

Agreement between husband and wife reports of domestic violence: evidence from poor refugee communities in Lebanon

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Background This paper compares husband and wife reports of wife beating using household survey data collected from poor Palestinian refugee communities in Lebanon.

Methods The analyses are based on a matched data file of 417 currently married couples, drawn from a unique multi-purpose living conditions sample survey of about 3600 Palestinian refugee households interviewed in the spring and summer of 1999. Four outcomes (ever beaten, last year beating, beating during pregnancy, and injuries caused by beating) were analysed using Kappa statistics and per cent agreement. Logistic regression was used to analyse discordant reporting of wife beating during the year preceding the survey.

Results Husband and wives' reports of the four different outcomes are in 'good' agreement as judged by Kappa coefficients, ranging from 0.62 for 'beaten during pregnancy' to 0.69 for 'injuries resulting from beating'. Prevalence estimates of domestic violence are also remarkably similar. However, findings from a multivariate logistic regression model on agreement regarding 'last year beating' show that only age of men was a significant predictor of agreement, controlling for education level, marital duration, region of residence, household size, health status, and consanguinity.

Conclusions Our findings show that men's self-reports of their violent behaviour against their wives are fairly congruent with those of their spouses, implying that the perpetrators, men, can be 'trusted' in providing basic information on 'beating histories' in epidemiological and demographic population-based investigations in contexts similar to ours. However, care should be taken in studies of young men's current beating behaviour using only their self-reports.

Keywords Wife beating, domestic violence, agreement, refugees, Lebanon

Wife beating and other forms of physical abuse of women by husbands, especially in developing countries' context, have received increased attention in recent years.^{1–3} Available population-based evidence is largely based only on reports of women.^{4–6} There are various epidemiological and demographic investigations of spousal agreement in reporting both exposure⁷ and outcome variables, including studies of contraception,

fertility and reproductive histories,^{8–14} health status and morbidity,¹⁵ partner drinking and smoking behaviour,¹⁶ and diet and nutrition.^{17,18} However, little attention has been given to spousal agreement of reporting on sensitive topics such as domestic violence, particularly physical abuse of women, in the context of face-to-face interviews.

Yet, the reliability of spouses, especially men, in providing accurate answers on such sensitive topics has important methodological, practical and substantive implications. If men could be used as reliable informants on domestic violence it provides great opportunities for posing (subjective) attitudinal questions to them directly, for they are the perpetrators of violence. In order to effectively tackle problems of domestic violence, victims and perpetrators should be included in any analysis of the topic.¹⁹ In case of agreement, proxy information

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from any one spouse could also be sought thus reducing costs and time needed in data collection. Furthermore, the organizational and logistical requirements in field operations, of especially large surveys, are much less when a proxy respondent is used instead of self-reporting, with clear implications for data quality.

This paper examines agreements between husbands and wives on self-reports of domestic violence in poor refugee communities in Lebanon, using unique household survey data collected in 1999. The survey included two different questionnaires for married men and women with similar questions on domestic violence. A total of 417 matched reports were retrieved and constructed in a single data file, providing a unique opportunity to assess agreement between husbands and wives on reports of domestic violence. An evaluation of spousal overall agreement regarding reports of ever-beaten, incidence of beating during last year and when pregnant, and if beaten, reports on injuries if any, was first undertaken. Second, the association between spousal disagreement regarding last year beating and selected covariates was examined. Given the prevailing patriarchal norms and gender inequity in the refugee camps, we expect little difference between husbands and wives in reporting episodes of domestic violence. Arguably, wife beating is a socially accepted behaviour in impoverished communities in this context, particularly among the older generations of men.

Materials and Methods

Data

We used data from the 1999 Living Conditions household sample survey, covering all Palestinian refugee camps and small communities of refugees in Lebanon. The survey was based on a one-stage probability sample of 4000 households drawn from a sampling frame containing complete listings of households, largely constructed as part of the survey preparatory phase. The survey was carried out during the spring and summer of 1999 by the Palestinian Bureau of Statistics in collaboration with the Oslo-based Institute of Applied Social Science, Fafo. Female interviewers were recruited and thoroughly trained before conducting face-to-face interviews with selected households. The demographic and health data appear to be of good quality, with an overall response rate of 95.7%.²⁰ Several standard indexes were used to assess the quality of age reporting in the survey, including the Whipple and Myers indexes of age heaping, age and sex ratio scores. The Whipple Index of preference for zero or five was 107, indicating a slight heaping. Although some digit preference occurred, the quality of age reporting was generally good. The Myers' Blended Index of digit preference was 4.8 for males and 4.1 for females. Furthermore, age in completed years and year of birth were virtually complete. Other variables were generally well reported, with low levels of non-response. Issues of data quality pertaining to demographic and health indicators were discussed in more detail elsewhere.²⁰

The instrument included three questionnaires: one for the household, one for a randomly selected individual (RSI), aged ≥ 15 years from each household, and the third for all ever-married women (EM) aged ≥ 15 at the time of survey. The survey was conducted in two stages. In the first stage, the

household questionnaire, containing questions about the household as a whole as well as about each of its members (i.e. the individual roster including various items such as age, sex, marital status, education) was completed. In the second stage, interviews were conducted with eligible respondents for the remaining two questionnaires: randomly selected adults and ever-married women (if any) questionnaires. Thus, after completing a household questionnaire, the interviewer randomly selected one adult, aged ≥ 15 , from the household schedule according to a pre-printed selection sheet. We followed a systematic random sampling procedure to select one adult from each household as described in Deming.²¹ The interviewer first determined household membership using the household schedule part of the questionnaire. She then used a specially constructed sampling sheet to make a list of all adults usually living in the household, ordered by gender and descending age. For each line on this list, there may or may not be a pre-printed X, marking a randomly selected person. The interviewer was instructed to start at the bottom of the list, and select the first line with an X. This was the randomly selected person. The Xs were put on each line with a probability equal to $1/(\text{line number})$.

The two individual questionnaires—one for adults aged ≥ 15 (3623 respondents), and one for ever-married women aged ≥ 15 (3951 respondents)—contain similar questions on domestic violence. Our strategy was to construct a matched-couple data file from these two questionnaires containing reports of domestic violence items by husbands and wives. The steps followed in matching the files are displayed in Figure 1. As shown in the Figure, eligible married men were initially selected from the RSI file (containing one adult from each household) and then matched with their wives in the EM women file (containing all ever-married women in each household). This is because only men were asked the domestic violence questions in the RSI file but all ever-married women were asked the same questions in the EM women file. The remaining filtering criteria were fairly similar in both questionnaires. For data quality and ethical concerns regarding domestic violence questions,²² as well as to avoid possible 'contamination' by the presence of others, interviews were conducted privately with eligible respondents; only in the absence of children under 10 years of age present and listening, or any other person (man or woman) present and listening during the interview. The questionnaires included filtering questions at the beginning of the domestic violence module with written instructions to skip the whole module if any of the above-mentioned individuals were present and listening. The filtering questions for eligibility were not asked of the respondents but were completed by the interviewers during the interview visit. Interviewers were instructed to stress confidentiality of responses and to read a statement of informed consent before proceeding to ask the domestic violence questions of eligible adults.

Moreover, the matched couples had to fulfil the following criteria: be currently married and living with the spouse and be the household head or his/her spouse. Thus, the sample was restricted to include households in which both the head of household (usually the husband) and his/her spouse were living together in the same household. The household roster part of the questionnaires listed the head of household first and

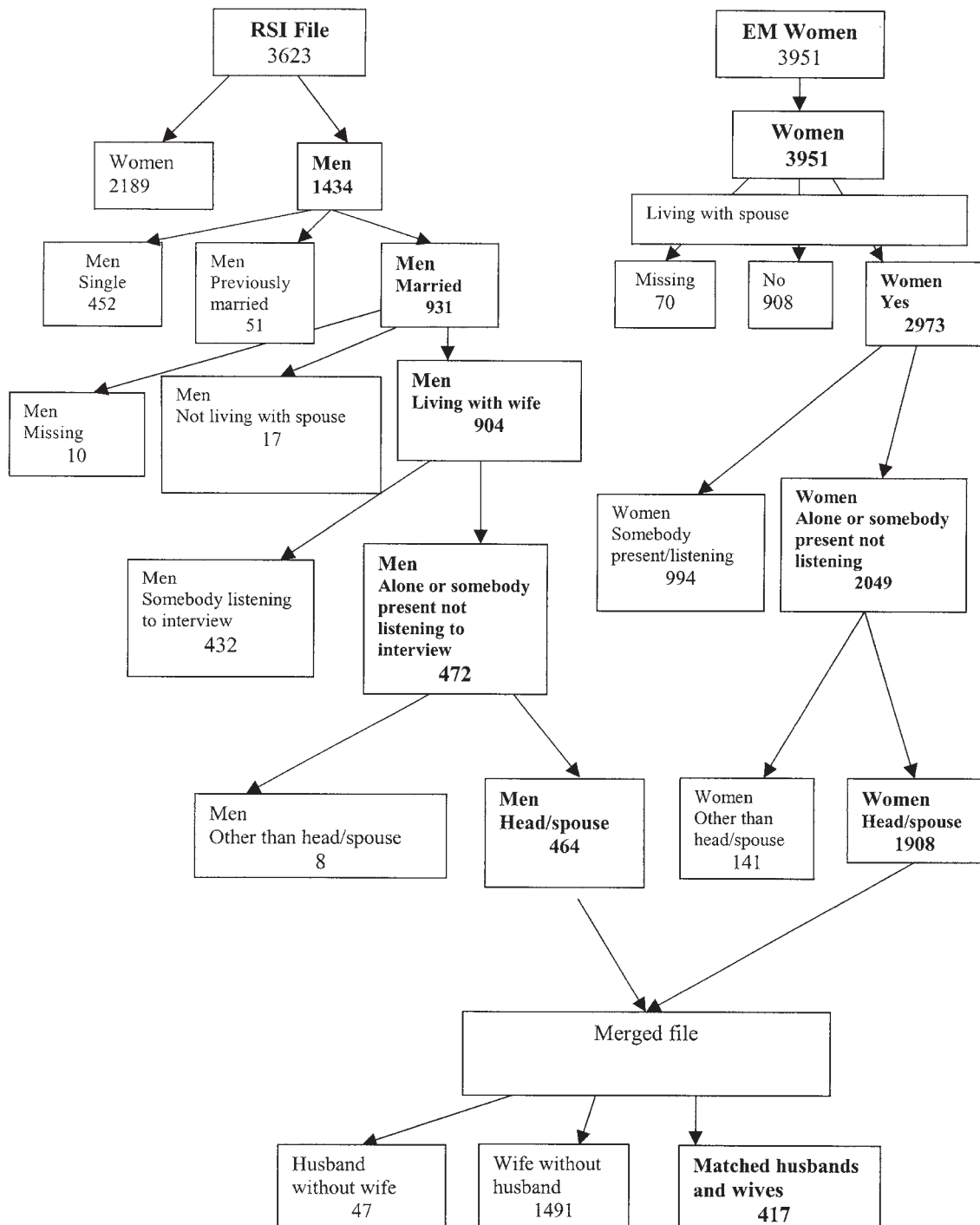


Figure 1 Construction of the matched couples data file, Lebanon camps, 1999

then his/her spouse, and included a direct question on relationship to the head of household for all individual members of the household.

Thus, from a total of 3623 men and women in the RSI file, 1434 (39.6%) men were initially selected. Of the selected men, 931 (64.9%) were married. Among these married men, 17 (1.8%) were not living permanently with their wives, 9 were not interviewed (i.e. no contact) and one did not provide answer

to the question, 'do you currently live with your spouse?', leaving us with 904 men living with their spouses. From the 904 men selected, 432 (47.8%) were interviewed with somebody else listening at the interview, and thus were not asked the domestic violence questions. From the 472 remaining men, 8 were excluded because they were not the spouse or the head of the family. The final 464 men (32.4%) were 'eligible' for matching with their spouse or head of family from the EM file.

The EM file initially contained a total of 3951 women (note that on average a household had more than one ever-married woman). Of the total, 908 women reported that they were not living with their spouses, 18 could not be contacted for interview, and 52 did not answer the question, 'do you currently live with your spouse?', leaving 2973 'eligible' women. Next, we filtered out 994 women who could not be interviewed alone, or in the presence of somebody who was not listening, for the domestic violence module. Of the remaining 2049 women, 1908 were marked as head of household or spouse of the head and were thus 'eligible' for matching with their husbands (if present) in the RSI file.

Note that in the matching operation, every married man selected should have been matched with his spouse because all ever-married women in each household were interviewed. However, in the final matching, a total of 47 men could not be matched with their spouses because 43 (91.5%) women were interviewed while somebody was present and listening, 3 could not be matched because their wives answered 'not living with their husbands' although they (i.e. men) were selected on the basis that they were living with their spouses, and one woman was missing. A final sample of 417 matched reports from husbands and wives was retrieved.

The 417 matched couples sample may not be representative of the original sample of married women and men, and thus of the population of interest. For this reason, demographic characteristics such as age, education level, region of residence, and health perception of the matched couples were compared with current married men and women in the original populations. Results showed that the selected sample of husbands and wives was remarkably similar to the original one, especially for men. However, some differences were noticed for women, with the selected sample having slightly younger (mean age 35.4 years compared with 39.4 years) and more educated women (32.6% versus 41.4% had less than elementary education) compared with married women in the total population.

The outcome variable of interest is agreement on four domestic violence items, obtained independently from husbands and wives. Information on ever beating, last year beating, beating during pregnancy, and injuries caused by beating were included. Answers for each outcome of interest was coded yes (= 1) and no (= 2). Agreement was defined as reporting no-no and yes-yes, while disagreement consisted of yes-no and no-yes. A large number of predictors were initially considered for analysis, but only a few meaningful ones were included owing to the lack of association with the outcome variable. The following characteristics were chosen: age of men (20–29, 30+), age of women (15–24, 25+), educational level (elementary or less, more than elementary), and marital duration (<5, 5+ years). Of particular importance to this study was men's age, indexing generational shifts concerning patriarchy and social acceptance of wife beating more generally. The 5-year difference in ages of women and men was chosen to preserve enough cases and also because it represents the average age gap between spouses in this context.

Analysis

We used Kappa statistics and per cent agreement between husbands' and wives' self reports to assess quality of agreement

between husbands and wives for different outcomes: ever beaten, last year beating, beating during pregnancy, and injuries caused by beating. Kappa ranges from 0 in case of no agreement at all to 1.00 in case of 'perfect' agreement.

In the analysis, we distinguished between four different possibilities for each outcome variable: wife-yes husband-yes, wife-no husband-no, wife-yes husband-no, and wife-no husband-yes. Neither wives' nor husbands' self-reports on domestic violence were treated as 'gold standard' here because there was no way by which to assess the accuracy of their self reporting. Therefore consistency, rather than accuracy, was assessed.

The bivariate associations between agreement/disagreement for 'last year beating' and selected covariates using cross-tabulations and χ^2 test were then examined. Unadjusted and adjusted odds ratios (OR) of discordant reporting of 'last year beating' were computed from binary logistic regression models. Nested multivariate logistic regression models were finally estimated in order to determine which of the various covariates remained important predictors of disagreement of 'last year beating' when adjusting for other factors simultaneously. A model with age of men was first estimated to test the influence of generation on discordant reporting of wife beating, followed by models that added successive covariates one at a time. Low statistical significance was expected however because of the small sample size. Given the size of the resulting sample, Fisher's exact test was also used to assess the statistical significance of reporting discordance for 'last year beating' in relation to the covariates.

Results

The majority of couples agreed on reports of wife beating, regardless of the indicator used (Table 1). There were some disagreements, however, especially on reports of ever being beaten. Overall, 29.5% of husbands compared with 22% of their wives reported that wife beating occurred at least once during their married life. Of these, 18.6% of couples agreed that wife beating ever occurred. There was disagreement in 14.3% of couples, most of which was due to wives' disagreeing with their husbands about being ever beaten—10.9% of husbands only and 3.4% of wives only answering 'yes'.

The prevalence estimates for the three remaining indicators are smaller, and fairly similar to each other, whether based on husbands or wives' reports. When asked whether they were beaten during the past year, 10.4% of husbands and 9.1% of wives responded in the affirmative. An estimated prevalence of 12.8% was obtained when calculated on the bases of saying 'yes' to the past year beating question by either husband or wife. However, if prevalence is estimated on the basis of both husband and wife saying 'yes' in couples, then the prevalence is 6.6%. Disagreement is not large, and about 2.5% of wives and 3.8% of husbands answered 'yes' to wife beating past year, contradicting their spouses. Thus, the differences in reporting between spouses were very small, and in 93.8% of couples husbands and wives agreed on the outcome having occurred (6.6%) or not (87.2%). Likewise, small differences between spouses were observed for reporting beating during pregnancy (6.2% of husbands and 6.9% of wives reported 'yes') and whether beating resulted in injuries (6.1% of husbands and 7.6% of wives responded in the

Table 1 Comparison of domestic violence prevalence (%) reported by wife and husband

Domestic violence indicator	Wife no Husband no ^a	Wife no Husband yes	Wife yes Husband no	Wife yes Husband yes	Prevalence		Kappa	n
					Wife (yes ^b)	Husband (yes)		
Ever beaten	67.1	10.9	3.4	18.6	22.0	29.5	0.63*	413
Beaten past year	87.2	3.8	2.5	6.6	9.1	10.4	0.64*	397
Beaten during pregnancy	91.2	2.0	2.7	4.2	6.9	6.2	0.62*	410
Injuries	91.2	1.2	2.7	4.9	7.6	6.1	0.69*	407

* $P < 0.001$. Kappa of 1.00 represents perfect agreement.

^a Percentage of all observations for which the women reported 'no' and the men also reported 'no'.

^b Percentage of all observations for which the women reported 'yes'.

affirmative). For these two outcomes, slightly more wives reported 'yes' than their husbands but discordance was quite low at 4.7% and 3.9%, respectively.

Kappa coefficients reported in Table 1 indicate 'good' agreement overall between spouses for reporting on the four outcomes: 0.63 for ever beaten, 0.64 for last year beating, 0.62 for beating during pregnancy, and 0.69 for whether beating resulted in injuries. Thus, there was slightly more agreement on wife beating either occurring in the recent past (last year) or resulting in injuries than on beatings occurring sometime in the most distant past (i.e., pregnancy or ever beating).

Next, the analyses focused on discordant reporting of 'last year beating', thus reducing the total sample size further to 397 couples. 'Last year beating' is a more meaningful outcome than 'ever beating' because the former reflects current domestic violence and is probably less prone to recall bias. The bivariate associations, reported in Table 2, indicated that age of women and marital duration had statistically significant association with discordant reporting. Younger men and couples with short (<5 years) marital duration were significantly more likely to report disagreement than older men and spouses of longer marital duration. However, these two variables are strongly associated with each other, and the effect of marital duration may reflect respondents' age. Surprisingly, education was not a significant predictor of disagreement for either wives or husbands.

The final logistic regression analysis considered the simultaneous influence of these variables on discordant reporting in couples. Based on the results of the bivariate analysis, the strategy followed was to fit a series of nested models, testing the likely impact of all covariates, one at a time, on the influence of men's age on the outcome variable. The findings reported in Table 3 confirmed our expectations that men's age plays a pivotal role in discordant reporting. As shown in the Table, the unadjusted OR indicated that only couples with younger men and short marital duration had statistically significant associations with discordant reporting. However, the second model with adjusted OR shows that only couples with younger men aged 20–29 were 4.25 ($P < 0.007$) times more likely than couples with older men to show discordant reporting. Adjusting for other variables did not diminish the significance of this variable in predicting discordant reporting. Although the OR for the remaining covariates were consistent with the findings presented previously, none of them was statistically significant

Table 2 Spousal disagreement (%) of last year beaten among refugee couples in Lebanon, by selected variables

Variable	% Disagree	n	P-value ^a	P-value ^b
Age				
Men				
20–29	15.9	69	0.001	0.000
30+	4.3	328		
Women				
15–24	10.3	78	0.120	0.108
25+	5.3	319		
Education level				
Men				
Elementary/less	6.0	251	0.831	0.730
Prep/second/higher	6.9	146		
Women				
Elementary/less	6.6	257	0.831	0.724
Prep/second/higher	5.7	140		
Marital duration				
<5 years	13.2	68	0.022	0.009
5+ years	4.8	315		

^a Fisher exact test.

^b Pearson χ^2 test.

at the conventional level of 0.05. The slight change in the OR for men's age across the two models reflects possible association (i.e. collinearity) with other covariates, especially with marital duration and women's age. Comparisons between the nested models using likelihood ratio statistics (data not shown) confirmed that none of the additional models improved the fit significantly. Thus, the model with men's age only was chosen as the best fitting model to account for variations in discordant reporting of wife beating. Although other variables (e.g. income, household size and structure, age and education differences between spouses, consanguinity) not mentioned here and various interactions were included to explore possible effects, none was statistically significant, reflecting perhaps the small sample size.

Table 3 Adjusted and unadjusted odds ratios (OR) from logistic regression models of discordant reporting of last year beaten by refugee couples in Lebanon

Independent Variable	Model 1		Model 2	
	OR Unadjusted	P-value	OR Adjusted	P-value
Men's age				
20–29	4.25	0.001	4.74	0.007
30+	1.00		1.00	
Woman's age				
15–24	2.03	0.115	0.58	
25+	1.00		1.00	0.390
Marital duration				
<5 years	3.05	0.012	1.83	0.318
5+ years	1.00		1.00	
Man's education				
Elementary/less	1.00	0.730	1.00	0.424
Prep/secondary/higher	1.16		1.47	
Woman's education				
Elementary/less	1.00	0.724	1.00	0.516
Prep/secondary/higher	0.86		0.72	
LR χ^2			13.32	

Discussion

The purpose of this study has been to examine spousal agreement regarding reports of wife beating. To our knowledge, this is the first attempt to assess agreement between husbands and wives on a sensitive topic such as wife beating. Results from previous studies examining agreements between spouses on a wide range of issues are generally mixed. Some reported reliable answers by husbands concerning their wives' height, weight, smoking, and contraception¹³ as well as numbers of births and pregnancies, but not for pregnancy histories, abortion, or birth-weight of children.⁹ Proxy information from husbands on exposure items such as diet, alcohol and smoking behaviours by wives was not reliable.^{7,10,23} More recently, Ratcliffe *et al.*¹² found similar reports by men and women on live births and children ever born in a matched couple sample from the Gambia.

The results reported in this study suggest that husbands provided generally reliable answers to sensitive questions such as wife beating incidents, including injuries resulting from beating. Husbands' answers to the four wife beating outcomes included in this study were at least fairly consistent with those of their wives, and there was surprisingly little difference in agreement reported across outcomes. The only notable exception was events occurring in the distant past, and difference in the prevalence estimates of ever beaten based on husbands and wives' reports was the largest. Moreover, estimates of prevalence based on husbands' reports were higher than those of their wives in the case of ever beating and also of beating having occurred last year, but estimates based on wives' reports were slightly higher for injuries caused by beating and beating during pregnancy. It is not clear why this is so, but one plausible explanation is under-reporting by men in the case of 'harmful'

wife beating—they generally consider beating in general to be acceptable or otherwise accepted behaviour but 'harmful' beating as unacceptable. There are other explanations for these findings, including interviewer errors, measurement errors due to question wordings, or social desirability in the interview process.²⁴ We have no reason to believe that measurement errors were systematic rather than random, nor do we believe that men answered more 'yes' to the general questions about beating in order to gain acceptance during the interview process, i.e. social desirability. According to Kappa statistic, spousal agreement was highest however in the case of reporting on harmful beating, namely, injuries resulting from beating.

It was not possible to discriminate among characteristics of respondents in providing erroneous reports, given the sample size. Although many coefficients were in the anticipated direction, only age of men was found to be significantly associated with discordant reporting of beating during the past year. Younger men were over four times more likely than older men to report discordant, or otherwise inconsistent responses on last year beating adjusted for the effects of other confounders. It is possible that older men consider wife beating acceptable behaviour in the Lebanese context and thus do not falsify information—they can be 'trusted' in providing reliable information. This is not surprising in a patriarchal context such as the one considered here. In contrast, younger men may believe that wife beating is wrong and thus tend to 'lie' when asked by a stranger, even in private. The implications of our findings is that caution should be taken when designing studies to elicit reliable information from young men, and it would be important to avoid using them as proxy informants.

One of the main limitations of this study is the small size of the matched sample of married couples analysed. The original sample was reduced considerably because eligible respondents were filtered out of the analysis when any other person was present and listening during the interview. Although interviewers were instructed to conduct interviews privately, such an undertaking was difficult to implement in this context due to two main reasons: (1) the lack of private space in the rather crowded housing conditions in the camps and (2) the prevailing norm of sociability in these communities is such that neighbours joining 'targeted' respondents during interviews is common. This research has provided some preliminary findings of methodological nature (e.g. consistency of reporting on sensitive issues) that can be useful in designing population-based surveys of sensitive topics such as intimate domestic violence. Future studies in contexts similar to ours may be designed to interview respondents in the presence of children thus preserving sample size. However, caution should be taken as the presence of children at the interview may raise ethical issues in some other contexts.

In this study we were not able to investigate thoroughly the frequency of beatings in the last year or the determinants of the type or severity of injuries caused by beating, due to the small sample size of the study. Our preliminary results suggest a good agreement between men's and women's reports on the four general indicators of wife beating included in this study, implying that we can use men as proxies for these indicators when we want to conduct, for instance, studies about men's attitudes in the context of wife beating. However, previous studies^{16,25} showed that it may not be wise to ask men about

details of wife beating, such as frequency or type of injuries caused by beating, if we are to obtain reliable responses.

Another limitation of our study is that the matched sample included slightly younger and more educated women than the general refugee population, and hence caution should be taken in generalizing the findings to the population as a whole. Furthermore, as with other studies of this kind involving events in the past, underreporting and/or omission by both men and women is a major problem. This is especially true when the topic of interest is a sensitive one. In the absence of comparable data from administrative sources, it is not possible to estimate the extent of omission or underreporting. Furthermore, the findings pertain to consistency in reporting rather than accuracy of the reports obtained, owing to the absence of a 'gold standard'. Thus, husbands, their wives, or both may underreport or otherwise lie about beating having occurred during their married life or even in the more recent past. However, we can safely assume that

such underreporting, if found, is similar for both men and women, with little consequences for the findings reported here. There is no reason to believe that omission has a serious impact on our regression analysis of discordant reports pertaining to beating during the past year.

Also related is the fact that the study is based on a sample of impoverished communities of refugees in a single setting, and may not therefore be generalized to other, more affluent populations. The findings do however provide important insight into spousal reporting on sensitive events through retrospective household surveys in developing countries' context.

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KEY MESSAGES

- Analysis based on population-based survey of spousal discordance on four indicators of domestic violence: ever, past year, during pregnancy, and injuries sustained as a result of beating.
- Husbands and wives' reports of the four different beating outcomes are in 'good' agreement.
- Men can generally be 'trusted' in providing basic data on 'beating histories' in population-based investigations in largely 'oppressive' or patriarchal contexts.
- Agreement regarding 'last year beating' show that only age of men was a significant predictor of agreement, controlling for other relevant covariates.
- Care should be taken in studies of young men's current beating behaviour using only their self-reports.

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