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Screening for Elder Mistreatment in a Dental Clinic Population

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Abstract

The purpose of this study was to establish the feasibility and utility of screening for elder mistreatment in a dental clinic population. We approached older adults in a busy dental clinic, and enrolled 139 persons over the age of 65 who completed an Audio Computer Assisted Self Interview (ACASI), which included the Hwalek-Sengstock Elder Abuse Screening Test (HS-EAST). Overall, 48.4% of the participants scored 3 or greater on the HS-EAST, and 28.3% scored 4 or greater. Our study suggests that there is an opportunity to screen in busy dental clinics and to facilitate early detection for those patients who screen positive for elder mistreatment.

Keywords

dental clinics; elder mistreatment; screening; ACASI

INTRODUCTION

Current estimates suggest that as many as 1.2 million cases of elder mistreatment (EM) occur annually in this country (Pillemer & Finkelhor, 1988). However, this number might substantially underestimate the actual number of cases since only a small proportion of cases of EM actually are reported to authorities (National Research Council, 2003). Indeed, many cases of EM are likely unrecognized and go unreported, resulting in preventable morbidity

and possible mortality from EM. Active screening of elders in emergency departments has been shown to be of value in identifying cases of EM that might have gone without intervention (Fulmer, et al., 2002) and it is likely that expansion of screening efforts to cover community clinics, including dental clinics, also might increase the number of cases of EM identified and referred to adult protective services.

Mandatory reporting of suspected cases of EM by healthcare practitioners is required in most states (Capezuti, Brush, & Lawson, 1997; National Research Council, 2003). Given this important legal and ethical responsibility, it is essential that healthcare professionals are knowledgeable about EM and assessment instruments that can assist in identifying potential cases. Healthcare practitioners, who include dentists and dental hygienists, should be vigilant and take action as appropriate when they suspect a case of EM. Training for dentists in how to evaluate suspected cases of EM varies according to state and is likely to vary by training program (Dyer, Russell, Fink, Singh, & Fulmer, 2010). While some dental professionals have experience in evaluating elders for potential EM, the use of a sound screening instrument would be useful in efforts to minimize morbidity associated with this important public health issue.

Active screening of elders in community clinics is likely to uncover previously undiagnosed cases of EM. To date, few studies have examined the feasibility of screening for EM in community based clinics (Fulmer, Guadagno, Bitondo, Dyer, & Connolly, 2004), and to our knowledge, no reports of screening in dental clinics have ever been published. Given the preventable morbidity associated with EM and the mandated reporting in many states that requires the healthcare practitioner to report, the public has a right to expect that the dental profession is proficient in EM screening.

Currently, there are few EM screening instruments available to health professionals (Fulmer, Guadagno, Bitondo, Dyer, & Connolly, 2004; Bomba, 2006) and many of these instruments have limitations, such as subjectivity, extensive length of the questionnaire, and lack of a quantitative cut-score (Fulmer, Guadagno, Bitondo, Dyer, & Connolly, 2004, National Research Council, 2003). Therefore, research in the area of screening for EM in community based clinics, dental clinics in particular, is warranted. The purpose of this study was to establish the feasibility and utility of screening for EM in busy primary care clinics. Here we report on a dental clinic population.

METHODS

Study Setting and Participant Recruitment

Study participants were recruited from the New York University Dental School predoctoral general dental patient care clinics during daytime clinic hours (8:30 am - 4 pm). The New York University (NYU) Dental School is the largest dental school in the US, and has the largest student body (approximately 350 students per class) and faculty (700 full and part-time faculty) of any dental clinic in the United States. The clinics at NYU provide approximately 300,000 patient visits per year and over 30,000 new patients register for treatment annually.

For this study, all older adults (those who appeared to be older than 60) present in the waiting rooms and/or seated in dental chairs in the clinics were approached by a study recruiter, who obtained verbal consent to administer a short questionnaire to determine study eligibility. All potential participants were approached whether they were accompanied (by a caregiver) or not. The study recruiter (GS), a dentist with advanced training in clinical research, used a standardized recruitment protocol and was trained in recruitment procedures, including the administration of the Folstein Mini Mental Status Exam (MMSE)

by the study PI, an expert in geriatric nursing (TF), and used an IRB-approved recruitment script to identify and enroll all participants. The recruiter asked if the potential participant was: 1) 65 yrs of age or older, 2) spoke and read English or Spanish, 3) reported having a paid or unpaid caregiver at least 2 hours a week, and 4) reported having a working telephone. If the persons were eligible for the study based on these four criteria and expressed an interest in participating, the recruiter obtained verbal consent to administer the MMSE. If potential participants scored 17 or less on the MMSE, they were excluded. This study was approved by the Institutional Review Board at New York University Medical Center, and signed consent forms were obtained from all study participants. On completion of the study participants were compensated with \$10 gift cards.

Questionnaires

Study participants were administered a series of questions on a touch computer screen using the Audio Computer Assisted Self Interviewing (ACASI) system. Using ACASI, the respondent listens to digitally recorded questions and response categories with headphones and, at the same time, is able to read the questions and answers on the computer screen. The respondent then enters her/his answer by directly touching the selected answer on the computer screen (Cooley, et al., 2001; O'Reilly, Hubbard, Lessler, Biemer, & Turner, 1994).

The ACASI interview included questions on demographics, including age, sex, race (White, Black or Asian), ethnicity (Hispanic or non-Hispanic), place of birth/country of origin, marital status, level of education, income, and type of medical insurance (self-pay or Medicaid). In addition, the ACASI interview included the Hwalek-Sengstock Elder Abuse Screening Test (HS-EAST, see Figure 1). The HS-EAST is a 15-item questionnaire that was developed to identify those at high risk for elder mistreatment (Hwalek, 1996). Scoring of the HS-EAST is summative and is based on responses to each item, four of which are scored in reverse (items 1, 6, 12 and 14). While possible scores range from 0 to 15, studies have shown that various scoring schema may be useful in identifying persons at risk for mistreatment. Because of the exploratory nature of this study, we chose to score the HS-EAST according to four different algorithms. First, since Neale, Hwalek, Goodrich, and Quinn (1996) showed that persons who had been mistreated scored an average of 3.5 on the HS-EAST, and also that six of the 15 items (items 5, 10, 12, 13, 14 and 15) were predictive in classifying persons as mistreated vs. not mistreated, (Neale, et al., 1996), we report: 1) the proportion of persons who scored three or greater, or four or greater, on the HS-EAST; and 2) the proportion of persons who scored positively on those six questions identified by Neale et al. as predictive of classification as mistreated. Secondly, since Moody et al. (Moody, Voss, & Lengacher, 2000) demonstrated that six of the items (items 1, 5, 11, 13, 14 and 15) included on the HS-EAST were as effective as the nine-item model in classifying persons as mistreated, we report the proportion of persons who scored positively on these six questions identified by Moody et al. Finally, we examined the proportion of participants who had a positive response to a group of seven questions determined by a national EM expert to be important clinical questions which would likely indicate a high risk of EM (questions 5, 7, 9, 10, 11, 13 and 15). In New York State, there is no mandatory reporting of EM to state agencies. However, all participants who scored 3 or greater on the HS-EAST and/or had a positive response to any one of the seven questions identifying one at increased risk of EM (questions 5, 7, 9, 10, 11, 13 and 15) were followed up by telephone with an EM expert (TF) and were offered a social service consultation.

Data Analysis

We calculated the study participation rate by calculating the proportion of those persons who participated in the ACASI interview of the total eligible persons who were approached in the dental clinics. We report on demographic and other characteristics by reporting means,

medians, and standard deviations calculated for continuous variables (e.g., MMSE and age) and on proportions for categorical variables (gender, race/ethnicity, education, income, marital status, and employment status). We then calculated the proportion of all persons screening “positive” on the HS-EAST using the scoring schema described above, and compared those screening “positive” to those who screened “negative” regarding demographic characteristics using t-tests (for age and MMSE) and Chi-Square tests for all other (i.e., categorical) variables. A p-value of 0.05 was considered to indicate a statistically significant difference between the groups. In addition, we examined frequencies of responses to any one of the seven questions identifying one at increased risk of EM (questions 5, 7, 9, 10, 11, 13 and 15). All statistical analyses were carried out using SPSS version 17.

RESULTS

Dental clinic patients were approached in the waiting rooms of the dental clinics of the NYU College of Dentistry between January 2008 and March 2009. Overall, of the 212 patients who were asked to participate, 73 persons refused, and 139 persons answered questions about eligibility and consented to the MMSE. Since no potential participant had an MMSE less than 21 (range = 21-30, median = 29, mean = 28.4, s.d. = 2.1), all 139 were enrolled and completed the interview (participation rate: 139/212= 65.6%).

The mean age of the participants was 75.9 years (range = 65-93 years, s.d. = 6.9 years), and 60.4% (84/139) of the participants were female. Almost half (45.3%, 63/139) were White, 17.3% (24/139) were Black, and 22% (30/139) were Hispanic (any race), and 2.2% (3/139) were Asian. The remaining 13.7% did not specify race or ethnicity. Most of the participants (82%; 114/139) reported having a high school degree or greater (27.4% high school degree, 37.4% some college or university degree, and 17.3% a post graduate degree). One quarter of the participants (25.9%; 36/129) who responded to the income question (129/139) reported annual family incomes of less than \$20,000, an additional quarter (25.2%; 35/129) reported annual family incomes of \$20-39,999, and the rest responding to the income question (24.5%; 34/129) reported incomes over \$40,000. Almost one fifth (17.3%; 24/129) reported not knowing their income. Half of the participants (49.7%, 69/139) were currently married, 27.3% (38/139) were widowed, and 15.1% (21/139) were divorced or separated, 7.9% (11/139) had never been married. The majority (87.1%) reported that they were not presently working, either part time or full time.

Overall, 48.4% (67/139) of the participants scored 3 or greater on the HS-EAST, and 28.3% (39/139) scored 4 or greater (see Figure 2). Results of the scoring for the HS-EAST for the additional algorithms are shown in Table 1. In general, demographic variables did not predict scoring on the HS-EAST using any of the four scoring algorithms. The proportion of persons responding positively to the seven questions of concern (see Figure 3) (HS-EAST questions 5, 7, 9, 10, 11, 13, 15) ranged from a low of 2.2% (n=3) to question 15 (“Has anyone close to you tried to hurt you or harm you recently?”) to a high of 19.4% to question 5 (“Do you feel uncomfortable with anyone in your family?”).

DISCUSSION

In all but a handful of states (New York, New Jersey, Colorado, North Dakota, South Dakota and Wisconsin) it is required that clinicians, including dentists, report suspected cases of EM to state agencies. Several review papers on EM in the dental literature have pointed out the ethical and legal responsibilities of dental practitioners related to EM recognition and intervention (Schnell, 2009; Wiseman, 2008; Gironda, 2007; Glassman, 2004; Cowen, 2002; Johnson, 2001). One discussion (Wiseman, 2008), includes an excellent

template (adapted from Bomba, 2006) for dentists that helps in assessing and managing EM (see Figure 4).

Unfortunately, the dental literature on EM generally has been in the form of editorials, opinions, and recommendations (Cowen, 2002), and to date, there are no actual studies that have investigated EM among dental patients. Dentists and dental hygienists may be in a unique position to identify previously undetected cases of EM because abuse often manifests in the head and neck area, and dental practitioners are trained to assess the head and neck area and to look for signs of trauma, which may indicate physical abuse (Schnell, 2009; Cowen, 2002). In addition, some elders may visit the dentist for routine treatment, but they may see physicians only when they have an acute medical problem. Recent research has indicated that a large number of adults treated by a dentist within the past year did not see their primary care provider during that same time period (Strauss, et al., 2009). While to date there are no reports on barriers to screening for EM among dental providers, it has been shown that education regarding domestic violence was likely to result in screening and intervention (Harmer-Beem, 2005; Love, et al., 2001); it is likely that a similarly positive association would be found between willingness to perform EM education and EM screening. Disturbingly, a 1994 article revealed that compared to physicians and nurses, dentists and dental hygienists were less likely to have training in EM recognition and screening, were less likely to report commonly suspecting EM, and were less likely to agree with the statement that “professionals in my discipline have as much responsibility to deal with problems of family violence as they do to deal with other clinical problems” (Tilden, et al., 1994). While it is likely that the proportion of dentists and dental hygienists receiving EM education has increased in the last 15 years, the extent to which these differences in professional attitudes towards EM recognition and screening persist are unknown and warrant investigation, if screening and/or recognition of EM in dental offices is to occur.

Using a validated screening tool, this current study examined the utility and feasibility of screening for EM in dental patients. Our results demonstrate that older adult dental patients will answer sensitive questions regarding EM, and that identifying persons at risk for EM is possible in a dental clinic setting. Among the various EM screening instruments available, we chose the HS-EAST, because the instrument is brief, is self-administered by the elder, and requires no disrobing, which would be unnatural in a dental setting. In addition, the HS-EAST has been validated in several studies by comparing responses/scores on this instrument in groups of elderly who were referred to adult protective services and were found to be mistreated and nonmistreated (Neale, 1991). In this earlier study, the HS-EAST correctly classified 67-74% of cases, and results from this study suggest that a mean score of 3 or more on the HS-EAST is indicative of mistreatment (Neale, et al., 1991). In 2000, Moody, et. al. assessed the psychometric properties of the HS-EAST by administering this questionnaire to a convenience sample of elders living in public housing in Florida (Moody, et. al., 2000). Scores on the HS-EAST were significantly different (4.0 vs. 3.0, $p=0.05$) in a group of elderly with a verified history of mistreatment when compared to a non-mistreated group.

This more recent study also verified the finding of Neale, et. al. (1991) that nine items in particular were useful in discriminating between the two groups (mistreated /not-mistreated), although they found, via discriminant function analysis, that six items were as effective as a previously-used nine-item model in classifying cases as mistreated (71.4%). While this 6-item model (including items 1, 5, 11, 13, 14 and 15) was the most useful, they also reported that three items were particularly powerful predictors of mistreatment (item 11- having belongings taken, item 15 -being hurt or harmed by someone, and item 14- not having enough privacy). This study found a 17% false positive rate and a 12% false negative rate. However, internal consistency assessment of the 15-item HS-EAST found the reliability of

this instrument to be weak (0.46). Reliability improved when fewer items were included. These authors agreed with Neale, et al. (1991) that a score of three or greater may be used to flag which elders need to be assessed more thoroughly for mistreatment.

Our data show that a significant proportion of elderly persons who visit the dentist may be at risk for EM. Overall, almost half (48.4%) of our sample scored 3 or greater on the HS-EAST and almost one-third (28.3%) scored 4 or greater. Our results were, with two exceptions, consistent across the various proposed algorithms to score the HS-EAST. In particular, we found that roughly 28-30% of all participants scored positively on the HS-EAST when using scores above 4 (28.3%), the six items identified by Neale, et al. (29.5%), and the seven items identified by our own EM expert (34.5%).

We utilized ACASI for our interviews and found it to be a valuable tool for EM screening. ACASI has several advantages over interviewer-administered questionnaires, which include: (1) ACASI eliminates the need for literacy; (2) ACASI can be programmed in any spoken language; (3) ACASI standardizes the presentation of questionnaire items because every respondent hears the questions in exactly the same manner, thus limiting interviewer bias; (4) ACASI incorporates complex skip patterns, branching, consistency, and range checks; (5) the use of ACASI creates an automatic data set, thus facilitating data management and analysis and eliminating error in data entry; (6) the use of ACASI offers flexibility in arranging a time to conduct the interview; and (7) ACASI surveys are conducted in privacy, especially important for individuals who may not wish to discuss sensitive issues with researchers (Cooley, et al., 2001). Studies comparing ACASI and regular interviewer-assisted questionnaires indicate that many respondents prefer ACASI, and have little difficulty using it (Metzger, et al., 2000; DesJarlais, et al., 1999).

Study Limitations

There are several limitations of this study. We used a convenience sample of 139 older adults who were present in the waiting rooms of the dental clinic during daytime hours, and therefore the results of this study might not be generalizable to all older adults who are patients at the NYU College of Dentistry. In addition, patients of a large public dental clinic are likely different from those seen in private practice. Finally, while ACASI is a research tool that was used for this study to facilitate data collection and to encourage reporting of sensitive information from study participants, it is unlikely that a large proportion of dental offices use computers for patient-administered entry of data. However, while patient-administered entry of medical and other data is not currently widely used in clinical practice, this technology has seen increased use in clinical practice in recent years, and its use is likely to increase in the future (Bergman, 2007).

Summary

Members of the dental profession, including those in both public clinics and private offices, are in a unique and important position to screen for EM. Our study suggests that there is an opportunity to screen in dental settings and to facilitate early detection and referral for those patients who screen positive for EM. This is consistent with the philosophy of mandatory reporting laws: that is, that all health care professionals have the opportunity as well as the ethical and legal responsibility to do a full screen for all forms of domestic violence, and here, in particular, for EM. Data from these studies can help inform policy makers as they consider ways to create incentives for health care professionals to take their screening responsibilities seriously and use their knowledge as health care providers to improve the well-being and quality of life for the older patients they serve. Busy dental clinics as well as all dental care practices can be a major part of the solution for the early detection and prevention of EM cases. Prevention strategies can take place every day when dental offices

provide educational materials related to healthy aging and the rights of all older patients to live in environments where EM is not to be tolerated.

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Item Number	Question
1	Do you have anyone who spends time with you, taking you shopping or to the doctor?
2	Are you helping to support someone?
3	Are you sad or lonely often?
4	Who makes decisions about your life—like how you should live or where you should live?
5	Do you feel uncomfortable with anyone in your family?
6	Can you take your own medication and get around by yourself?
7	Do you feel that nobody wants you around?
8	Does anyone in your family drink a lot?
9	Does someone in your family make you stay in bed or tell you you're sick when you know you're not?
10	Has anyone forced you to do things you didn't want to do?
11	Has anyone taken things that belong to you without your O.K.?
12	Do you trust most of the people in your family?
13	Does anyone tell you that you give them too much trouble?
14	Do you have enough privacy at home?
15	Has anyone close to you tried to hurt you or harm you recently?

FIGURE 1.
Hwalek-Sengstock Elder Abuse Screening Test (H-S/EAST)

FIGURE 2.
Hwalek-Sengstock Elder Abuse Screening Test (H-S/EAST) Scores, Dental Clinic Patients
(n=139)

FIGURE 3.
Hwalek-Sengstock Elder Abuse Screening Test (H-S/East) Frequency of Positive Responses to Individual Questions, Dental Clinic Patients (n=48)

FIGURE 4.
Template for Dentists to Use in Assessing and Managing Elder Mistreatment

TABLE 1

Proportion at Risk for Elder Mistreatment, Using the HS-EAST Screening Test, by Sex, Age, Race/Ethnicity, Education and Income, 4 Scoring Algorithms

	Scoring algorithm			
	Total score $\geq 3^a$	Total score $\geq 4^a$	+ on any item: 5, 10, 12, 13, 14 and 15 ^b	on any item: 1, 5, 11, 13, 14 and 15 ^c
Female vs. male	44.0% vs. 54.5%	26.2% vs. 30.9%	26.2% vs. 34.5%	67.9% vs. 74.5%
> 75 years vs. ≤ 74 years	42.6% vs. 53.5%	23.5% vs. 32.4%	29.4% vs. 29.6%	75.0% vs. 66.4%
Blacks vs. Whites	41.7% vs. 50.8%	29.2% vs. 25.4%	37.5% vs. 28.6%	54.2% vs. 74.6%
Hispanics vs. Non-Hispanics	40.0% vs. 50.8%	26.7% vs. 29.2%	26.7% vs. 28.6%	70.0% vs. 7.6%
< High School Education vs. Some College +	42.9% vs. 52.6%	25.4% vs. 30.3%	27.0% vs. 31.6%	60.3% vs. 78.9% [*]
Annual Income <40,000 vs. Income 40,000+	50.7% vs. 45.6%	31.0% vs. 25.0%	26.8% vs. 32.4%	67.6% vs. 73.5%
Married vs. Unmarried	49.3% vs. 47.1%	26.1% vs. 30.0%	30.4% vs. 28.6%	66.7% vs. 74.3%
Total % (n)	48.2% (67/139)	28.3% (39/139)	29.5% (41/139)	70.5% (91/139)

^aNeale, et al

^bNeale, et al

^cMoody, et al

^dEM expert (TF)

^{*} Chi-Square=5.7; df=1; p=0.02