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Interviewer effects when investigating abuse were not compatible with effect modification but instead with confounding

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Abstract

Objectives: To describe interviewer-related variability in abuse estimates and assess the nature of the interviewer effects on the associations between elder abuse and covariates.

Study Design and Setting: After intensive training, six interviewers administered structured questionnaires through face-to-face interviews to assess abuse in a population-based sample of 641 Portuguese individuals aged 60−84 years.

Results: The overall prevalence of abuse victimization during the previous year was 28.1%, but it differed significantly according to the interviewer, ranging from 16.9% to 36.8%. There was no statistical effect modification introduced by the interviewer on the association of abuse and its determinants. Additionally, interviewer-level variables (empathy and violence beliefs) showed no significant contribution to explain the variance attributable to potential interviewer effects. Adjusting for the interviewer had little or no effect on the odds ratio of abuse for gender, age, education, and quality of life. However, the interviewer introduced relevant confounding of the associations between abuse and other sensitive topics, such as somatic complaints.

Conclusion: Although no relevant effect modification was observed, this study emphasizes the importance of the interviewer as a relevant confounder when estimating associations between sensitive variables, as it is the case of elder abuse.

Keywords: Bias; Epidemiologic; Interviewer effects; Effect modifier; Confounding; Elder abuse

1. Introduction

Interpersonal violence is a violation of human rights and a major public health concern [1]. However, controversy in the conceptualization, definition, and measurement of abuse increases the difficulty in ascertaining the frequency and patterns of its different forms [2]. The most common way to assess the history of abuse is to directly prompt participants about their experiences and behaviors through the interview method.

Face-to-face interviewing has various advantages compared with other methods: the identity of the respondent can be ascertained by the interviewer, it decreases missing items in the questionnaire, and it provides an environment that may help overcome communication barriers. However, it is more expensive and may carry an interviewer effects arising from the close interaction between the interviewer and the interviewee [3−5].

The debate over interview accuracy remains, and a long tradition in proposing and identifying interviewer effects can be traced back as early as the first surveys were designed to measure the health status of populations [6]. Interviews might thus be a major source of bias in epidemiologic research, and a large bulk of literature has been devoted to this debate and to the development of strategies to minimize it [4−6].

The use of standardized questionnaires to induce equivalent item phrasing and an interview orientation protocol are recommended to effectively minimize the expected misclassification [4]. Additionally, the training of interviewers should provide a common questioning frame and similar strategies to handle unusual or unexpected circumstances during the interviewing process. It is common to incorporate quality control measures into the design of

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What is new?

- The interviewer does not seem to be a major effect measure modifier of the estimates of associations between elder abuse and covariates.
- The study emphasizes the importance of the interviewer as a confounder when estimating associations between sensitive variables.
- Adjusting for the interviewer variable in data analysis is advisable when estimating associations between sensitive variables.

epidemiologic studies to minimize interviewer effects, but few researchers report which measures they use, examine the data for interviewer variation, or explore the impact of such variation on study findings [7].

Even if standard strategies to minimize interviewer effects are incorporated into the study protocol studies addressing sensitive topics, such as those that concern intimate personal behaviors, such as history of abuse, may remain specially prone to interviewer effects [8]. These effects may be attributable to the characteristics of the interviewer or the respondent and interactions between them.

Particular characteristics of participants, such as age-related cognitive decline, pose difficulties to disclosure and hence, to research, worsened when dealing with sensitive topics as violence, in which there may be substantial interaction with the interviewer's characteristics [9]. Behind attitudes and characteristics of the interviewer and respondents, the context in which they live cannot be neglected.

Another important issue studied in the last decades has been gender effect. Although some studies show differences in results when interviews were performed by female or male interviewers, it is still unclear whether there are gender differences in the validity of data collected and if or when interviewers and respondents should be matched by gender [8].

Beyond patent characteristics of interviewer or interviewee such as demographic traits, latent aspects may influence reporting of abuse. In particular, attributes of the interviewer, such as personality traits, attitudes, or a personal experience with abuse may affect the response [4]. Also, sensitivity to violence may also condition the way the information was collected as well its disclosure [10].

In the presence of interviewer effects, that is, a misclassification bias in any outcome measured, researchers need to characterize the nature direction and extent of this influence on their estimates. In epidemiologic terminology, this translates into assessing whether the interviewer variable should be dealt with as an effect measure modifier, a confounder, or none of these. The investigation of this issue has a relevant impact on how to conduct data analysis, particularly regarding the need for stratification or adjustment.

The objectives of this study were to describe interviewer-related variability in abuse estimates and assess the nature of the interviewer effects on the associations between elder abuse and covariates.

2. Participants and methods

2.1. Participants

The present research used the Portuguese sample of participants in the international collaboration named by the acronym ABUEL, a large study involving universities of seven countries and cofunded by the European Commission. The study design and sample have been fully described elsewhere [11,12].

In brief, Portuguese participants were urban dwellers previously recruited as part of a population-based cohort of adults living in Porto, Portugal (the EPIPorto study). The participant selection was conducted during 1999−2003 using random digit dialing. Households were the sampling frame, followed by simple random sampling to select one eligible person among permanent residents in each household [13].

By 2009, 845 subjects within the original EPIPorto cohort met the age criteria ($\geq$60 years) for the ABUEL study, and they were contacted to participate in the present study. However, 65 individuals could not be reached, 83 refused to participate, 28 were deceased, and 2 had missing information on the questionnaire. Of the 667 individuals who accepted to participate, 11 were excluded from the analysis because of significant cognitive impairment (Folstein's Mini-Mental State Examination score $<$24). We have excluded 15 participants from the present investigation who self-completed the questionnaires. The final sample comprised 641 participants.

No statistically significant differences were observed between participants and nonparticipants regarding baseline characteristics such as gender, age, education, marital status, smoking, and alcohol drinking. The local ethics committee (Hospital São João) approved the ABUEL study protocol.

2.2. Interviewers

From a pool of 30 candidates, we selected six female interviewers based on their professional background, experience with research projects, and previous work with the elderly. They were aged 25−30 years and possessed a degree in social sciences.

Intensive training was followed during a week. Interviewers were introduced to the study protocol, which comprised detailed information on interview procedures and special care for confidentiality and respect over the