Abuse in older adults with communicating disorders: a step forward in this understanding?

Luca Tagliafico[1,2], Andrea Molinelli[2,3], Luisa Ientile[1], Gabriella Biffa[4], Francesca Riccardi[4], Alessio Nencioni[1,2], Patrizio Odetti[1], Fiammetta Monacelli[1,2]

[1] Geriatrics Clinic, Department of Internal Medicine and Medical Specialties (DIMI), University of Genoa, Genoa, Italy; [2] IRCCS Ospedale Policlinico San Martino, Genoa, Italy; [3] DISSAL, Department of Health Science-Legal and Forensic Department Section, University of Genoa, Genoa, Italy; [4] Clinical Psychology and Psychotherapy Unit, IRCCS Ospedale Policlinico San Martino, Genoa, Italy

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Background and aims. Elders' abuse is a matter of growing public and heath care concern. So far, the real magnitude of the problem is unexplored, especially in frail patients with dementia who experience communicating problems. Self-report screening tools for abuse limited their diagnostic accuracy in persons with dementia. Starting from this background, here we aimed at comparing the diagnostic accuracy of Elder Assessment Instrument (EAI) and the Indicator of Abuse (IOA) tools to assess elders' abuse in real world older adults with dementia or communication impairment at in hospital admittance and to preliminary explore the potential abusive home environment.
Methods. This is an observational prospective study on 70 consecutive patients aged 75 years and more, with mostly dementia of Alzheimer's type admitted at the Geriatric clinic of the IRCCS Policlinico San Martino Hospital of Genoa, Italy. All patients received psychogeriatric assessment. The size of home environment was assessed, including caregiver' age, cohabitation, and average economic income.
Results. EAI tool showed a good diagnostic accuracy compared with IOA (AUC 0.83) (95% CI: 0.73-0.95); sensitivity of 78.6%; specificity of 76.8%) and a cut off score of 45 for EAI was also identified for the detection of elder's abuse risk.
Conclusions. This is the first report to compare the diagnostic accuracy of two observational tools for elders abuse in dementia or communication impairment. Moreover, the identification of a specific cut off score for EAI screening tool may contribute to the earlier identification of a potential abuse in such a highly vulnerable population, with potential implications in this neglected field.

Kew words: older adults, abuse, dementia, diagnostic accuracy, EIA and IOA tools

INTRODUCTION

With the aging population, there is an increased number of older adults with physical, psychiatric and cognitive disabilities and these clinical conditions may impact both caregiver's distress and the risk of elder's abuse. Elder abuse affects an estimated 15.7% in community dwellings who are

more likely to experience neglect and financial strain [1], whereas hospitalized elders are more likely to suffer psychological abuse and neglect [2].

Alarmingly, studies focusing specifically on older adults with dementia reported dramatically higher prevalence rates ranging from 34.9 to 62.3% [3]. As well, the projected increase in prevalence of dementia and informal caregiving will create an excessive reliance on the family caregiver worldwide. In Italy, dementia care is greatly shifted from institutional care to a home care system characterized by limited-service allotments. Therefore elder' abuse may frequently occur at home [3], and more inquiry is needed to understand the interplay between home environment, health care services, and sociolegal structures. In particular in Genoa, where our study was conducted, there is a progressive increase in the number of abuses reported to the judicial authority [4].

The fundamental function of an abuse screening tool is to guide through a standardized screening process and to ensure that any sign of abusive behavior is not missed. Although several screening assessment tools for elder's abuse have been developed over time, their overall reliance on self-report assessment hampered the diagnostic accuracy and the appropriate identification of elders with dementia and/or communicating disorders [5].

To fill this gap of knowledge, the Elder Assessment Instrument (EAI) [6] and the Indicator of Abuse (IOA) [7] have been specifically developed to detect abuse in non-communicative elders on an observational basis.

Crossing the home boundary such as in the event of a hospitalization might be the opportunity to overcome the barriers for interprofessional collaboration, underscoring the magnitude of the home-based elder's abuse of persons with dementia and the societal responsibility. Starting from this background here we aimed at comparing the diagnostic accuracy of EAI tool and IOA tool to assess elders abuse in real world older adults with dementia or communication impairment at in hospital admittance. The second aim was to preliminary explore the potential abusive home environment.

PATIENTS AND METHODS

This is an observational prospective study on 70 consecutive patients aged 75 years and more, with mostly a diagnosis of dementia of Alzheimer's type [8] admitted at the geriatric clinic of the IRCCS Policlinico San Martino Hospital of Genoa, Italy. All patients received geriatric assessment (Tab. I), including MMSE to assess cognitive status; NPI to assess behavioral disturbances; Barthel index to assess functional status. The number of co-occurrent clinical conditions (multimorbidity) and polypharmacy were also recorded.

The Indicators of Abuse (IOA) is a 27-item tool for discriminating abuse and non-abuse cases; it is completed by a health care professional. Each question is listed in order of importance and is given a score based on a scale of 0-4. Eleven questions are directed to the caregiver and 11 questions are for the care receiver. The total sum of rating for all items is a range of 0-108. Caregiver indicators carry more weight than do care-receiver indicators. However, the list of both caregiver and care-receiver indicators jointly underscores signal abuse. A total score of 16 or higher is suggestive of abuse.

The Elder Abuse and Neglect Assessment (EAI) is a 41-item LIKERT scale comprised of seven sections to review signs, symptoms, and subjective complaints of elder abuse, neglect, exploitation, and abandonment; it can be used by health care providers in all clinical settings. No numeric score is derived from this instrument, but it can help clinicians to identify patients which has to be referred to social services.

Namely, EAI and IOA were respectively performed by the same expert geriatrician within 72 hours from in hospital ward admission. We did so also because our aim wasn't to evaluate the inter-rater reliability of the tools.

The size of home environment was assessed with quality data, including caregiver' age, cohabitation, and average economic income.

Data are expressed as mean ± standard deviation. Non-parametric Mann-Whitney test, Spearman correlation and the Fisher exact test were performed when appropriate. A p-value < 0.05 was considered significant. The ROC curve was used to assess the diagnostic accuracy of EAI compared to the gold standard IOA which has a cut-off score for patients at higher risk of abuse. R-software version 4.0.2 [REF r Core TEAM (2020.r: A language and environment for statistical computing. R foundation for Statistical Computing, Vienna, Austria. https://www.r-project.org/] was used for all statistical analysis.

RESULTS

Patients were mainly characterized by multimorbidity, disability and moderate dementia with the presence of behavioral disturbances as illustrated in Table I.

EAI tool, with the identified cut off score of 45 for the detection of elder's abuse risk, showed a good diagnostic accuracy compared with IOA (AUC 0.83) (95% CI: 0.73-0.95; sensitivity of 78.6%; specificity of 76.8%) according to the ROC curve (Fig. 1).

Table I. Patients' clinical characteristics and home environment analysis with caregivers' characteristics.

Patients	All (n = 70)
Age (years)	86.33 ± 6.64 (67-92)
Education (years)	7.97 ± 3.49 (0-17)
Number of diseases (n)	4.84 ± 1.51 (2-8)
Drugs (n)	6.3 ± 2.20 (2-12)
Barthel index	27.79 ± 16.87 (5-75)
Diagnosis of dementia	63 (90%)
MMSE	14.04 ± 7.80 (4-29)
NPI	19.99 ± 13.59 (4-29)
Caregivers' characteristics	
Primary caregiver gender (woman/man)	49/21
Primary caregiver age (years)	56.97 ± 10.85 (40-82)
Primary caregiver education (years)	11.44 ± 3.86 (0-18)
Financial dependent caregiver	27 (37%)

Abbreviations: MMSE: Mini Mental State examination; NPI: Neuropsychiatry Inventory
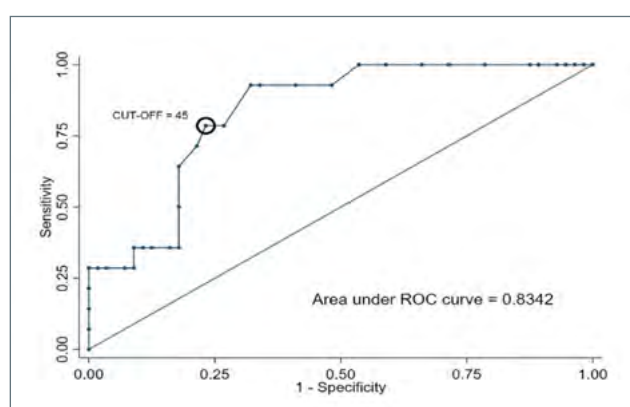
Figure 1. ROC curve to assess the diagnostic accuracy of EAI tool compared to the gold standard IOA tool.

On the basis of IOA categorization, 12 patients (17%) were identified at risk of abuse whereas 24 patients (34%) were classified at high-abuse risk according to EAI score.

Moreover, both EAI and IOA tools showed a positive correlation with NPI (EAI: R =+ 0.41, p < 0.001; IOA: R =+ 0.51, p < 0.001) and a negative correlation with functional status (Barthel index (EAI: R = -0.50, p < 0.05; IOA: R = -0.29, p < 0.02) and cognition (MMSE (EAI: R = -0.24, p < 0.05; IOA: R = -0.35, p < 0.005) respectively. Namely, EAI tool showed a positive correlation with multimorbidity (number of co-occurrent diseases) (R =+ 0.29, p < 0.02) with the caregiver's age (R =+ 0.29, p < 0.02) and with the caregiver's financial low income (29% HR *vs* 6% LR, p < 0.05, OR 6.13).

DISCUSSION

Elders' abuse in persons with dementia is a matter of growing public concern and a hospitalization for an acute clinical event may represent the access point for case finding, beyond the home and family contexts and boundaries.

The critical consideration for an abuse in all cases of elders with dementia seems mandatory and the identification of reliable screening instruments along with a bolstered physician's judgment may favor an overarching multidisciplinary assessment to support interventions when dementia and mistreatment intersect.

So far, physicians may find evaluation of elder's abuse unfamiliar, especially in frail old age patients with dementia for the lack of articulating circumstances and for the misattribution for multimorbidity.

The present findings underscored that at least one-fourth of hospitalized elders with dementia are at risk of experiencing in home abusive behaviors [4,9] and an association with multimorbidity, disability and behavioral disturbances was observed.

To the best of our knowledge this is the first report to compare the diagnostic accuracy of two observational tools for elders abuse in dementia and/or non-communicating patients. Moreover, the identification of a specific cut off score for EAI screening tool may contribute to the earlier identification of a potential abuse in such a highly vulnerable population, moving step forward in the understanding of in-home potential abuse perpetrators and bridging in home care and hospitalized care.

This is in line with the need for a physician's task to early recognize elders abuse in frail and non-communicating older adults, serving as the catalyst for further coordinated care.

Additionally, although preliminary in nature, the analysis of local home environment underscored that caregiver's age, a low economic income and cohabitation may be risk factors for the identification of a potential abuse perpetrator [10-14].

Each patient involved in the study and at high risk of abuse was evaluated by a multidisciplinary team with the involvement of the social workers in order to find the best solutions case by case.

The main limitations of our study are the small sample size and the single point assessment that prevent any generalization of the results. In addition, the identification of potential in home perpetrators is preliminary, being beyond the scope of our primary investigation: indeed, a more structured analysis is warranted, including caregiver's personality traits, multimorbidity, the presence of comorbid psychiatric conditions a in depth analysis of environmental and socioeconomic analysis.

The strengths of the study are the real word clinical

assessment of frail elders with dementia and the underscored findings originally supported the accurate clinometric properties of EAI tool. Additionally, the identification of a cut off score for EAI tool for the detection of potential abuse risk in this vulnerable population may help implementing the awareness and the diagnostic accuracy of abuse in persons with dementia in real world scenarios.

CONCLUSIONS

In conclusion, the present findings moved a step forwards on the understanding of abusive behaviors in frail elders with dementia and, although further testing for EAI associated reliability and validity in larger populations is warranted, they may serve as a platform for the conduction of a feasibility study that could evaluate the use of EAI in identifying suspicion of abuse in elders with dementia. In turn, these investigations may also serve as the scientific background for designing future coordinated interventions and meaningful outcomes measures, with potential implications in the neglected field of abuse in elders with dementia.

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