Outline and evaluate biological explanations for anorexia nervosa

Guisinger suggested that Anorexia is a reflection of behaviours that were adaptive in the environment of evolutionary adaptation (EEA). When our ancestors were hunter-gatherers they needed to move regularly as food supplies in the local area were exhausted. Guisinger notes that key characteristics of people with Anorexia are restlessness and high levels of activity. She contrasts this with the usual response to starvation and weight loss, which would be inactivity and depression. Therefore the hypothesis suggests that high levels of activity and a denial of hunger would help the individual to migrate in response to famine in their local area.

While the evolutionary explanations makes a good suggestion about why people with Anorexia deny their hunger and often display increased levels of activity it doesn’t provide a reasoned argument for why Anorexic patients afflicts far more women than men. It would seem more logical for the condition to afflict both men and women equally as men would be just as involved in gathering up their resources and moving territory as women.

Furthermore, it is impossible to test the explanation of Anorexia scientifically as it has to rely on a great deal of speculation. There is no scientific evidence which proves the evolutionary explanation of adapted to flee. As with all evolutionary explanations of human behaviour, there is no direct evidence for this model and it does not explain why anorexia is found predominantly in women.

Serotonin, is a brain neurotransmitter that is involved in many behavioural functions including depression and obsessive-compulsive disorder. Early studies found a reduction in levels of the important serotonin metabolite 5-HIAA in people with eating disorders. This would suggest that brain serotonin pathways were underactive. However, this evidence suggests that in fact the serotonin is not being used and not that it isn’t being produced. The low levels of the serotonin metabolite do not prove that a patient with anorexia does not have sufficient levels of serotonin but that serotonin present is not being used effectively.

However, the introduction of brain scanning techniques has transformed the study of eating disorders. In PET scans a drug that combines with serotonin receptors is injected and travels to the brain and binds to serotonin receptors. A brain scan is taken and the drug shows up as a brightly lit area. These can be measured and this gives an estimate of the number of serotonin receptors in different parts of the brain. This is far more direct than measuring serotonin levels.

Using these new techniques, PET scans have shown that there are fewer serotonin receptors in the brains of people with eating disorders. This provides further evidence that it is the mechanism of up taking serotonin in patients with eating disorders that provides them with the behavioural symptoms of anorexia, such as obsession, perfectionism, anxiety and depression rather than there being a mechanical dysfunction with the production of serotonin.

However, most of these early studies were done on people with on-going anorexia and it is possible that the illness had produced the changes in serotonin activity rather than the other way round. We are unable with the evidence we currently have to determine the difference with cause and effect. It is unclear if these biological components are due to the anorexia and it is because of this serotonin dysfunction that an individual has anorexia. In anorexia, the loss of body weight produces many hormonal and brain changes as the body tries to cope. For this reason, it is not possible to conclude...