

Table 11.2 from Fairburn CG, *Cognitive Behavior Therapy and Eating Disorders*, Guilford Press, New York, 2008.

Patient handout on the effects of being underweight.

THE EFFECTS OF BEING UNDERWEIGHT

Maintaining an unduly low body weight is unhealthy and harmful. It has numerous adverse effects on one's physical, psychological and social functioning.

Knowledge about the effects of a low body weight has come from a variety of sources including studies of the effects of famines, and other causes of food shortage, and experimental studies in which volunteers have adhered to a restricted diet for extended periods of time. Consistent findings have emerged. These are summarized below.

If you are underweight and have an eating disorder you will experience exactly the same adverse effects.

Psychological Effects

Thinking

Thinking is affected by being underweight. This is hardly surprising since the brain requires a lot of energy (i.e., calories) to function properly. Thinking becomes inflexible at a low body weight with the result that it becomes difficult to switch rapidly from topic to topic. It also becomes difficult to make decisions.

Concentration is almost always impaired although people may not be aware of this since they force themselves to focus on what they are doing. In part the concentration impairment is due to the presence of recurrent thoughts about food and eating (secondary to under-eating) since these interfere with the ability to focus on other things. Some people find that they even dream about food and eating.

The almost constant thinking about food and eating affects behavior too. It leads some people to become particularly interested in cooking and thus they keep reading recipes and watching TV cookery programs, and they may also do a lot of cooking. At the same time they tend to become less interested in other things. They often give up old interests and hobbies.

Feelings

Mood is affected by being underweight. It is generally somewhat low and people are prone to get irritated rather easily.

Behavior

People who are significantly underweight change the way that they behave. If they have been underweight for a long time they come to think that this is their "personality" whereas their true personality is being masked by the effects of being underweight.

One of the most prominent changes is heightened "obsessiveness". This term refers to the tendency to be inflexible and rigid in one's routines. Some people may also become very particular about cleanliness and tidiness. Often this is accompanied by difficulty being spontaneous.

The obsessiveness is often particularly striking when it comes to eating. People may eat in a very particular way. Eating may become like a mini "ceremony" which has to be conducted alone. Some people eat very slowly, chewing each mouthful a certain number of times; others eat in a ritualized way always eating from a certain plate, or cutting food into small pieces.

Hoarding objects is yet another feature although not everyone shows it. The hoarding may be of food or other things. Often people cannot explain why they are doing this.

Social Effects

Being underweight has a profound effect on social functioning. There is a tendency to become inward-looking and self-focused. This is exaggerated by the heightened need for routine and predictability, and difficulty being spontaneous. As a result people withdraw socially and get used to this way of living.

Also there is a loss of sexual appetite (due to hormonal changes). This too can contribute to the social withdrawal.

Physical Effects

Being underweight has a marked effect on one's physical health. The exact effects depend upon the extent and nature of the dietary deprivation.

Heart and circulation

There are profound effects on the heart and circulation. Heart muscle is lost and the heart is weaker as a result. Blood pressure drops and the heart rate (pulse) declines. There is heightened risk of heart beat irregularities (arrhythmias).

Sex hormones and fertility

Likewise there are profound effects on hormonal function with non-essential processes ceasing. As a result sex hormone production declines markedly and people become infertile. There is a loss of interest in sex and sexual responsiveness declines.

Bones

There is a deterioration in bone strength. This is in part due to the hormonal changes, in part due to the decrease in the weight that the bones have to carry and in part a direct dietary effect. The result is an increased risk of osteoporosis and fractures.

Intestinal function

The gut slows right down and as a result food moves slowly along it. Food in the stomach takes much longer than normal to move into the small intestine which is why people have a heightened sensation of fullness even after eating relatively little. Taste may be impaired and so there may be increased use of condiments and spices to give food flavor. There may be persistent hunger.

Muscles

Muscles waste and weakness can result. This is most obvious when walking up stairs or trying to stand up from a sitting or squatting position.

Skin and hair

The effects vary. A downy hair (called lanugo) may start to grow on the body especially on the face, abdomen, back and arms. There may also be hair loss from the scalp. Often the skin becomes dry and it can develop an orange tinge.

Temperature regulation

This is altered with there being a decrease in body temperature. People feel profoundly cold.

Sleep

Sleep is impaired when underweight. Sleep tends to be less refreshing and there is a tendency to wake early.

Postscript: Some of the effects described above are direct effects of sustained under-eating, rather than a low weight, and occur in anyone who is markedly under-eating whatever their actual weight.

The Significance of These Effects

There are five important points to note:

1. **Some of the things that you find difficult or aversive at the moment are likely to be a direct result of having too low a weight**
2. **Many people who are underweight assume that the way that they are now reflects their personality.** It is most important to stress that your personality is being masked by the effects of being underweight and that your true personality will only be revealed once you cease being underweight.
3. **Some of the effects of having too low a weight are dangerous or do long-term damage to your body** (e.g., the effects on your heart and circulation, and the effects on your bones)
4. **Some of the effects of having too low a weight keep you "locked in" to your eating problem** (e.g., thinking too much about food and eating; being inflexible and

having to stick to routines and rituals; having difficulty making decisions; not wanting to socialize; having difficulty concentrating; feeling full so readily)

5. **Almost all these effects will go away if you regain weight to a low, but healthy, level**
-