



Exploring the Correlates to Depression in Elder Abuse Victims: Abusive Experience or Individual Characteristics?

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Abstract

Depression and depressive symptoms have been studied both as risk factors and consequences of elder abuse, even though the most common cross-sectional design of the studies does not allow inferring cause or consequence relationships. This study estimates the proportion of older adults who screened positive for depressive symptoms among those self-reporting elder abuse and examines whether individual characteristics and/or abusive experience aspects are associated with self-reported depressive symptoms. Participants were 510 older adults self-reporting experiences of abuse in family setting enrolled in the cross-sectional victims' survey of the Aging and Violence Study. Depressive symptoms were assessed through the abbreviated version of the Geriatric Depression Scale (GDS-5). Poisson regression was used to determine the prevalence ratio (PR) of screening depressive symptoms according to individual and abusive experience covariates: sex, age group, cohabitation, perceived social support, chronic diseases, functional status, violence type, perpetrator, and number of conducts. Women (PR = 1.18,

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95% confidence interval [CI] = [1.04, 1.35]) individuals perceiving low social support level (PR = 1.36, 95% CI = [1.16, 1.60]) and with long-term illness (PR = 1.17, 95% CI = [1.02, 1.33]) were found to be associated with increased risk for screening depressive symptoms. In regard to abusive experience, only the number of abusive conducts increased the PR (PR = 1.07, 95% CI = [1.05, 1.09]). Routine screening for elder abuse should include psychological well-being assessment. Interventions toward risk alleviation for both mental health problems and elder abuse should target women perceiving low social support level and with long-term illness.

Keywords

elder abuse, vulnerability to abuse, depressive symptoms, domestic violence

Introduction

Elder abuse has for the past 40 years been gaining public, state, and scientific attention (Lachs & Pillemer, 2004). It refers to “a single, or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person” (World Health Organization [WHO] & The International Network for the Prevention of Elder Abuse [INPEA], 2002, p. 9). Common types of elder abuse include physical, emotional, sexual and financial abuse, and neglect (Acierno et al., 2010; Biggs, Manthorpe, Tinker, Doyle, & Erens, 2009).

Recognized as an important public health issue, elder abuse has been associated with adverse health and social outcomes (Acierno et al., 2010; Biggs et al., 2009; Comijs, Penninx, Knipscheer, & van Tilburg, 1999; Dong, Beck, & Simon, 2010). Often studied correlates include psychological well-being, of which depression or depressive symptoms are assumed to be of importance (National Research Council, 2003; Roepke-Buehler, Simon, & Dong, 2015; Sirey et al., 2015).

Elder abuse prevalence studies show an association between elder abuse outcome and depression/depressive symptoms. Prevalence estimates of clinically diagnosed depression has been found to be higher in victims in comparison with nonvictims. In a study by Dyer, Pavlik, Murphy, and Hyman (2000), the proportion of older adults diagnosed with depression—based on *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; American Psychiatric Association, 1994) criteria—was significantly higher for abused older adults (5.6%) compared with nonabused (4.0%).

Depression or depressive symptoms, measured by standardized scales, have also been studied as correlates to elder abuse. In a study by Roepke-Buehler and colleagues (2015), the proportion of older adults with a record of

documented abuse and/or neglect who were “depressed” (defined by a score ≥ 4 in the Center for the Epidemiological Study of Depression Scale [CES-D]) ranged from 28% to 37%, compared with 18% to 20% of older adults without any documented abuse or neglect. In a population of three Chinese rural communities, 72.5% of abused older adults screened positively (score ≥ 5 in the 15-question Geriatric Depression Scale [GDS-15]) compared with 29.4% nonabused older adults (Wu et al., 2012). Similar results were observed in a community-dwelling Chinese population, where 24.8% of abused older adults were found to be depressed (score ≥ 3 in the GDS-5) compared with 6.8% of nonabused older adults (Dong, Simon, & Gorbien, 2007).

Other cross-sectional studies have compared the proportion of depressed older adults who reported elder abuse, compared with nondepressed. A national elder abuse study in the United Kingdom found that abuse was more prevalent among older adults indicated as suffering from depression (score ≥ 3 in the CES-D 8) for both men (3.6% vs. 0.6%) and women (7.8% vs. 2.2%; Manthorpe et al., 2007). Another study targeting older adults from eight rural villages in Spain found that participants with suspected depression (score ≥ 2 in the GDS-5) presented a higher percentage of suspected psychosocial (19.7% vs. 12.0%) and financial abuse (7.1% vs. 3.0%; Garre-Olmo et al., 2009).

The only longitudinal study examining depression as a risk factor for elder abuse did not find depression to be significantly associated with increased risk for reported elder abuse and neglect (Lachs, Williams, O’Brien, Hurst, & Horwitz, 1997).

Overall, the studies’ results present a higher proportion of individuals screening positively for depressive symptoms in comparison with depression. A higher prevalence of depressive symptoms, without fulfilling a psychiatric disorder diagnosis, has been reported within the older adult population (WHO, 2012).

Other research findings also show an association between the presence of abuse and higher rates of self-reported emotional distress (Cooper et al., 2006), psychological distress (Comijs, Penninx, Knipscheer, & van Tilburg, 1999), poorer mental health (Naughton et al., 2012), and feelings of loneliness (Lowenstein, Eisikovits, Band-winterstein, & Enosh, 2009) in victims.

Depressed older adults may be more susceptible to vulnerability and dependence, which can increase the risk of abuse, whereas nondepressed older adults may also be at risk of developing the disorder if they experience some form of abuse (Dong et al., 2010; Sirey et al., 2015).

In addition, abuse can have a more serious impact in victims already experiencing depression/depressive symptoms. Even though effects of abuse and neglect on older adults vary according to individuals’ resources and coping strategies (Comijs, Penninx, Knipscheer, & van Tilburg, 1999), depression or depressive symptoms increase the vulnerability to emotional or psychological consequences (Choi & Mayer, 2006; Sirey et al., 2015).

The cross-sectional nature of most research hinders the development of causal inferences, given that only the association between these two variables is studied. Notwithstanding, researching correlates of elder abuse are an important first step, and available data clearly present elder abuse and depression/depressive symptoms conjoint presence as something common (Johannesen & LoGiudice, 2013; National Research Council, 2003).

This study proposes to an in-depth analysis of the relationship between depressive symptoms and elder abuse, by examining both characteristics of the individuals and characteristics of the abusive experience. Focusing the analysis only on older adults self-reporting abuse, results can indicate which of those characteristics relate, more specifically, with the presence of depressive symptoms.

The present study was designed to (a) estimate proportion of older adults self-reporting elder abuse who screened positive for depressive symptoms in accordance to abbreviated version of the Geriatric Depressive Scale (GDS-5); and (b) examine whether individual characteristics and/or characteristics of abusive experiences aspects correlate with self-reported depressive symptoms among a convenience sample of older adults who have self-reported elder abuse.

Method

A secondary data analysis of the Aging and Violence (2011-2014) cross-sectional study (Gil et al., 2015) was performed. The study included a survey targeting self-reported older adult victims who were identified and referred by project partner institutions. Data were collected between November 2011 and March 2013.

Setting and Sampling

Data were collected from a convenience sample and were obtained from four institutions: a nongovernmental organization (NGO) aimed at the support of domestic violence victims, the welfare state organization, the security police institution, and a forensic and legal medicine institute.¹ Trained professionals working in these institutions implemented a structured questionnaire to all eligible older adults who were willing to participate in the study and wanted to report their abusive experience to a competent organization. Between November 2011 and March 2013, participants completed face-to-face interviews conducted in one of four different institutions. The institutions' professionals carried out the interviews. Further developments on study design can be found in previous publications (Gil et al., 2015; Gil, Santos, & Kislaya, 2015).

Participants

Participants were victims of elder abuse who were enrolled in a victims' survey in the Portuguese Aging and Violence study. The target population comprised community-dwelling individuals aged 60 years and above who had been living in Portugal for at least 12 months and who came to one of the partner institutions to report violence perpetrated by someone close. Inclusion criteria was age (>59 years); living in Portugal for the past 12 months; living in private households (i.e., not being institutionalized); reporting violence perpetrated by family members, caregivers, or members from the informal social network; and being able to understand and answer questions. The final sample consisted of a total of 510 individuals who reported being victims of abuse.

Study Variables

The structured questionnaire included demographic questions, health and functional status, social and economic variables, and questions assessing physical, sexual, psychological, or financial violence and neglect.

The questionnaire was structured as a series of questions on the diverse topics and included three standardized measures on functional status, depressive symptoms, and violence.

Perceived social support was assessed by asking participants, "do you have enough people who you may ask for help and support when you encounter problems?" using a 5-point scale (1 = *lot people I can rely on*; 2 = *enough people I can rely on*; 3 = *I do not know if people will help when I'm in need*; 4 = *few people I can rely on*; and 5 = *no one I can rely on*).

Self-reported functional status was assessed through The Katz Activities of Daily Living (ADL) scale that measures limitations in an individual's ability to perform basic self-care tasks (Katz, 1983). It consists of six items, and an ADL score is created by adding the individual items (range: 0-6).

Depressive symptoms were assessed with the short version of the self-report screening scale GDS. The GDS, originally developed with 30 different items by Yesavage (1991), has been validated in shorter versions. The GDS-5 has been validated in the United States (Rinaldi, Mecocci, Benedetti, & Ercolani, 2003) and Spain (Martínez de la Iglesia et al., 2005) with reported high sensitivity (94% in the United States and 81.1% in Spain) and specificity (81% in the United States and 73.2% in Spain) values. Respondents are asked to indicate whether they have experienced the described symptoms during the past week using the yes/no format. It consists of five dichotomous response items assessing mood and social behavior. Depressive symptoms were defined as two or more positive answers to the five screening questions:

(a) feelings of satisfaction with life; (b) feelings of often getting bored; (c) feeling a sense of helplessness; (d) wanting to stay home often instead of going out; (e) and feelings of worthlessness. Similarly, to the Spanish and American studies of the scales validity, the cutoff point was taken as 2 or more positive responses (to Items 2 to 5) and/or negative response to Item 1.

The violence questions were adapted from the instrument of the New York Elder Abuse Prevalence Study (Lifespan of Greater Rochester, Weill Cornell Medical Center of Cornell University & New York City Department for the Aging, 2011). Violence encompassed 12 violent behaviors distributed within distinct types of violence and one open question that covered other actions not covered in the questionnaire. Respondents were asked about the occurrence (yes/no), frequency (1 time, 2-10 times, and >10 times), and perpetrator of each of these behaviors during the past 12 months. Financial abuse included (a) forcing to give legal rights, (b) stealing or using property beyond the consent of its owner, (c) undue household appropriation, and (d) not contributing to the household expenses. Physical abuse was assessed through three different behaviors: (a) physical aggression (e.g., hitting, pushing, etc.), (b) locking or limiting the access to the household, and (c) hindering of speaking or meeting with other persons. Three concepts were also encompassed in the evaluation of psychological abuse: (a) threatening; (b) verbal aggression, insulting, humiliating; and (c) ignoring or refusal to talk. Sexual abuse and neglect were each evaluated by one single question. The measurement of sexual abuse included any unwelcome sexual advances, requests for sexual favors, and other verbal or physical actions of a sexual nature. Neglect was measured by the refusal or absence of acting or caring for someone, to whom help was usually given. While a onetime occurrence of financial, physical, or sexual conduct was considered a positive response to abuse; neglect and psychological abuse was recorded if a person experienced more than 10 incidents in the previous 12 months. The three included abuse variables are violence type (financial, physical, psychological, and polivictimization), perpetrator (partner/spouse; descendants and other relatives and nonrelatives), and number of abusive behaviors.

Focus group and semistructured interviews were used to evaluate and design the questionnaire, namely, in terms of ordering of the questions, redefine and rephrase the questions and assure that response options in the closed questions were exhaustive and mutually exclusive. For further developments, please see Gil and colleagues (2015).

Data Analysis

To assess the GDS-5 scale validity and reliability, Cronbach's alpha and exploratory factorial analysis by tetrahoric correlations was conducted.

Tetrahoric correlations were used because they are more appropriate to evaluate dichotomous variables (Wherry, 1984). Exploratory factorial analysis was done for the five items of the scale, followed by the unrotated (one-factor) extraction, considering the unifactorial structure of the scale.

Descriptive analyses of depressive symptoms are presented, namely frequencies and percentages for the individual questions and for the overall scale score. Sociodemographic, socioeconomic, health variables, and abuse variables are described for the depressed and nondepressed victims of elder abuse.

For the analysis, a dichotomous variable was created for functional status (not reliant on help with ADL and reliant on help with ADL for at least one activity), and social support variable was defined in three categories (plenty; few or enough, and no one available to help if needed).

Pearson's chi-square test or Fisher's exact test were conducted to examine the relationship between depressive symptoms and both the victims and the abuse experience characteristics. Finally, analysis of self-reported depressive symptoms using dichotomous outcomes was conducted. Some authors in the medical and the public health literature indicate that, when evaluating not so rare outcome events, it is better to estimate prevalence ratio (PR) because a high prevalence rate could overestimate the odds ratios (OR) and increase the difference between PR and OR (Aguiar & Nunes, 2013; Deddens & Petersen, 2008). Hence, PR estimation by Poisson regression with robust error variance was conducted. Depressive symptoms were examined as the dependent variable. The independent variables were (a) individual characteristics and (b) abusive experience characteristics. Individual characteristics included sex, age groups, civil status, cohabitation, perceived social support, chronic disease, and functional status. Abuse experience characteristics included violence type, perpetrator, and number of abuse occurrences.

To select the covariates for the regression model, the significance-testing approach was used (Greenland, Daniel, & Pearce, 2016). A bivariate analysis was performed for all the independent variables, and these were included in the final model if the p value was less than .051. The final model controlled for abuse experience and individual characteristics variables as confounders. Statistical analyses were all carried out using Stata®.

Ethical Considerations

Ethical approval was obtained for the survey protocol from the ethics commission of the Portuguese National Health Institute Doutor Ricardo Jorge and the National Data Protection Commission. All participants were required to sign an informed consent after the interviewer (institutions trained professionals) presented the study's aims, methods, and potential risks and benefits.

Results

Sample Characteristics

Characteristics of the Aging and Violence victims' survey sample are presented in Table 1. Most participants were female (76.1%) and 49.8% were aged between 60 to 69 years. More than half were married (61.5%) and lived in their own house (66.5%) with partner or with partner and children (75.9%).

Depressive Symptoms (GDS-5)

Table 1 also shows the prevalence of depressive symptoms accordingly to the GDS-5 cutoff score. The GDS-5 scale presented acceptable psychometric properties. Cronbach's alpha coefficient was 0.72. The tetracoric correlations presented positive values ranging between 0.47 and 0.72. Using principal factor analysis, one factor emerged (eigenvalue of 1.83) accounting for 62% of overall variance. All five items loaded above 0.53.

Of the 510 self-reported victims of elder abuse, 351 answered positively to two or more items on the scale, indicating the presence of depressive symptoms of 78.7% of the sample. More than half of the sample (66.3%) reported three or more depressive symptoms, and almost half (46.8%) screened positive for four or five depressive symptoms. Most common depressive symptoms were feeling bored (79.3%), feeling dissatisfied with life (68.7%), and feeling helpless (65.1%). The two least frequent items were the following: prefer to stay home rather than going out and doing new things (53.5%), and feeling worthless (35.4%).

Violence

Of all the five types of violence assessed, older adults referred more frequently physical abuse (79.3%), followed by financial (68.7%) and psychological abuse (65.1%), neglect (53.5%), and sexual abuse (35.4%; Table 1). Most of the older adults reported the co-occurrence of multiple types of abuse (74.1%), followed by only physical abuse (18.8%), only psychological abuse (5.3%), only financial abuse (1.6%), and only neglect (0.2%).

Co-occurrence of abusive behaviors could be positively reported up to 12—the total number of abuse experienced questions. The higher number of co-occurring behaviors reported by the same older adult was 10 occurrences. Violence seems to be essentially perpetrated by both partners/spouses (48.2%) and descendants (children and grandchildren—50%). Other relatives and nonrelatives were only appointed as responsible in 1.8% of the cases.

Table 1. Distribution of the Participants According to Their Sociodemographic Characteristics, Health Variables, and Reported Violence Types.

	%
Sex	
Women	76.1
Men	23.9
Age groups	
60-69	49.8
70-79	35.3
80+	14.9
Civil status	
Single	3.0
Married/civil union	61.5
Divorced/separated	11.6
Widow	23.9
Cohabitation	
Alone	10.4
Couple or couple with children	75.9
Relatives	12.7
Only nonrelatives	1.0
House type	
Rented	22.7
Own house	66.5
Relatives house	8.1
Other situation	2.7
Perceived social support (enough people to rely on)	
Plenty	14.7
Few or enough	65.5
No one available	19.8
Chronic disease	
Yes	76.3
No	23.7
Help in activities of the daily living	
Yes	77.0
No	23.0
Depressive symptoms	
Yes (GDS-5 \geq 2)	78.7
No (GDS-5 $<$ 2)	21.3
GDS-5 items	
Feeling dissatisfied with life ^a	68.7
Feeling bored	79.3
Feeling helpless	65.1

(continued)

Table 1. (continued)

	%
Prefer to stay home, rather than going out and doing new things	53.5
Feeling worthless	35.4
Violence types	
Financial	68.7
Physical	79.3
Psychological	65.1
Neglect	53.5
Sexual	35.4
Multiple types	74.1

Note. GDS = Geriatric Depression Scale.

^aInverted item.

No significant differences were found ($p = .242$) for the distribution of reported abuse types by gender: 76% women and 68% men reported multiple types; 16.8% women and 25% men reported only physical; 5.2% women and 5.7% men reported only psychological; and 1.8% women and 0.8% men reported only financial abuse. Looking at the individual distribution of each type of abuse, differences were only observed for psychological and sexual abuse. Women reported to have experience more frequently psychological abuse (72.7% vs. 52.8%) and only women reported any occurrence of sexual abuse (9.8% vs. 0.0%).

Prevalence Ratio for Positively Screening Depressive Symptoms

Table 2 presents the PRs and p values for the individual models predicting positive screening for depressive symptoms for each of the possible independent variables assessed. Of the seven individual characteristics evaluated (sex, age groups, civil status, cohabitation, perceived social support, chronic disease and functional status), only three were found to be significantly related to depressive symptoms. Women, individuals perceiving not having anyone available to rely on if they need help, and individuals reporting at least one chronic disease were more likely to report depressive symptoms. All three violence variables were related with depressive symptoms. The likelihood of screening positive for depressive symptoms was higher in victims of multiple types of violence, and lower in older adults indicating descendants as perpetrators. An increase in the number of experienced abusive occurrences increased the likelihood of older adults reporting depressive symptoms.

Table 2. Bivariate Analysis for Predicting Positive Screening for Depressive Symptoms.

Independent Variables	Categories (Including Reference)	PR	95% CI	<i>p</i>
Sex	Men	1		
	Women	1.25	[0.89, 1.45]	.002
Age groups	60-69	1		
	70-79	0.99	[0.89, 1.10]	.801
	80 and more	1.03	[0.90, 1.18]	.701
Civil status	Single	1		
	Married/Civil Union	1.59	[0.90, 2.81]	.111
	Divorced/Separated	1.59	[0.89, 2.85]	.111
	Widow	1.58	[0.89, 2.82]	.117
Cohabitation	Alone	1		
	Couple or couple with children	1.12	[0.98, 1.77]	.097
	Relatives	1.08	[0.81, 1.46]	.359
	Only nonrelatives	1.12	[0.72, 1.88]	.556
Perceived social support (people to rely on)	Plenty	1		
	Few or enough	1.12	[0.93, 1.33]	.082
	No one available	1.40	[1.19, 1.65]	.000
Chronic disease	No	1		
	Yes	1.22	[1.09, 1.52]	.007
Needs help in activities of the daily living	Yes	1		
	No	0.99	[0.84, 1.18]	.954
Violence type	Financial	1		
	Physical	1.19	[0.58, 1.44]	.625
	Psychological	1.23	[0.58, 2.60]	.528
	Multiple types	1.71	[1.02, 2.17]	.048
Perpetrator	Partner/spouse	1		
	Descendants	0.89	[0.73, 0.99]	.043
	Others relatives and nonrelatives	0.97	[0.60, 1.01]	.107
Number of occurrences	1 or 2	1		
	3 or 4	1.38	[1.21, 1.57]	.000
	5 or 6	1.45	[1.26, 1.66]	.000
	7 or more	1.56	[1.37, 1.77]	.000

Note. PR = prevalence ratio; CI = confidence interval.

Table 3. Final Model: Covariates Predicting the Prevalence Ratio of Depressive Symptoms.

	PR	95% CI	<i>p</i>
Sex			
Men	1		
Women	1.20	[1.04, 1.36]	.007
Chronic disease			
No	1		
Yes	1.16	[1.02, 1.38]	.021
Perceived social support (people to rely on)			
Plenty	1		
Few or enough	1.08	[0.91, 1.28]	.385
No one available	1.33	[1.14, 1.58]	.000
Number of conducts			
1 or 2 conducts	1		
3 or 4	1.37	[1.20, 1.56]	.000
5 or 6	1.42	[1.23, 1.62]	.000
7 or more conducts	1.50	[1.32, 1.70]	.000

Note. PR = prevalence ratio; CI = confidence interval.

For the final model, all significant individual characteristics and significant violence variables were added: gender, chronic disease, social support, violence type, perpetrator, and number of occurrences. From this last set, only the number of abuse occurrences remained statistically significant. Hence, the final model (Table 3) includes four variables: gender, chronic disease, perceived social support, and number of abuse occurrences. The likelihood of screening depressive symptoms increased for women (20%), for those perceiving not having anyone available to rely on if they need help (33%), and for individuals reporting at least one chronic disease (16%). The increase of two violent behaviors increased between 37% and 50% the PR for depressive symptoms.

Discussion

Most of respondents screened positive for depressive symptoms considering both the GDS-5 cutoff of 2 (78.7%) and of 3 (66.3%). These estimates are higher than the usually indicated prevalence of depressive symptoms among community-dwelling older adults. Different studies indicate that clinically significant depressive symptoms are present in approximately 8% to 15% of community-dwelling older adults (Beyer, 2007; Blazer, 2003; Kraaij, Arensman, & Spinhoven, 2002).

The prevalence found in this study is easily accountable by the fact that the target population comprised only older adults self-reporting some form of domestic violence, group that usually presents higher rates of both depressive symptoms and depression (Beach et al., 2010; Burnes, Rizzo, & Courtney, 2014; Comijs, Pot, Smit, Bouter & Jonker, 1998; Cooper et al., 2006; Dong, Simon, Gorbien, Percak, & Golden, 2007; Manthorpe et al., 2007). A recent systematic review on elder abuse risk factors indicated older adult's psychiatric illness or psychological problems as a risk factor in five general population studies (Johannesen & LoGiudice, 2013). Furthermore, in most prevalence research studies depressive symptoms incidence and prevalence tend to be higher in studies using cutoffs on rating scales than in those using diagnostic criteria (Cole & Dendukuri, 2003). Similarly, on elder abuse studies, the prevalence of depression or depressive symptoms is higher when the outcome is measured by rating scales (Dong et al., 2007; Roepke-Buehler et al., 2015), rather than clinical diagnosis (Dyer et al., 2000).

The second objective was determining whether variables linked to individuals' characteristics or variables linked to an abuse experience would show the strongest PR for screening depressive symptoms among elder abuse self-reported victims. The obtained results show an association between individual sociodemographic and health status variables and self-reported depressive symptoms. Specifically, gender, perceived low social support, and the presence of at least one chronic disease all increased the risk of experiencing depressive symptoms. In the case of violence variables, the bivariate analysis showed that all three variables (type, perpetrators and number of abuse occurrences) were associated with positively screening depressive symptoms.

Results from the final model demonstrated that the relationship between individual characteristics and depressive symptoms remained significant after controlling for the other covariates. This suggests that the relationship between elder abuse and depressive symptoms may be better accounted by individual characteristics (i.e., gender, perceived low social support, and the presence of at least one chronic disease). Of the several factors associated with an increased risk of developing depression among older adults, gender (women), perceived social isolation, and comorbidities are among the usually identified variables (O'Neil, 2007). On the contrary, although violence variables were all significant in the initial bivariate analysis, only the number of abusive occurrences remained significant in the final model. In this study, the high density of violence (multiple occurrences), rather than abuse types or perpetrator, was found to be associated with the depressive symptoms of self-reported elder abuse older adults. Even though also including the frequency of each of the different occurrences (intensity), other studies suggest severity to be as key component of elder abuse (Burnes, Pillemer, & Lachs, 2017; De

Donder et al., 2016). In these studies, severity differentiates factors associated with elder abuse. It would be expected that different consequences are also related (Burnes et al., 2017; De Donder et al., 2016).

Furthermore, results indicate that the number of occurrences may have a stronger and direct effect on older adults' psychological well-being, whereas abuse type and perpetrator effects are shared with other individual factors, such as gender, social support, and having a chronic disease.

The results indicate the preponderance of individual characteristics on the likelihood of screening positive for depressive symptoms. All three variables have been linked consistently with the risk or vulnerability to elder abuse. The possible relationship between abuse, depression, and evaluated variables could be conceptualized as a complex array of relations.

Gender, poor physical health, and low social support have consistently been associated with increased risk of elder abuse (Johannesen & LoGiudice, 2013). In the case of gender, women are found to be at greater risk for depression (Cole & Dendukuri, 2003) and in some studies more at risk of reporting abuse (Johannesen & LoGiudice, 2013). Dong and colleagues (2010) examined the effect of social support on the association between depression and elder abuse and found that in men depression was no longer associated with increased risk, but remained a significant factor for women. Social support has been a recognized variable associated with quality of life and psychological well-being in older adults, and some studies have even suggested this variable to be an important buffer for the negative impact of elder abuse (Dong et al., 2010).

Overall, the results established that women with poor physical health status perceiving low social support and reporting several abuse occurrences had a higher risk of positively screening depressive symptoms. These results support the appointed gender inequalities in both elder abuse and in mental health; women with low social support and poor physical health are at risk for both outcomes. This might be particularly detrimental for women, since they are have increased vulnerability with aging and associated lowering status (Brozowski & Hall, 2004).

Elder abuse and depressive symptoms can increase the vulnerability to each of the other occurrences, given that elder abuse is associated with an increased risk of developing emotional and psychological distress and depression, whereas psychological distress and depression have been consistently associated with elder abuse.

In sum, independently of depressive symptoms being a cause, a consequence of elder abuse or both, these findings highlight that depressive symptoms may be more relevant among specific groups of abused older adults in comparison with others, and attention is to be paid to the number of occurrences involved in the abuse situation.

This study is not without limitations. First, this is a convenience sample of older adults reporting to four state and NGO institutions and may not be representative of the general, community-dwelling population. This may be particularly relevant, because the sampling method only captured victims asking for help in victim support services or presenting criminal complaints in judicial and criminal institutions. A population-base prevalence study has found that only a third of older adults reporting abuse at the hands of someone close have sought help (Gil et al., 2015). Second, the assessment of depression was not comprehensive and one cannot infer a depression diagnosis. Even though crucial to the development of epidemiological research studies, screening standardized instruments lack the rigorous approach of clinical diagnoses. The GDS-5 scale is one of the several short versions commonly used in studies targeting older adults (Almeida & Almeida, 1999; Rinaldi et al., 2003; van Marwijk et al., 1995), even though its results tend to present higher incidence and prevalence rates than those employed by other measures (Cole & Dendukuri, 2003).

In addition, due to the cross-sectional nature of the study, the assessment of the direction of the relationship between depressive symptoms and elder abuse cannot be determined. Third, the study excluded older adults with cognitive impairment, and fourth, it was based on self-report of older adults, which can be subject to recall bias.

Conclusion

Our findings expand prior studies in a number of ways. This study examines a population of self-reported domestic violence victims to evaluate depressive symptom outcomes with respect to both individual and violence characteristics. This information contributes to the global understanding of the relation between depressive symptoms and elder abuse.

Individuals' characteristics already known to be associated with higher prevalence rates of depressive symptoms of community-dwelling older adults may be more relevant to screen for depressive symptoms than violence type or perpetrator. The high density of abuse occurrences might better account for depressive symptoms in elder abuse.

This has important implications for research and elder abuse targeted detection, management, and prevention strategies.

Research focusing on elder abuse consequences must consider the severity of the phenomenon. Also, it should be further explored how individual characteristics might increase or decrease individuals' vulnerability to emotional and psychological consequences of elder abuse.

Women perceiving low social support levels with long-term illness should be targeted specifically as a risk group for both elder abuse and mental health

problems. Routine screening for elder abuse should include screening of depressive symptoms and psychological well-being, and intervention should be concomitantly adjusted. In addition to increasing vulnerability to abuse, depressive symptoms may also impact the decision-making capacity of older adults experiencing violence. Intervention programs must therefore be aware of the need to address the phenomenon as well as the older adults' ability to successfully respond to it.

Empowering women, promoting active aging strategies, and combating social exclusion could help lessen the risk of both elder abuse and depressive symptoms among older adults.

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