



SDI Review Form 1.6

Journal Name:	International Journal of TROPICAL DISEASE & Health
Manuscript Number:	2014_IJTDH_9362
Title of the Manuscript:	The study of social profile and some health problems associated with body weight disorders in upper Egypt male youth
Type of the Article	

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	Introduction - The authors take great care in presenting health problems and health risks associated with obesity. Since social class is one of their key concepts, the authors should take equal care in discussing associations of social class (or inequality in general), obesity, and related health problems. In this domain, a vast number of publications exist. Methodology - Please describe how body weight and body height were measured (materials & procedures).	An entire paragraph, including two more references about the social influence on obesity has been embedded in the text. Please see line 191-196: The association between obesity and socioeconomic status has been a matter of interest in epidemiological research of obesity. In one study, [9] It was shown that low-socioeconomic-status and minority groups from all age categories were significantly more affected by increased BMI than subjects who were otherwise. Using an intersectional approach, studying the effect of inequality and social disparities upon BMI trajectory during a time of rapid weight gain in the USA, it was found that high-educated and high-income white subjects 25-54 years old experienced the least BMI growth compared to low-educated and low-income black counterparts. [10] Methodology A paragraph, including one reference about this matter has been added to explain this point. Please see line 107-114: B) Clinical check-up, including general and systemic examination (vital signs, body measurements, including weight, which



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	• Please describe how social class has been assessed and how subjects were assigned to social classes (low, medium, high). Readers should be able to get a clear understanding of the characteristics that constitute social class categories, i.e. income, social status, education etc. • Please describe how “family history of obesity” has been assessed and measured.	was measured to the nearest of 0.1 kg on physician balance beam scales, placed on a firm surface with the subject wearing light clothes and with no shoes; all scales were identical and calibrated with a standard InterASIA protocol, and height, measured without shoes to the nearest of 0.1 cm using a stadiometer,[28] A paragraph, including one reference about this matter has been added to clarify this point. Please see line 181-186: The modified questionnaire’s items relevant to economic and educational state variables (total family monthly income from all sources and highest educational degree) were used to determine each subject’s social class[27]. Each variable was given a maximum score (50 each, and 100 total); and the social class could then be determined based on the total scores obtained (0 - 30.9=low social class, 31-60.9= moderate social class, and 70-100= high social class). A paragraph explaining how the study’s instrument could be used to assess family history of obesity side has been added. Please see line 187-191: The presence of family history of obesity was defined as positive when a subject recollected having a first- degree relative (a parent, grandparent, sibling or child) who had ever been reported not knowing whether any relatives had ever been told that they were affected).
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	- The term “weight problems” (page 3, line 18 approximately) is undefined. What do the authors mean by that? Please explain. - Why was the sample calculation entirely based on people “having weight problems”? Why was the expected prevalence of DM and hypertension not taken into account? - Why was the expected frequency for people “having weight problems” set to 50%? Please explain.	This term has been removed. But anyways, a weight problem means either there is an increase weight or decrease weight out of the range of the expected for each individual person. And this is typically the function of BMI. So the weight problem term has been explained, elsewhere in the article, by the abnormality in BMI. When we have a disease, or a health-related state, the prevalence in the community of which is known and is $\Rightarrow 20\%$, such as obesity-overweight problem, we can literally use this proportion to conclude a sample size (n) for a study handling this disease, e.g., assuming $Z = 1.96$, and $e (=0.05)$ to estimate for n. For instance we use the formula $n = Z^2(P)(1-P)/e^2$. Alternatively, we can also use SW programs, such as the Epiinfo, for the same purpose. Calculating for n using disease proportions based, either on the formula above or Epi-info design uses the outcome variable probability, not the input variables probabilities. The outcome here is obesity. Obesity here depends on DM and other predictors, not vice versa. Thereby, DM cannot be used at all for this purpose. In practice, upgrading the disease probability (P) to 50% enables to maximize the sample size, for more representativeness and generalizability of the results.
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	• Since the study claims to have used systematic random sampling, there is no need to report the design effect. The respective sentence (page 3) should be deleted. • In general: Be more consistent and precise with your concepts. Results • The paper (page 4) states that 49 subjects were overweight and 31 subjects were obese. Looking at Table 1, I find that the authors report a total of 84 subjects to be obese. Please explain. • Since the authors intended to compare the prevalence of obesity across governorates, Table 1 is inappropriate since the others relate the frequency of obesity in the governorates to the total number of subjects and not to the number of subjects in the respective governorates. For example, the authors report 4% of subjects from Al Bahr Alahmar to be obese (20/500). However, 40% (20/50) of all subjects coming from Al Bahr Alahmar are obese, 15% (30/200) of those from Luxor and 13.6% (34/250) of those from Qena. Moreover, these percentages are clearly different across governorates (Pearson $\chi^2(2) = 21.5$, $Pr = 0.000$).	The sentence has been removed. Results This was a typo. Yes, the total numbers of both the obese (31) and the overweight (49) added together (as in Table 1) sum to 80 not 84. This mistake has been amended. Typos in Table 1 were corrected (cell 1 in column 1 is 30 not 34) and the cell below is 220 not 216, and the total in the cell 1 in the last column is 80 instead of 84. Please see Table 1, line 238. In Table 1, we compared the overall high BMI category, which is overweight + obesity together, across the three governorates. We used the total population number (500) as a reference value for all cells in the Table. The philosophy of the comparison in Table 1 is that we want to know the role of each governorate in the contribution to the prevalence of obesity in the study population, not the vice versa. We do not want to compare the prevalence of obesity among the three states. That is why we did not compare the rate of overweight-obesity to each governorates population, as the reviewer is doing in his/her example.
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	- Moreover, these percentages are clearly different across governorates (Pearson $\chi^2(2) = 21.5$, $Pr = 0.000$). - Table 2 also reports a total of 31 subjects in the obese category. Please explain why the 84 subjects from Table 1 have dramatically decreased (page 4/5). - Table 2 (page 4): Chi2-Test for DM and hypertension is inappropriate since the expected cell frequency of diverse cells is below 5. The usual procedure here would be to use Fisher's Exact Test instead of the Chi2-Test.	In the reviewer's example, the number of subjects from Al Bahr Alahmar who are overweight/obese is 20 but out of the total number of the study population ($20/500 = 4\%$), not out of 50 (governorate's n). So Al Bahr Alajmar plays 4% role in the distribution of overweight-obesity in the study population, and so forth for the rest of governorates. I do not know where the reviewer found the proportions she or he is mentioning: 40% ($20/50$) of all subjects coming from Al Bahr Alahmar are obese, 15% ($30/200$) of those from Luxor and 13.6% ($34/250$) of those from Qena. We did not say that, nor do we want to say it. Now if you only calculate for a chi-square using the cells in Table again you will get the results we have gotten in the amended Table 1. No significant results between the rates of having obesity-overweight/not having them, among the three states can be found ($\chi^2(df=2) = 2.49$, $p=0.288$). Please see attached SPSS output at the end of this document. As we said before, this was a typo and it has been corrected. The total is 80 ($31 + 49$) You are absolutely right. Fisher's exact has been considered, where appropriate. See line 220 Methodology:..... using the Chi square (χ^2) test of independence or Fisher's exact test, as appropriate.
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	- Table 2 (page 4): In general, I was unable to reproduce the results of the statistical tests (see statistical appendix). Furthermore, I have not the slightest idea how the authors can report 9 degrees of freedom for a 3 x 4 chi²-Test (social class x BMI group). Up to my mathematical knowledge and in accordance with what my statistical package produced, there are 6 degrees of freedom ($df=(k-1)*(j-1)=(3-1)*(4-1)=2$). Could the authors please comment on this? - On page 5 the paper states: "It is noted that 3.2% and 6.5% of obese persons were significantly diabetics and hypertensive, respectively, as compared to lesser percentages of normal weight individuals (...)". In this context, it may also be of particular interest to report that 10.5% in the UNDERWEIGHT group (2/19) had DM! In general, there is not much use in	See Table 2. See line 66: [Fisher's exact, $p=0.003$, Fisher's exact, $p=0.002$, respectively]. See lines 244-245: [Fisher's exact, $p<0.003$, Fisher's exact, $p<0.002$, respectively]. Also see the attached SPSS at the end of this document for the analyses of the two relationships (obesity among diabetics and obesity among hypertensives). The same p-values you have came up within the reviewer's attached STAT output ($p=0.003$ for DM, and $p=0.002$ for HTN) is obtained in our SPSS output. This was just a typo: 9 instead of 6. You can notice that all degrees of freedom for other chi-square tests, before had been replaced by Fisher's exact, were all correct. Anyways, the typo has been corrected in all relevant locations. Please see Table 2, and lines 59, 64 abstract, and 260 results: [$\chi^2(df=6)$ 35.01, $p<0.001$], line: The same concept has been added, as per this reviewer's request. See line 234-244: Interestingly, too, 10.5% (2/19) in the underweight group had DM.
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	reporting DM and hypertension at all since the number of subjects is extremely small (see also comment on sample calculation). Discussion Needs to be reviewed once appropriate results have been obtained.	Discussion The relevant parts in the discussion that might have been affected by the above amendments have been taken care of, as appropriate.
<u>Minor</u> REVISION comments		NB. We are attaching with this document two manuscript copies; one with highlights and the other with no highlights. The yellow highlights facilitates following up to follow up with the amendments that has been done, as per this review request.
<u>Optional/General</u> comments		

Please see next for the SPSS attachments:

Table 1 analysis output: Crosstabs

Governorate * Obesity Crosstabulation



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			Obesity		Total
			OtherWT	OverWT/Obese	
Governorate	Qena	Count	220	30	250
		Expected Count	215.0	35.0	250.0
		% of Total	44.0%	6.0%	50.0%
	Luxor	Count	170	30	200
		Expected Count	172.0	28.0	200.0
		% of Total	34.0%	6.0%	40.0%
	Al Bahr Alahmar	Count	40	10	50
		Expected Count	43.0	7.0	50.0
		% of Total	8.0%	2.0%	10.0%
Total	Count	430	70	500	
	Expected Count	430.0	70.0	500.0	
	% of Total	86.0%	14.0%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	2.492 ^a	2	.288	.309		
Likelihood Ratio	2.377	2	.305	.327		
Fisher's Exact Test	2.614			.275		
Linear-by-Linear Association	2.411 ^b	1	.120	.145	.074	.023
N of Valid Cases	500					

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.00.

b. The standardized statistic is 1.553.

Table 2 Analysis Output:



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Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
DM * WT_CAT	496	99.2%	4	.8%	500	100.0%
HTN * WT_CAT	496	99.2%	4	.8%	500	100.0%

DM * WT_CAT

Crosstab

			WT_CAT				Total
			Normal WT	Overweight	Obese	Underweight	
DM	No DM	Count	396	49	30	17	492
		Expected Count	393.8	48.6	30.8	18.8	492.0
		% of Total	79.8%	9.9%	6.0%	3.4%	99.2%
	DM	Count	1	0	1	2	4
		Expected Count	3.2	.4	.2	.2	4.0
		% of Total	.2%	.0%	.2%	.4%	.8%
Total		Count	397	49	31	19	496
		Expected Count	397.0	49.0	31.0	19.0	496.0
		% of Total	80.0%	9.9%	6.2%	3.8%	100.0%



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Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	26.632 ^a	3	.000	.002		
Likelihood Ratio	10.942	3	.012	.003		
Fisher's Exact Test	13.077			.003		
Linear-by-Linear Association	19.189 ^b	1	.000	.001	.001	.001
N of Valid Cases	496					

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .15.

b. The standardized statistic is 4.380.

HTN * WT_CAT

Crosstab

			WT_CAT				Total
			Normal WT	Overweight	Obese	Underweight	
HTN	No HTN	Count	396	49	29	19	493
		Expected Count	394.6	48.7	30.8	18.9	493.0
		% of Total	79.8%	9.9%	5.8%	3.8%	99.4%
	HTN	Count	1	0	2	0	3
		Expected Count	2.4	.3	.2	.1	3.0
		% of Total	.2%	.0%	.4%	.0%	.6%
Total		Count	397	49	31	19	496
		Expected Count	397.0	49.0	31.0	19.0	496.0
		% of Total	80.0%	9.9%	6.2%	3.8%	100.0%

Chi-Square Tests



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	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	18.864 ^a	3	.000	.017		
Likelihood Ratio	7.833	3	.050	.020		
Fisher's Exact Test	9.173			.020		
Linear-by-Linear Association	5.148 ^b	1	.023	.049	.049	.029
N of Valid Cases	496					

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .11.

b. The standardized statistic is 2.269.