Subject: Re: How missing values were handled in BDHS 2011 final report?
Posted by Trevor-DHS on Wed, 01 Apr 2015 19:10:53 GMT
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I reviewed the calculation of this indicator and found a problem in the construction of the nutritional status variable, relating to cases where the BMI cannot be calculated as the weight or height (or both) were not measured. these cases are incorrectly distributed into the other categories due to a mistake in the recoding. Rather than 3 women with out of range or missing height and weight there are actually 131 cases. These rows of table 15.5.1 should read:

Nutritional status
Thin (BMI<18.5)   6.1 0.0 2.6 0.3 64.4 0.7 26.9 0.4 4.7 100.0 1.0 1,087
Normal (BMI 18.5-24.9)   10.6 0.1 2.9 0.7 61.9 0.3 24.6 2.5 7.0 100.0 1.1 1,946
Overweight (BMI 25.0 - 29.9) 20.0 0.0 1.3 2.7 57.3 2.1 21.4 5.9 9.4 100.0 4.8 519
Obese (BMI >= 30.0)   28.1 0.0 3.2 0.0 42.4 2.1 26.3 5.4 20.7 100.0 2.1 132
Similarly for men, there are 109 cases that have out of range or missing height and/or weight and should be excluded. The equivalent columns for table 15.5.2 for men should be:

Nutritional status
Thin (BMI<18.5)   7.6 0.0 2.9 0.3 58.7 0.3 30.8 0.5 6.5 100.0 0.6 1,050
Normal (BMI 18.5-24.9)   10.5 0.1 2.1 0.4 64.5 0.7 22.9 2.3 7.0 100.0 1.1 2,234
Overweight (BMI 25.0 - 29.9) 20.0 0.0 1.9 1.0 49.9 0.8 28.2 7.0 11.2 100.0 1.8 303
Obese (BMI >= 30.0)   33.5 0.0 0.0 7.6 30.5 2.2 36.0 12.2 11.4 100.0 9.9 25
These corrections have a small effect on the results, but not one of programmatic meaning.

Below is code to reproduce the nutritional status variable used in these tables:

```
* create BMI variable from separate variables used.
gen bmi = shbm
replace bmi = ha40 if hv104==2 & bmi==.
replace bmi = hb40 if hv104==1 & bmi==.

* recode BMI into the groups needed.
recode bmi (0/1849=0 "Thin") (1850/2499=1 "Normal") (2500/2999=2 "Overweight") (3000/9990=3
"Obese") (9991/9999=9 "Missing"),g(bmi2)
* put pregnanct women into a separate category to be excluded
replace bmi2 = 4 if sh234c >= 35 & sh234c <= 49 & sh231 == 2 & ha54 == 1
lab def bmi2 4 "Pregnant", add

* tabulate women for table 15.5.1
tab bmi2 [iw=hv005/1000000] if sh231==2 & hv105>=35 & sh284a <= 990
* tabulate men for table 15.5.2
tab bmi2 [iw=hv005/1000000] if sh231==1 & hv105>=35 & sh284a <= 990
```

The data come from a few different parts of the questionnaire, and not just variable shbm. Also note that sh231 is used here for the sex, rather than hv104, and there is one case coded as male on sh231 that is coded female on hv104. This case should probably be treated as female, but I used sh231 here to be consistent with the original tabulation.