

# Perceptions of body size and its association with HIV/AIDS

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## Abstract

**Objective:** To explore the perception among black South African women that people who are thin are infected with HIV or have AIDS.

**Setting:** Khayelitsha, an urban township in Cape Town.

**Subjects:** 513 women aged 18-65 years.

**Methods:** This was an exploratory study employing both quantitative and qualitative research methodology. Data were collected in two phases. The first phase involved collecting quantitative data among 513 participants. During the second phase, qualitative data were collected in a purposely selected sub-sample of 20 women. For the qualitative data collection, participants were shown eight body figures, ranging from thin to obese, and asked to choose a figure representing the ideal figure, a preferred figure and a figure thought to symbolise health. They were also invited to choose a figure that they thought represented a person infected with HIV or who had AIDS. They had the option of saying that they did not associate any of the figures with people infected with HIV or who had AIDS. Weight and height measurements were also taken. After the quantitative analysis was completed, focus group discussions explored perceptions about body image and the relation to HIV among purposely selected participants. Data were summarised by content based on questions discussed.

**Results:** Sixty-nine per cent of the participants associated a thin figure with a person infected with HIV, or who had AIDS. Only 10.2% thought the thin figure symbolised health. Fifty per cent preferred a normal-weight figure, while 34.2% thought that normal weight symbolised health. Only 2% thought that people in the normal-weight category were infected with HIV or had AIDS. Thirty-four per cent preferred to be overweight and 31% thought that being overweight symbolised health. None of the participants thought the overweight figure represented people infected with HIV or who had AIDS. Only 8% preferred the obese figure. The results of the qualitative data analysis suggested that participants preferred to be overweight and at risk of acquiring cardiovascular diseases, rather than being thin and stigmatised as a person infected with HIV or who had AIDS.

**Conclusion:** This study revealed that the stigma associated with HIV and AIDS may undermine strategies for prevention of chronic non-communicable diseases among urban black South African women.

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## Introduction

For the past decade, a large percentage of black Africans in developing countries have been exposed to people who are sick due to poverty and therefore have no means of satisfying their basic needs, including food. These people often suffer from infectious diseases, including tuberculosis and other poverty-associated diseases.<sup>1</sup> Improvements in the economic situation of countries have led to the development of obesity, which used to affect the affluent, but now equally affects the poor. Despite economic developments, it is very difficult to erase the perception that people are thin because they are poor or sick.

In sub-Saharan Africa, where HIV infection and AIDS are pandemic, the belief that weight loss is associated with this disease is

widespread. For example, Puoane et al (2005) report that black South African women are not motivated to engage in physical activity for fear of losing weight and being stigmatised as being infected with HIV or having AIDS.<sup>2,3</sup>

Over the past decade, the prevalence of obesity in South Africa has increased from 44.4-54.3% among women, with a higher prevalence in the urban areas.<sup>4-10</sup> A national survey, conducted in 1998, found a 27% prevalence of overweight body mass index (BMI) (25-29.9 kg/m<sup>2</sup>) and approximately a third (32%) of obesity (BMI > 30 kg/m<sup>2</sup>) among all population groups.<sup>6</sup> Black women had the highest prevalence of obesity and overweight. A South African study showed that 36% of urban black women and 25% of rural black women were obese.<sup>7</sup>

The focus of public health programmes has been on eradicating undernutrition and controlling infectious diseases. However, obesity and non-communicable diseases have a negative effect on the burden of disease, while the HIV/AIDS pandemic continues to devastate sub-Saharan Africa, particularly South Africa. In 2000, the mortality profile indicated that the HIV/AIDS pandemic was the leading cause of death in South Africa, accounting for 30% of all deaths, followed by cardiovascular disease at 17%.<sup>10</sup> Among the top 20 specific causes of premature mortality, women had a higher proportion of deaths due to HIV/AIDS, stroke, hypertensive heart disease and diabetes.

It is of grave concern that at a time when people should be avoiding risk factors for cardiovascular disease, especially obesity, many are becoming obese to avoid the stigma associated with being infected with HIV or having AIDS.

This article presents quantitative and qualitative findings of a study that explored the perception about body size and its relation to HIV/AIDS among women residing in an urban township in South Africa.

## Methods

### Setting

The study was undertaken in Khayelitsha, the largest urban black township in Cape Town. Khayelitsha consists predominantly of informal settlements (57.4%). The 2001 census estimated the population of Khayelitsha to be 329 002, although other sources have put the figure as high as one million, with a slightly higher percentage of women (51.9%) than men (48.1%). Fifty-one per cent of the working-age population are unemployed, with unemployment being higher among women. The majority of households (72%) earn less than R1 600 per month, and 69.3% of households comprise an average of four people. It has been reported that between 1999-2005, the antenatal HIV prevalence in Khayelitsha doubled from 15-30%.<sup>11</sup>

### Study participants

Study participants were selected from the main study that examined the prevalence of overweight and obesity, as well as factors associated with BMI and waist circumference among adults residing in an urban township in South Africa.<sup>12</sup> A total of 650 households were randomly selected from a list of households that was provided by community health workers who work in the study site. The participants were adult women aged 18 years or older, resident in the township for at least one year and without mental disabilities that might prevent them from giving informed consent. One such woman was chosen from each selected household. The selected participants were invited to participate in the study, were required to respond to the questionnaire questions and have anthropometric measurements taken. Of the 650 individuals invited, a total of 513 women participated in the study.

### Data collection

Data collected included information related to socio-demographic

characteristics, migration, body-image perception, medical history, physical activity, social support, approach to life, health care access and utilisation, food consumption patterns and level of physical activity. To explore perceptions about body size and body image, figures developed by Stunkard<sup>13</sup> were used. These have been validated by Mciza et al (2005) and adapted for use among the South African population.<sup>14</sup> Eight figures ranging from very thin (1) to very obese (8) were presented to the participants, who selected a figure corresponding to the questions:

- Which image would you like to be?
- Which image symbolises health?

To identify women who perceived thinness as being related to people infected with HIV or who have AIDS, and those women who did not, women were shown the eight figures and were asked to select a figure they associated with people infected with HIV or who have AIDS. They were also given an option to say that they did not associate any of the figures with people infected with HIV or who had AIDS. The participants chose an image they thought represented an ideal figure from a range of body figures numbered from 1 (thinnest) to 8 (obese). The selected figure was then compared with their calculated BMI.

Weight and height measurements were taken from all the participants. Weight was measured using a calibrated bathroom scale (Soehnle, Germany), wearing light clothing and no shoes, and their weight was taken to the nearest 0.5 kg. Height was measured using a metre stick with subjects standing barefoot with their backs, buttocks and heels as close to the wall as possible. Their heads were positioned in such a way that the angle of their eye and the opening of the external auditory meatus were on a horizontal line. Height was measured to the nearest 0.1 cm.<sup>12</sup> Data were collected during June-August 2005.

The quantitative data were analysed using the SAS Statistical Package version 8.2 (TS2M0), 2004, USA.<sup>12</sup> BMI was expressed in kg/m<sup>2</sup> and then categorised using the World Health Organization (WHO)<sup>15</sup> categories of underweight (BMI < 18.5 kg/m<sup>2</sup>), normal weight (BMI 18.5-24.99 kg/m<sup>2</sup>), overweight (BMI 25-29.99 kg/m<sup>2</sup>) and obese (BMI ≥30kg/m<sup>2</sup>). Figures shown to the participants were grouped as follows: 1 and 2 (underweight), 3 and 4 (normal weight), 5 and 6 (overweight), 7 and 8 (obese).

After the quantitative analysis was completed, 10 women who associated thinness with people infected with HIV or who have AIDS, and 10 who did not, were purposely selected to participate in focus group discussions to explore knowledge, beliefs, attitudes and symptoms related to the HIV/AIDS pandemic. Both focus group discussions were facilitated in a local language. Discussions were tape recorded, notes were taken and the discussions continued until saturation was reached.

Questions discussed included:

- Most people think that if a person is thin, he/she may be HIV positive. What are your views about this?
- Do you think people prefer to be overweight so as to not be

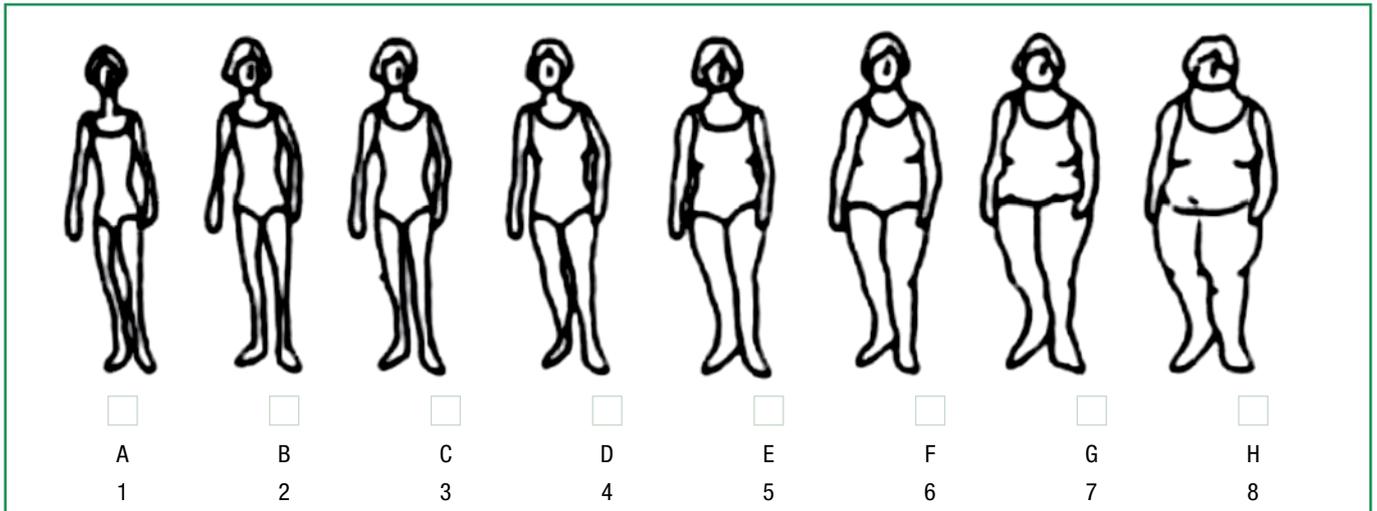


Figure 1: Figures representing body image

labelled as being infected with HIV or having AIDS?

- Overweight is one of the risk factors for cardiovascular diseases. Do you think people would prefer to be overweight and at risk of cardiovascular disease, or would rather be thin and possibly associated with being infected with HIV or having AIDS?

Focus group discussions were transcribed, translated into English and analysed manually for content by investigators and two research assistants to ensure validity. Direct quotes from the focus group discussions were used to illustrate participants' perceptions and attitudes. Ethical approval for the study was obtained from the Ethics Committee of the University of the Western Cape.

## Results

### Findings from quantitative data

The distribution of socio-demographic variables is depicted in Table I. Fifty per cent of the participants were aged 35-54 years. There was a similar proportion of married and never-married women (38.7% vs 38.5%). More than half of the participants had attained a Standard 6-10 high school education, yet 69.8% were unemployed. Of the households, 72.2% had an income of less than R1 000 per month. Only 26% of the households had an income of above R1 000 per month.

### Body image and its relation to the HIV/AIDS pandemic

The figures that were presented to the participants (Figure 1) and the participants' perceptions indicated that 69.3% of the women associated the underweight figures (1 and 2) with people infected with HIV or who have AIDS. Only 10.2% associated the same underweight figure with someone who symbolises health and 8.4% preferred to be underweight. Fifty per cent preferred the normal-weight category figures (3 and 4) and 34.2% thought that this category symbolised health. Only 2% of the participants thought that people in this category represent people infected with HIV or who have AIDS. Over a third (33.5%) of the women preferred to be in the overweight category (5 and 6) and 31.4% thought that being

Table I: Socio-demographic characteristics of participants

Characteristic	Total	
	n	%
<b>Age (in years)</b>		
18-34	176	33.2
35-54	270	50.9
≥ 55	79	14.9
<b>Marital status</b>		
Married	205	38.7
Separated/widowed/divorced	121	22.8
Never married	204	38.5
<b>Educational status</b>		
Never attended school	49	9.2
Attending school at present	16	3.0
Attended school, not in school at present		
Standard 1-5	186	35.1
Standard 6-10	276	52.1
<b>Employment status</b>		
Employed	40	7.5
Unemployed	370	69.8
Self-employed	88	16.6
Temporarily employed	23	4.3
<b>Income</b>		
Less than R500	217	40.9
R500-R 1000	166	31.3
R1 000 and above	138	26.0

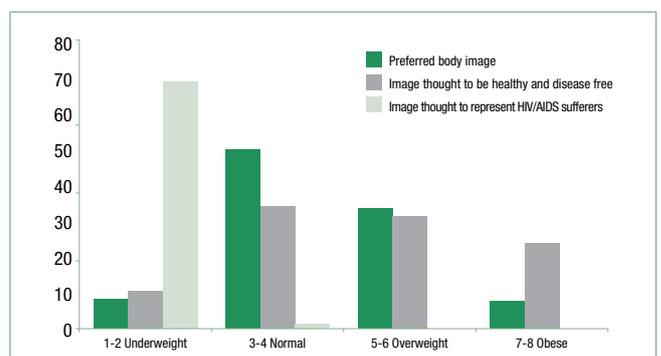


Figure 2: The participants' preferences and perceptions regarding body image, presented as choice of figures in percentages

overweight symbolised health. None of the participants thought that this category represents people infected with HIV or who have AIDS. Only 7.8% of the women preferred the obese category, while 24% thought that being obese symbolised health. Figure 2 summarises the participants' preferences and perceptions regarding body image.

When the participants were asked to choose a figure that best represented someone infected with HIV or who has AIDS, 25% said that they could not tell that someone was infected with HIV or had AIDS just by looking at the person.

### Participants' perceived body figure

In terms of calculated BMI (Table II), 14 subjects (2.7%) were underweight, yet only 2 (0.4%) thought that being underweight was acceptable, while 44 (8.6%) perceived themselves as underweight. Seventy-five (14.6%) were of normal weight, and only 44 (8.6%) thought that being of normal weight was acceptable, while 257 (50%) perceived themselves to be of normal weight. Two hundred and seven participants (40.3%) were overweight, but only 77

(15%) thought that being overweight was acceptable, while 172 (33.5%) perceived themselves as overweight. Two hundred and seventeen (42%) were obese and 13 (2.5%) thought that obesity was acceptable, while only 40 (8%) perceived themselves as obese.

Only participants who responded to body image questions are included. Some of the reasons for non-participation were that some participants were relocating to formal housing, while others attended health facilities for routine check-ups.

### Findings from focus group discussions

The key findings from the focus group discussions are summarised below:

- The participants' knowledge of infection with HIV appeared to be lacking, especially about how HIV infection is acquired.
- Cultural beliefs appeared to have a significant influence on the women interviewed, even though more than half of the participants had a high school education.
- The attitudes towards people who are believed to be infected with HIV or have AIDS appear to be negative.

Table II: Comparison of perceived body image with participants' calculated BMI results expressed as percentages

Parameter	Calculated BMI categories [n(%)]				
	Underweight BMI < 18.5 kg/m <sup>2</sup>	Normal weight BMI 18.5-24.9 kg/m <sup>2</sup>	Overweight BMI 25-29.9 kg/m <sup>2</sup>	Obese BMI >30 kg/m <sup>2</sup>	Total*
Underweight	<b>2 (0.4%)</b>	3 (0.6%)	16 (3.1%)	23 (4.5%)	44 (8.6%)
Normal	7 (1.4%)	<b>44 (8.6%)</b>	96 (18.7%)	110 (21.4%)	257 (50.0%)
Overweight	3 (0.6%)	21 (4.1%)	<b>77 (15.0%)</b>	71 (13.8%)	172 (33.5%)
Obese	2 (0.4%)	7 (1.4%)	18 (3.5%)	<b>13 (2.5%)</b>	41 (8.0%)
Total	14 (2.7%)	75 (14.6%)	207 (40.3%)	217 (42.3%)	513 (100.0%)

\* Percentages may not add up to 100%, as some variables are unavailable.

Table III: Comparison of perceptions about body image and the relation to HIV status in two groups

The group that did not associate thinness with people infected with HIV or who have AIDS	The group that strongly associated thinness with people infected with HIV or who have AIDS
<p><b>If you see a thin person, do you think that he or she may be HIV positive?</b> Participants thought that the only way one could determine one's HIV status was through blood test results. "You cannot tell if someone has HIV or AIDS just by looking at them. Only blood testing can confirm whether or not this is true."</p>	<p><b>If you see a thin person, do you think that he or she may be HIV positive?</b> Participants felt that a large number of people in the community were infected with HIV or AIDS, and that as a result these people were very thin. "These days, most people, especially the youth, are losing weight because of the HIV or AIDS. It is so abundant in this community, and every day you hear that this one and that one have the disease."</p>
<p><b>Which other diseases could cause people to lose weight?</b> Participants felt that even if someone has diabetes or tuberculosis, he or she will lose weight, and agreed that it was not only people who are HIV positive or have AIDS who lose weight. "People lose weight when they suffer from diabetes or TB. We can't always assume that they have HIV."</p>	<p><b>Which other diseases could cause people to lose weight?</b> It was agreed that diabetes causes weight loss, but participants had never heard of young people having diabetes. They said that HIV or AIDS affected young people mostly, with the exception of a few adults. "You can't get diabetes at a young age, but you lose weight because of AIDS until it kills you."</p>
<p><b>How does one become infected with HIV?</b> There were mixed feelings about this. One participant said: "It is an organism that people are born with. If one is unlucky, then it develops into HIV". Another added: "You can get it in rivers if you swim naked and if the worm-like organisms enter via your genital area". Some believed that infection occurred through having sexual intercourse without using a condom with someone who is infected with the virus.</p>	<p><b>How does one become infected with HIV?</b> The majority thought that infection occurred through having unprotected sex with a prostitute, or someone who was infected with the virus. One participant related: "I heard that a couple of years back, there were oranges that were injected with the virus and that all the people who ate them became infected and ended up dying".</p>

**How can you tell if a person has HIV?**

Participants said that symptoms included involuntary weight loss, swollen glands behind the ears, loss of strength, an inability to eat anything, dark pigmentation marks and rashes on the skin, a sore throat, genital sores, madness and diarrhoea. One participant added: "People with HIV feel and look weak all the time".

**Why are people afraid of others thinking that they may be infected with HIV or that they have AIDS?**

The group agreed that in their community, HIV/AIDS still carries a very bad stigma. "In this community, people with HIV or AIDS are believed to sleep around and no-one wants people to say filthy things like that about them." Another participant added: "People think that if you have the disease then you are going to die soon. It is like a death sentence".

**Would you say that people would prefer to be overweight, rather than lose weight and be associated with carrying the HIV infection or with having AIDS?**

Members of this group mentioned that they would rather be slightly overweight, but not obese, as opposed to losing weight and having people believe that they were infected with HIV or that they had AIDS. Some of them reported that they were trying to lose weight voluntarily because they belonged to the Healthy Lifestyles Club, which encouraged weight loss through eating less fatty foods and by exercising. Even so, they were quick to point out: "You can tell when someone loses weight by choice like us, and when they are sick". They said the difference was that they were beautiful and "fresh". One participant added: "Our skins are glowing, but if you lose weight because you are sick, then your skin becomes dull and you look tired".

**Would you prefer to be overweight and at risk of acquiring cardiovascular diseases, or would you rather be thin with people believing that you have HIV?**

This group was assured that being overweight is linked to high blood pressure and diabetes. However, they also said that it was desirable to be big, because as a woman you look dignified, people can see that you have enough money to feed yourself and your family, and that "traditional-looking" women look beautiful when they have big hips.

"I would rather be round and pretty, than thin, because people will think I have AIDS!"

"It is part of our culture that women should be round with big hips. Thin women are valued less than big women in our culture."

**How can you tell if a person has HIV?**

This group agreed that infected people's appearance changes because their mouths and skin become dry and as a result of having pimples and lesions which take a long time to heal. Others added that the hair becomes dull and weak, that diarrhoea occurs regularly and that people with HIV or AIDS have a poor appetite.

**Why are people afraid of others thinking that they may be infected with HIV or that they have AIDS?**

It was suggested that people tend to spread gossip and malicious rumours about people who are losing weight. They will imply that they have AIDS and have been promiscuous, and this brings shame on the person and the family name. One participant added: "If you have AIDS and suddenly gain weight, people believe that you are well again. I know a girl who is fat and pretty. Now you cannot say she was sick".

**Would you say that people would prefer to be overweight, rather than lose weight and be associated with carrying the HIV infection or with having AIDS?**

This group felt that being overweight protected them from being stigmatised in the community, and that it was desirable to be overweight rather than thin and believed to be infected with HIV or having AIDS.

"Yes, because it is not pleasant when rumours and gossip go around the neighbourhood that you are positive," said one participant. Many others nodded as she spoke.

**Would you prefer to be overweight and at risk of acquiring cardiovascular diseases, or would you rather be thin with people believing that you have HIV?**

The participants confirmed that they would rather be overweight, and once again the point was made that people gossip and spread unkind rumours about people who are losing weight. It is often suggested that they have AIDS and have been promiscuous and this shames and embarrasses the person.

## Discussion

This study explored the perception among urban black South African women that thin people are infected with HIV, and what the effects of such a perception were on the women's body image. A large percentage of participants identified a thin figure as being representative of someone who is HIV positive. Only a few regarded the same figure as being healthy. None of them associated a large figure (overweight and obese) with a person infected with HIV. A larger percentage of participants linked the normal-weight, overweight and obese figures with being healthy. This study's findings suggested that there is a perception among urban black South African women that people who are thin are infected with HIV or have AIDS. This is the first study to explore this perception. Previous studies undertaken in a similar population reported that women did not want to lose weight for fear of being stigmatised as HIV positive.<sup>2, 16-17</sup> Similar perceptions were reported in the USA, when tuberculosis was rife and was strongly associated with thinness.<sup>18</sup>

It was surprising to note that even the group of women who did not associate a thin figure with being infected with HIV or having AIDS (when asked whether they preferred to be overweight, or would rather be thin and associated with people infected with HIV or who have AIDS) reported that they would rather be slightly overweight, but not obese, than thin and having people think they were infected with HIV or that they had AIDS. Large body size was deemed to be desirable, as it was believed to protect the women from being stigmatised.

Community-level stigma and discrimination against people infected with HIV, or who have AIDS, are found all over the world. Stigma and discrimination severely hamper efforts to effectively fight the HIV/AIDS pandemic.<sup>19</sup> This study also identified that the shame attached to people who are infected with HIV or who have AIDS interferes with the prevention of obesity, one of the risk factors for non-communicable diseases.

Perceived body size was lower than actual body size measured by BMI. For example, 44% of the participants were obese, but only 8% perceived themselves as obese. These findings confirm those of Puoane et al and Kruger et al, where a larger percentage of women perceived themselves as underweight, than the actual numbers who were underweight.<sup>2,3</sup>

The discussions revealed that although participants were aware that overweight and obesity are risk factors for non-communicable diseases, they preferred to be overweight or obese, because they did not want to be associated with being infected with HIV or having AIDS.

In theory, people are aware of the risks associated with excess body size, but in reality, they are afraid to lose weight because of the stigma attached to small body size.

### Conclusion

The stigma attached to being infected with HIV or having AIDS may be responsible for fuelling the obesity epidemic among black African women. The fear and prejudice that lie at the core of HIV/AIDS discrimination need to be addressed at community and national levels. The WHO recommends a common-disease approach, which addresses all risk factors such as reduction of alcohol intake, safe sex and reduction of tobacco use.<sup>19</sup> This approach should be adopted in all programmes, rather than presenting separate programmes that focus on disease prevention.

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