be risk factors for anorexia, although they have a role in other eating disorders such as bulimia nervosa³³.

By appreciating the growing evidence that anorexia is not a modern disease or one confined to “developed” countries, risk factor studies can be performed multi-nationally to improve sample size. Eventually, once accurate risk factors have been elucidated, that data could be used in primary care and child mental health services to carefully screen “at-risk” individuals for early signs of anorexia and begin treatment much earlier before cognitive distortion becomes resilient.

Also by accepting that this disorder has existed for many centuries and currently exists within many different countries we can begin to examine cultural influences in a new light – is there a common cultural pressure that underpins self-starvation in medieval saints, high-school girls in rural China and the classical “fat-phobic” patients seen in the West? Such studies could help to identify the pressures within different societies that endanger “at risk” individuals. Social campaigning, such as B-EAT, can then target these specific cultural pressures and campaigns can be adapted in different countries to limit the global prevalence of anorexia.

Conclusion

In contrast to the statement in question, this essay has argued that anorexia is not confined to just the modern or “developed” world. There is much left to be studied as regards the interplay between genes and the environment and their respective contributions. This essay has argued that by re-evaluating the diagnostic criteria and excluding potentially culture-specific symptoms such as weight phobia, we will have

access to a much greater and potentially a more reflective pool of unfortunate individuals who, for a multitude of reasons, have the intense desire to self starve. Multi-national studies have the potential to give us a greater understanding of the core of anorexia. These studies could help us identify “at risk” individuals, how society puts them at risk and most importantly, direct ways in which we can help them.

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Table 1:

DSM-IV	ICD-10
Refusal to maintain body weight at or above a minimally normal weight for age and height	Body weight is maintained at least 15% below that expected
Intense fear of gaining weight or becoming fat, even though underweight.	The weight loss is self-induced by avoidance of "fattening foods" and one or more of the following: self-induced vomiting; self-induced purging; excessive exercise; use of appetite suppressants and/or diuretics
Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight.	There is body-image distortion in the form of a specific psychopathology whereby a dread of fatness persists as an intrusive, overvalued idea and the patient imposes a low weight threshold on himself or herself
In postmenarcheal females, amenorrhea	A widespread endocrine disorder involving the hypothalamic-pituitary-gonadal axis is manifest in women as amenorrhoea and in men as a loss of sexual interest and potency
Further subdivision into: <ul style="list-style-type: none">- Restricting type- Binge eating/purging type	If onset is prepubertal, the sequence of pubertal events is delayed or even arrested.

Figures 2 and 3:

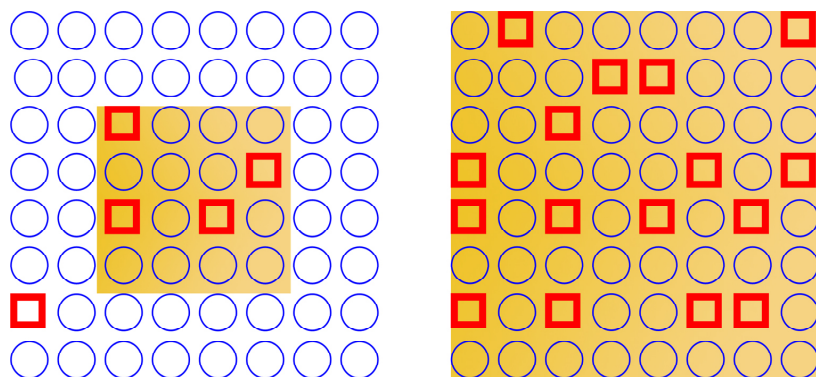


Figure 2: In this diagram the cultural influence (orange shading) causes disease (red squares). As the cultural influence becomes widespread an increase in prevalence and incidence is seen. Note: There may be some rare cases not attributable to the causative pressure.

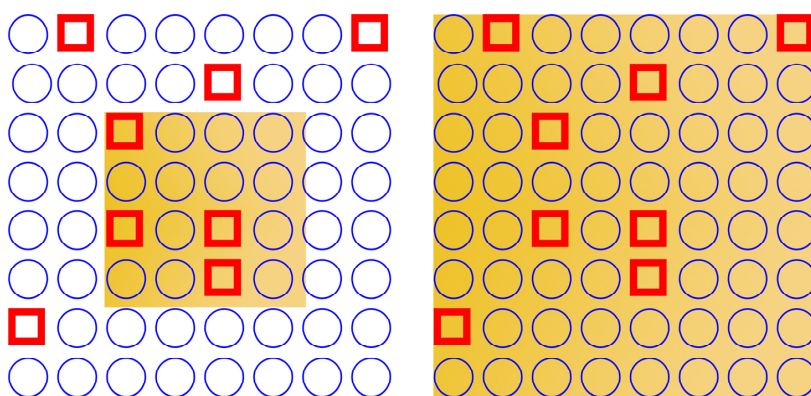


Figure 3: In this figure a cultural pressure (orange shading) causes disease only in those patients who are at risk (red squares with shading) whilst an endemic population of at risk individuals, (empty red squares) do not develop the disease because they are not exposed to the pressure. On the left the overall prevalence of the disease is low. On the right the cultural pressure has become all-encompassing exposing all at risk individuals to the pressure and they develop the disease; however, since they occur at a stable prevalence within the population themselves the disease prevalence and incidence will remain stable. There may be an initial rise in incidence/prevalence as cultural influence changes from left to right but this model would predict stable epidemiological findings thereafter.

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