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ORIGINAL RESEARCH

Administration of Childhood Physical and Childhood Sexual Abuse Screens in Adolescents and Young Adults: a Literature Review

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Abstract

BACKGROUND Childhood physical and sexual abuse can have a negative impact on adolescents and young adults. Although effective interventions that can ameliorate both the short- and long-term negative impacts are available, many adolescent and young adult victims remain without help: They rarely self-identify as victims, and health care providers generally fail to inquire about a history of childhood abuse, especially in the absence of physical signs. The health care field lacks an understanding of effective methods for the identification of childhood abuse.

OBJECTIVES To address this knowledge gap, this paper focuses on a systematic review of the literature for studies comparing modes of administration of measures to identify a history of childhood physical and sexual abuse in adolescents and young adults.

METHODS A systematic review of the literature published in English in peer-reviewed journals between January 1, 1994, and December 31, 2014 was conducted to identify studies that compared 2 or more modes of administration using the same measure to identify a history of childhood physical and sexual abuse in adolescent and young adult populations. Studies that compared 2 or more different measures for identifying abuse were not included in this review because the focus of the review was to isolate the effects of the mode of administration.

FINDINGS Only 1 study that met review criteria was found. It was conducted among female college students in a university setting. No studies were identified that compared modes of administration used to elicit disclosure of a history of childhood abuse among adolescents.

CONCLUSIONS There remains an urgent need to conduct evaluations of methods to identify childhood physical and sexual abuse including the mode of administration of screens in young people. It is recommended that future studies include diverse populations and randomized and quasi-experimental approaches.

KEY WORDS childhood physical abuse, childhood sexual abuse, adolescents, young adults, screens, mode of administration.

INTRODUCTION

According to the National Child Abuse and Neglect Data System, there were 3.5 million child abuse and neglect referrals to child protective services involving 6.4 million children in the United States in 2013.[1] These numbers are higher than those in 2011, when 3.2 million referrals involving 6.2 million children were made.[2] For both the 2011 and 2013 data, physical abuse made up 18% and sexual abuse 9% of all the

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referrals. However, actual prevalences of childhood physical and sexual abuse are considered to be much higher because National Child Abuse and Neglect Data System include only reported cases whereas most childhood abuse cases go unreported,[3] as has been the case for many years.[4-8] Thus the true scope of the problem of childhood abuse remains unclear. Childhood abuse has a tremendous human cost. In addition to the human cost there is a huge financial cost. The estimated annual cost to US society for childhood maltreatment effects (which includes both abuse and neglect) is $80.3 billion.[2] Population-based studies examining prevalence of childhood abuse report widely disparate findings.[9-11] Many researchers say that this discrepancy is due to wide variations in the way studies choose to define childhood abuse as well as the lack of standardized and accepted methods to collect this information, including modes of administration and variability introduced in measures by labeling the experience as "abuse" or asking about the experience of events or behaviors without a value label.[6,7,12-15]

The high prevalence of childhood physical and sexual abuse and its negative impact[16,17] makes it a major public health concern.[3,18-23] Its identification, through victim disclosure, is recognized as a necessary first step in ameliorating the immediate and longer-term impact of childhood abuse.[24] A number of therapeutic approaches can significantly reduce the common problems and symptoms associated with childhood abuse in children[25-29] and in adults.[30-35] Therefore the accurate identification of victims of childhood abuse is a pressing issue and includes the difficulty of identifying abuse both close to the time it occurs and years after it has occurred.[2-5]

The health care setting can be a natural place to identify a history of childhood abuse in children, adolescents, young adults, adults, and the elderly because patients accept the fact that medical providers typically will ask very personal questions,[36,37] and commonly, abuse negatively affects health and victims use more health care. The medical visit includes taking a history, which should include assessment of past and present health risks.[36,37] However, even in health care settings a very large proportion of abuse cases remain unidentified.[18,22,36,38]

Most health care providers do not ask their patients about a history of abuse in the absence of physical signs, which is most commonly the case. They report that a major obstacle to asking is the concern that inquiry will lead to reactions and consequences for patients that the health care provider may not be equipped to handle.[22] Physicians' failure to inquire is also, in part, a result of the lack of commonly accepted measures (ie, screening instruments)[39] and lack of strategies for incorporating the use of measures into their practice (ie, how to practically implement screening measures).[22,38] DiLillo et al[40] have pointed out that we lack an understanding of how the mode of administering abuse screens (ie, paper and pencil questionnaire, computer-assisted survey, or face-to-face structured interview) affects those being screened, including the effects on levels of discomfort and willingness to disclose.[40]

Studies of other sensitive issues such as high-risk sexual behaviors, HIV, and substance abuse have suggested that computer-based administration of survey measures leads to greater levels of disclosure than paper and pencil questionnaires or face-to-face interviews, offering a greater sense of confidentiality than these other types of survey administration.[41-46] Comparison of computer interview, face-to-face interview, and self-administered questionnaire asking adolescent girls about health and sexual behavior found that the participants perceived the computer-interactive method as being fun, interesting, confidential, private, and easy.[47]

Therefore understanding which mode of administration of screens to identify childhood abuse is the most effective, focusing on different modes of administration using *identical* measures, is an important area of exploration that can lead to improvements in practice and to more accurate estimates of the prevalence of childhood abuse. Thus this study aims to present a systematic literature review of studies that compared modes of administration of screens to identify a history of childhood physical and sexual abuse in adolescent and young adult populations. Only studies that used a single screening measure in this comparison were included. This literature review does not include studies that focused on the comparison of different measures.

METHODS

Inclusion and Selection Criteria for Identification of Studies. Studies were included if they compared 2 or more modes of administration (using identical measures) to identify a history of childhood physical or sexual abuse in adolescents or young adults, including those conducted among college students where the population was predominantly young adults. Any study describing its population as "college students" where the mean age was 21 years or younger was considered. No exclusions were made based on type of study design (eg, quantitative or qualitative, quasi-experimental or randomized). Only peer-reviewed

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studies published between January 1, 1994, and December 31, 2014 and written in English were included.

Search Methods for Identification of Studies. A literature search of peer-reviewed studies published in English anywhere between January 1, 1994, and December 31, 2014 was conducted using PubMed. The searches used the following filters: human, title and title and abstract, and initially used the age filters "adolescent 13 to 18 years" and "young adult 19 to 24 years." The following search or key terms were used to identify studies of child abuse: child OR child* OR teenage* OR adolesc*; AND maltreatment OR physical abuse OR sexual abuse OR molest* OR incest. These search results were then run with AND compar* in combination with the following terms: disclos* OR identif* OR screen* OR assess* OR tools OR measure OR survey OR questionnaire OR prevalence OR "taking a history" OR "eliciting a history" OR "paper and pencil screen" OR "computer assisted" OR ACASI [audio computer-assisted self-interview] OR "face to face structured interview" OR "face to face interview." These searches were then rerun without the age filters (adolescent 13 to 18 years, young adult 19 to 24 years) but with the additional terms AND "college students" OR "undergraduate students" to include studies of undergraduate students (see Supplementary Appendix 1 in the online version at doi:10.1016/j.aogh.2017.10.016). In addition, the references listed in any studies identified by the electronic search were also examined and reviewed to see if they met the inclusion criteria.

Two individuals independently reviewed the results of abstracts identified and selected studies for further review as full text for inclusion in the systematic literature review. Any disagreement was resolved in conference or referee by a third party. See Figure 1 (Supplementary Appendix 2 in the online version at doi:10.1016/j.aogh.2017.10.016) for the flow of studies through the identification and selection process for the literature searches.

The data for extraction from selected studies included the author or authors; year of publication; the sample size; study population; country in which the study was conducted; the study population's age range, mean age, race, and ethnicity; the sampling methodology used; the study aims; the measures used to assess for a history of child abuse; the mode of administration of the measures; and any pertinent findings.

Quality Standards. CONSORT (Revised Consolidated Standards of Reporting Trials),[48] STROBE (Strengthening the Reporting of Observational Studies),[49] COREQ (Consolidated Criteria for Reporting Qualitative Research),[50] and PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis)[51] were to be used for assessing quality of the selected studies.

RESULTS

The initial search identified 2014 records. These records were reviewed independently by 2 individuals, who identified 43 records, using the key terms in the title or abstract, to be further reviewed as full text. The full text of these articles was independently read by the 2 reviewers. Forty-one of these were eliminated because they did not meet the criteria of comparing modes of administration using identical measures for identifying childhood abuse in the adolescent and young adult population. This was determined on closer inspection independently by the 2 reviewers. These 41 articles were found to be either studies using adult samples or comparing different measures but not comparing modes of administration using the same measure. After the 41 articles were eliminated, 2 articles remained. Of the 2, only 1 by DiLillo et al[40] was found by both reviewers to meet the inclusion criteria. The other study, by Durrett et al,[52] was sent to a referee and was judged not to fit the inclusion criteria because its focus was not on a comparison of modes of administration using the same measure for identifying a history of childhood abuse per se but instead was about the reliability of 2 different measures to identify childhood physical and sexual abuse.

The study by DiLillo et al[40] that met the criteria and was included in this review (Table 1) examined the impact that different modes of administration (paper and pencil questionnaire, computer-assisted survey, and face-to-face structured interview) had on disclosure rates for childhood physical and sexual abuse. It used 1 measure to assess for childhood physical and sexual abuse—the Computer Assisted Maltreatment Inventory (CAMI),[53] which is a behaviorally specific instrument that employs a series of screener questions that conform to precise operational definitions of childhood physical and sexual abuse. For physical abuse the CAMI describes several acts, including shaking, slapping, pinching, severe spanking, punching, kicking, chocking, burning, hitting with an object, and threatening with a weapon. For sexual abuse the CAMI describes specific sexual activities ranging from kissing to fondling to intercourse. It then asks if any of these occurred before age 18 years. For childhood physical or sexual abuse,

Table 1. Summary of a Systematic Literature Review on the Comparison of Methods Used to Identify Childhood Physical Abuse and Childhood Sexual Abuse in Adolescents and Young Adults Published in the United States and Elsewhere between January 1, 1994, and December 31, 2014

DiLillo et al (2006)[40]	334 female undergraduate US college students Age range: 17.97-42.72 Mean age: 20.00 y White: 89.8% African Americans: 2.4% Asian Americans: 2.4% Hispanic Americans: 1.8% Native Americans: 0.3% Other ethnicities: 2.1% Never married: 95.8% Income growing up: most 41,000-70,000 Random assignment	This study compared 3 methods of taking a history of childhood physical abuse and childhood sexual abuse. Outcomes studied included prevalence of abuse by each method, comfort/distress with each method, subject preference for method, and perception of confidentiality by method	Using the same instrument (Computer-Assisted Maltreatment Inventory [CAMI]), the study compared computer-assisted method to pencil and paper questionnaire and face-to-face structured interview.	Mode of assessment was not statistically associated with the likelihood of disclosing abuse. (pencil and paper, 7.2%; CAMI, 6.6%; face-to-face structured interview, 6%) ($\chi^2 = 0.23$, $P = .89$). When disclosure rates were examined by type of abuse, the largest proportion of child physical abuse victims was identified in the questionnaire condition (6.3%, n = 21), followed by the computer (4.8%, n = 16) and the interview conditions (4.5%, n = 15). In contrast, the largest proportion of child sexual abuse victims was identified in the computer condition (3.3%, n = 11), followed by the questionnaire (2.1%, n = 7) and interview conditions (1.5%, n = 5). Again, however, differences in disclosure rates across modes did not reach significance for victims of physical abuse ($\chi^2 = 1.1$, $P = .58$) or sexual abuse ($\chi^2 = 2.5$, $P = .29$)

an affirmative response to one or more screener questions is followed by additional questions on the nature and circumstances of the reported behaviors—for example, who were the perpetrators, type and frequency of abuse, age of onset and age of termination of the abuse, use of verbal coercion or physical force. A positive screener is followed by more detailed questions. Using this behaviorally designed measure minimizes the need for subjective interpretation of items by respondents and avoids the use of labels such as "abuse" or "victim."

DiLillo et al[40] used a convenience sample of 334 female undergraduates at a Midwestern university and adapted the exact questions and the same order of questions used in the CAMI for use as both a paper and pencil questionnaire and a face-to-face structured interview. It also examined participants' experience of comfort and distress and perceptions of confidentiality and preference for each method. The age range of the sample was between 17.97 and 42.72 years with a mean age of 20.00 and a standard deviation of 2.52. The latter suggests that although the sample included some older adults, the great majority were young adults. Once the sample was selected, participants were randomly assigned to 1 of 3 conditions for identification of childhood physical or sexual abuse—paper and pencil questionnaire, computer-assisted survey, or face-to-face structured interview—all using the same measure (CAMI). The number of participants ended up been balanced across the 3 modes of administration: paper and pencil questionnaire (n = 114), computer-assisted survey (n = 112), and face-to-face structured interview (n = 108). The 3 groups were equivalent in terms of age ($F = 1.4$, $P = .25$), race/ethnicity ($\chi^2 = 16.2$, $P = .18$), marital status ($\chi^2 = 3.5$, $P = .75$), and socioeconomic status ($\chi^2 = 18.8$, $P = .66$).

DiLillo et al[40] found that overall 19.7% (n = 66) of the sample were victims of childhood physical or sexual abuse. When comparing the 3 arms of the study, among the group screened through paper and pencil, 21% disclosed physical or sexual abuse; among those screened through computer, 19.6% disclosed physical or sexual abuse; and for those screened through face-to-face structured interview, 18.5% disclosed physical or sexual abuse. No significant association was found between disclosure of childhood abuse and mode of administration used ($\chi^2 = .23$; $P = .89$).

When examining the data by the specific type of abuse, 12.8% (n = 43) reported having experienced physical abuse only (ie, physical abuse without sexual abuse), 4.2% (n = 14) reported having experienced sexual abuse only (ie, sexual abuse without physical abuse), and 2.7% (n = 9) had experienced both forms of abuse.

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Overall, 15.6 % (n = 52) of the total sample reported childhood physical abuse. When comparing the 3 arms of the study, among the group screened through paper and pencil, 16.6% disclosed childhood physical abuse; for those screened through computer, 14.3% disclosed childhood physical abuse; and in the group screened through face-to-face structured interview, 14.0% disclosed childhood physical abuse. No significant association was found between rates of disclosure of physical abuse and method used ($\chi^2 = 1.1$; $P = .58$).

Overall, 6.9% (n = 23) of the total sample reported childhood sexual abuse. When comparing the 3 arms of the study, among the group screened through paper and pencil, 6.1% disclosed childhood sexual abuse; for the group screened through computer, 9.8% disclosed childhood sexual abuse; and in the group screened through face-to-face structured interview, 4.6% disclosed childhood sexual abuse. No significant association was found between disclosure of sexual abuse and method used ($\chi^2 = 2.5$; $P = .29$).

Assessment of Quality. The study by DiLillo et al[40] has many high-quality features, including that the study was randomized. Although it does not include the word *randomization* in the title, it does mention in the abstract and in the body of the paper that the participants were randomly assigned to the mode of administration. The study used the same measure (CAMI) in all 3 modes of administration and compared the effectiveness of each mode in eliciting a history of abuse. Because the study used the same screening measure for each mode of administration, the authors were able to isolate the effect of the modes of administration (exposure) for comparison. The study objectives were clearly articulated. The primary and secondary endpoints were defined. The researchers also assessed the participants' levels of comfort, distress, and mood changes associated with each mode of administration as well as perceptions of confidentiality and preference by modes of administration.

The use of a convenience sample recruited from a very homogeneous population of female college students limited the generalizability of their findings. Furthermore, no a priori power calculations were done even though the authors included a statement: "A post hoc power analysis indicated the above tests produced sufficient power (.99) to detect medium effect sizes (.30) in the present sample (p. 416)." No details of the post hoc power calculation were offered. Similarly, no details were given regarding the randomization. Although 1 stated aim of this study was to examine the prevalence of childhood abuse reported for each mode of administration using the same measure, no table was included for this outcome in the published article. Thus the published findings on this outcome were hard to interpret and required additional data manipulation by the reader to determine the prevalence of childhood abuse identified in each arm.

DISCUSSION

The electronic search for studies identified only 1 study that met the inclusion criteria for inclusion in this systematic review. Furthermore, this study was conducted among college students in a university setting, who were all female and 90% white. This makes it hard to generalize to a wider young adult population, including men and boys, nonwhites, and those who are not enrolled in college. No studies were identified that compared the modes of administration used to elicit disclosure of a history of childhood abuse among a younger population of adolescents.

This result supports the need for future research with more representative samples comparing methods to identify a history of childhood physical or childhood sexual abuse in adolescents and young adults. Moreover, future studies should include diverse populations in terms of all genders, ages, and races/ethnicities; those attending school; and those not in school.

The study of childhood abuse among adolescents and young adults is an emerging field that remains underdeveloped.[12] As a result, we lack an understanding of the prevalence and of how to best identify a history of childhood abuse. Without further research many victims will continue to remain without the help they need for recovery. Although one cannot assume that once abuse is identified, health care providers will refer the victim for services, identification still remains a necessary first step. We need to be able to identify those with a history of childhood abuse to connect them with proper treatment. It is equally important to equip health providers and others with the knowledge and tools to screen for childhood abuse within health care settings where well-trained medical providers could play a major role in identifying victims.

Limitations and Strengths of the Literature Review. The fact that the literature review only identified 1 published study suggests that the restriction of the search to publications in English issued between January 1, 1994, and December 31, 2014, may have been a limitation. Perhaps searching over a longer period and for publications in other languages might have led to the identification of additional studies. Regardless, finding only 1 article identified a major gap in the literature.

The major strength of this literature review is that it is focused on the adolescent and young adult population and examines an area of significant public health concern. A history of childhood physical abuse and sexual abuse remains too common in young people and has many immediate and long-term negative health sequalae, yet we know little about how best to identify it. Another strength of this review is the methodology of having 2 independent reviewers evaluate the abstracts and any articles that initially were identified as possible candidates for inclusion, as well as having a process in place for when there was disagreement, with a third person (the referee) having the final word.

Recommendations. Given the critical impact of the experience of childhood physical and sexual abuse on children, adolescence, young adults, adults, and the elderly, there is an urgent need to conduct further evaluation of methods to identify childhood abuse using randomized and quasi-experimental approaches. Improving our methods for identifying childhood abuse will allow for the offering of effective interventions to victims. However, research is also needed regarding what modes of administration of screens to identify childhood abuse might be best suited for busy primary care health settings. A mode of administration that makes the least demand on the physician's time—such as the ACASI—might be more readily accepted in busy practice settings where physicians may have limited time to spend with each patient. This future research on modes of administration of screens to identify childhood abuse should include samples of diverse populations of adolescents and young adults and should examine the effects of age, race/ethnicity, gender, education, socioeconomic status, and other demographic characteristics.

Although this review does not include a comparison of measures that have been and are being used in the identification of childhood abuse, the fact that most measures have not been psychometrically validated[12] suggests that further research is also needed in this area. Again, measures that might be appropriate for research studies also need to be field tested for suitability for clinical practice settings to increase the likelihood of their adoption in such settings. For example, measures that are long or require a complex scoring process might not be practical in busy health care settings.

Both research on measures and modes of administration will continue to have to rely on, and refine, retrospective self-reports of childhood abuse. Childhood abuse research cannot solely depend on official Child Protection Services (CPS) databases because much childhood abuse goes unreported[3]; official records miss large numbers of cases, making them unreliable sources for understanding true prevalence. Some researchers suggest a gold standard of combining both official CPS reports with retrospective self-report measures.[14,54] However, this approach may be hard to implement in health care practices because it will be likely extremely time consuming and impractical for providers to get access to and use the CPS official records.

There is an emerging literature suggesting that the ACASI has performed better than other modes of administration when studying a range of sensitive issues in adolescents and young adults for matters other than childhood abuse.[41-46] The aforementioned study by DiLillo et al[40] on childhood abuse compared 3 modes of administration of screens to identify childhood abuse and focused on the emotional impact of different modes for administering the same measure to identify childhood abuse and on victims' preference by method and their perception of confidentiality of each method. Together these studies suggest 2 important directions for further research. First, we need to understand the ways in which the disclosure of childhood abuse differs from disclosure of other sensitive areas of human experience. Second, we need to understand how victims' experiences with different modes of administration of screens influence their willingness to disclose abuse.

SUPPLEMENTARY DATA

Supplementary data accompanying this article can be found in the online version at doi:10.1016/j.aogh.2017.10.016.

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