Abuse in Mexican Older Adults with Long-Term Disability: National Prevalence and Associated Factors

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OBJECTIVES: To determine the prevalence of self-reported abuse in elderly Mexican adults with long-term disabilities and to identify associated risk factors.

DESIGN: Secondary analysis of the Perception of Disability in Mexican Population 2010 survey.

SETTING: Mexico.

PARTICIPANTS: Individuals aged 60 and older with long-term disabilities without cognitive decline (N = 1,089).

MEASUREMENTS: The elder abuse variable was constructed from the 21 questions included in the survey that assessed the presence of physical, psychological, sexual, and financial exploitation. Independent variables included demographic characteristics, self-rated health, disability (number of functional domains or basic activities), multimorbidity, emotional symptoms, health resources used, and informal help.

RESULTS: The prevalence of elder abuse was 32.1%. The most frequent type of abuse was psychological (28.1%). Nearly 58% of respondents reported one type of abuse, 34% reported two types, and 8% reported more than three types. The most common combination of two types of abuse was psychological with financial exploitation. Variables associated with the presence of psychological, physical, and sexual abuse (conflict abuse) were age 80 and older, 9 or more years of education, unemployment, negative self-rated health, three or more disabilities, emotional symptoms, and history of hospitalization. Financial exploitation was associated with age 80 and older, being married or living with a partner, 9 or more years of education, unemployment, living in an urban area, negative self-rated health, three or more disabilities, emotional symptoms, and history of hospitalization.

CONCLUSION: The prevalence of abuse in elderly Mexican adults with long-term disabilities is high. Associated factors were level of education, number of disabilities, and health status. Further studies should explore the applicability of these results to other populations. **J Am Geriatr Soc 63:1594–1600, 2015.**

Key words: elder abuse; long-term disability; Mexico; population-based study

Abuse targeted at elderly adults has been recently studied in different countries because of demographic changes that have led to an aging population and an increase in the frequency of chronic degenerative diseases and disability. There is also a greater need during this stage of life for care that, in most cases, falls within the responsibility of the family.[1] Elder abuse has been defined as intentional actions that cause harm or create a serious risk of harm (whether or not harm is intended) to a vulnerable older person by a caregiver or another person who has a trust relationship with the older person. Many forms of elder abuse exist, including physical, sexual, and psychological abuse, as well as financial exploitation and neglect.[2]

The World Report on Disability 2011 emphasized that persons with disabilities are at greater risk of being exposed to abuse and that abuse has consequences for health and is a factor contributing to disability.[3] Furthermore, the European Report on Preventing Elder Maltreatment 2011 emphasized the importance of the prevention of elder abuse and noted the widespread prevalence of abuse against elderly adults in all countries.[4]

The likelihood of elder abuse increases when the person has a disability or cognitive impairment or is dependent.[4,5] There are some theories to explain these effects, one of which is the Social Exchange Theory, which explains interactions between people as a process of negotiated changes. It has been written that "power is synonymous with the dependence of one person upon another";[6] the person who is perceived to be contributing more to the relationship has the power advantage, and this person is able to manipulate the behavior of the dependent person.[7]

A longitudinal population study in women, in which elder abuse was assessed using the 12-item Vulnerability to Abuse Screening Scale (VASS), demonstrated a link between elder abuse and disability. After adjustment for age and area of residence, disability was associated with vulnerability, coercion, and dejection.[8]

Research findings at the population level have suggested that elderly adults at greater risk of abuse had health problems, disabilities, and greater dependence in activities of daily living (ADLs).[9,10] Disabilities and greater dependence in ADLs have also been linked to the more-frequent presence of "stress" in caregivers providing care to these older adults.[11]

Elderly people with physical and cognitive disabilities are at even higher risk because they have inherent limitations in ADLs that make them completely or partially dependent.[9] These persons need care, which makes them an additional burden for their families.[8,12] It was also reported that greater caregiver burden was a factor associated with the greater likelihood that older adults will suffer abuse.[11] Some persons with disabilities might be unable to defend themselves or to escape an abusive situation. They may be unable to report violence to legal and medical authorities and, even when they do, often find themselves ignored and their reports discredited.[13,14]

A previous study found that cognitive impairment, caregiver burden, economic problems, and dependence in ADLs were related to abuse in dependent elderly adults.[11] Another study reported that women with disabilities with poorer healthcare coverage and poorer health status had a greater frequency of self-reported abuse than those with better healthcare coverage and health status.[15]

In Mexico City, it has been reported that 10.3% of community-dwelling older adults were victims of abuse in the previous 12 months; 6.2% experienced psychological abuse, 3.3% physical abuse, 2.6% financial exploitation, 1% negligence, and 0.8% sexual abuse. The main factors associated with this problem were depressive symptoms, age 80 and older, female sex, subjective memory problems, self-rated poor health, and dependence in at least one ADL.[16]

According to the Population and Housing Census 2010 in Mexico, 26.3% of persons aged 60 and older reported having impairment in at least one of the six functional domains or basic activities (walking or mobility, visual, hearing, speech or communication, attention and learning, self-care), and the proportion of people with disabilities increased with age (60–64, 14.6%; ≥80, 51.1%).[17]

To understand the magnitude of elder abuse, it is useful to analyze the problem from a public health perspective, proposing strategies for prevention.[18]

In Mexico, the frequency, types, and factors associated with abuse of older adults with disabilities in a national sample are unknown. Therefore, the objective of this study was to determine the prevalence of self-reported abuse in elderly Mexican adults with long-term disabilities and to identify the associated risk factors.

METHODS

This was a cross-sectional study. Data from the national Perceptions of Disability in Mexican Population 2010 survey, conducted from October to December 2010 by the National Institute of Public Health (INSP) in coordination with the National Council for Persons with Disabilities (CONADIS), were analyzed. The general objective of the survey was to examine aspects of disability in Mexico based on a vision of universal recognition of human rights, and one of the specific objectives was to describe the situation of people who live with long-term disabilities in terms of health, work activity, education, cultural and recreational activities, and social environment.[19]

The sampling design of the survey was probabilistic, multistage, stratified, and clustered; the representation of the sample was national, urban, and rural.[19] In total, 5,397 households were visited (2,215 rural (<2,500 inhabitants), 1,099 urban (2,500–99,999 inhabitants), 2,083 metropolitan (≥100,000 inhabitants), and previously trained personnel administered four questionnaires (household characteristics, data from persons without and with disabilities, characteristics of the area where the persons with disabilities live) using a standardized methodology. Questionnaires regarding the household were first used for persons without disabilities. When a person with a self-reported disability was identified, the disability questionnaire was used (which included questions about abuse). Disability was measured according to questions that used the recommendations issued by the Washington Group, asking about disabilities in performing certain ADLs.[3] Finally, a questionnaire about information from the locality was used to determine the characteristics of access and the environment that persons with disabilities encountered. The ethics committee of the INSP approved the survey.

Elderly persons (≥60) with long-term disabilities were included in the analysis, which means that the physical condition was of long-standing duration (≥6 months) and caused daily limitations.

Variables Evaluated

Elder Abuse

The scale was developed according to expert consensus of the INSP and CONADIS and includes 21 questions that measure physical and psychological abuse and financial exploitation in the previous 12 months and, if present, how often these occurred. With regard to sexual abuse, the scale included questions regarding whether this abuse had happened at any time during the respondents' lives. The internal reliability of the scale, measured using Cronbach alpha, was good (0.86). Elder abuse was considered to be present when at least one of the 21 questions was answered positively (Appendix 1).

Self-Rated Health Status

Self-rated health was assessed by asking, "How would you describe your health today?" The question was answered using a Likert scale with five possible answers divided into three categories (good to very good, moderate, very poor to poor).

Disability performing ADLs was measured according to the number of self-rated disabilities (walking or mobility, visual, hearing, speech or communication, attention or

learning, self-care). The scale used accepted values of one, two, or three or more disabilities.

Multimorbidity

Multimorbidity was defined as the presence of two or more of diabetes mellitus, hypertension, arthritis, renal disease, asthma, tuberculosis, stroke, gastritis or gastric ulcer, colitis, and cancer.

Emotional Symptoms

Emotional symptoms were assessed using the question, "During the last 30 days, to what extent have you felt sad, blue, or depressed?" The answer was dichotomously interpreted (presence or absence).

Use of Health Resources

Respondents were considered to have used health services if, during the previous 12 months, they had used health services for doctor's appointments or had been hospitalized. In both cases, the response was dichotomously analyzed (yes vs no).

Other Social Support

Other social support was measured according to the number of children, relatives, and friends that, in the previous 12 months, had provided support. Respondents were asked about the persons who had supported them with advice, companionship, care, food, or money. This item was dichotomously analyzed (yes vs no).

Has a Primary Caregiver

Primary caregiver status was assessed with the question, "At home, do you receive assistance or personal care because of your difficulty?" If the answer was affirmative, the next question was the following: "In your home, who is the person that principally cares for you?"

Control Variables

Control variables included sex, age (dichotomized at 80 based on the average of the population), speaking an indigenous dialect (yes vs no), marital status (with vs without a partner), schooling (<10 vs ≥10 years, based on Mexican law that ensures at least 9 years of schooling), employment (work vs no work), and geographical area where the elder person lived (urban vs rural).

Analysis

Descriptive analysis of continuous variables was conducted using means and standard deviations. For categorical (dichotomous) variables, frequencies and percentages were estimated. A comparative analysis of the groups with and without elder abuse and chi-square test for independence were performed, as well as stratified analysis for variables that could be effect modifiers.

Logistic regression analysis was used to identify the factors associated with abuse. Odds ratios (ORs) and 95% confidence intervals (CIs) for each predictor variable were obtained from the regression models. Wald chi-square

statistics and P-values were used to evaluate the significance of individual model parameters, and the Hosmer-Lemeshow goodness-of-fit chi-square test was used to assess the overall fit of logistic models. Stata version 11.0 (Stata Corp., College Station, TX) was used for statistical analysis. Two likelihood ratio models were run based on DeLiema's classification.[20] The first included physical, psychological, and sexual abuse (conflict abuse), and the second focused on financial exploitation.

RESULTS

The Perceptions of Disability in Mexican Population 2010 survey obtained information from 1,653 persons aged 60 and older and had a nonresponse rate of 3.8%. This study included information from 1,089 (50.3% female, 49.7% male) individuals aged 60 and older with long-term disabilities. Participants reported the information themselves. (Cases that required a proxy informant were excluded.)

The prevalence of elder abuse was 32.1% (95% CI = 29.4–34.9%). The most prevalent type of abuse was psychological (28.1%, 95% CI = 25.4–30.8), followed by financial exploitation (11.9%, 95% CI = 10.0–13.9%), physical abuse (7.0%, 95% CI = 5.5–8.5%), and sexual abuse (2.5%, 95% CI = 1.6–3.4%) (Table 1). The simultaneous presence of two types of abuse was detected in 118 (33.7%, 95% CI = 28.7–38.7) cases. The most frequent combinations were psychological with financial exploitation (n = 81, 68.6%) and psychological with physical (n = 32, 27.1%). Persons with speech or

Table 1. Prevalence of Abuse in Older Adults with Long-Term Disabilities

Abuse	Persons at Risk		Prevalence
	Female	Male	
	n	n	n (%, 95% Confidence Interval)
Total abuse	548	541	350 (32.1, 29.4–34.9)
Psychological	548	541	306 (28.1, 25.4–30.8)
Physical	548	541	76 (7.0, 5.5–8.5)
Sexual	548	541	27 (2.5, 1.6–3.4)
Financial exploitation	548	541	130 (11.9, 10.0–13.9)
Number of types of abuse			
1	170	180	204 (58.3, 53.1–63.5)
2	170	180	118 (33.7, 28.7–38.7)
3	170	180	13 (3.7, 1.7–5.7)
4	170	180	15 (4.3, 2.2–6.4)
Disabilities			
Walking or mobility	475	468	315 (33.4, 30.4–36.4)
Visual	186	142	107 (32.6, 27.5–37.7)
Hearing	67	118	67 (36.2, 29.2–43.2)
Speech or communication	23	0	14 (60.9, 39.3–82.4)
Attention and learning	27	16	18 (41.9, 26.5–57.2)
Self-care	39	78	60 (51.3, 42.1–60.5)
Number of disabilities			
1	330	311	180 (28.1, 24.6–31.6)
2	181	181	130 (35.9, 30.9–40.9)
≥3	37	49	40 (46.5, 35.8–57.3)

Table 2. Comparison of Elderly Adults with Long-Term Disabilities with and without Abuse

Variable	Without Abuse, n = 739	With Abuse, n = 350	Chi-Square P-Value
	n (%)	n (%)	
Female	378 (51.2)	170 (48.6)	.23
Age			
60–79	665 (90.0)	272 (77.7)	<.001
≥80	74 (10.0)	78 (22.3)	
Speaks indigenous dialect	67 (9.1)	37 (10.6)	.25
Married or living with partner	365 (49.4)	190 (54.3)	.07
Education, years			
<10	699 (94.6)	279 (79.7)	<.001
≥10	40 (5.4)	71 (20.3)	
Unemployed	568 (76.9)	311 (88.9)	<.001
Living in an urban area	546 (73.9)	288 (82.3)	<.001
Self-rated health			
Very good or good	257 (34.8)	59 (16.9)	<.001
Moderate	394 (53.3)	200 (57.1)	
Very poor or poor	88 (11.9)	91 (26.0)	
Number of activity of daily living disabilities			
1	461 (62.4)	180 (51.4)	<.001
2	232 (31.4)	130 (37.1)	
≥3	46 (6.2)	40 (11.4)	
Multimorbidity (≥2 illnesses)	413 (55.9)	199 (56.9)	.41
Emotional symptoms	198 (26.8)	154 (44.0)	<.001
Doctor's appointment	580 (78.5)	277 (79.1)	.44
Hospitalization	75 (10.1)	54 (15.4)	<.001
Other social support	266 (36.0)	150 (42.9)	.02
Has primary caregiver	246 (33.3)	92 (26.3)	.01

Table 3. Characteristics of Primary Caregivers

Characteristic	Without Abuse, n = 246	With Abuse, n = 92	Chi-Square P-Value
Relationship, n (%)			
Spouse or partner	94 (38.2)	47 (51.1)	<.001
Child	92 (37.4)	42 (45.7)	
Brother or sister	7 (2.8)	3 (3.3)	
Grandchild	16 (6.5)	0	
Niece or nephew	22 (8.9)	0	
Other	16 (6.1)	0	
Demographic, social, economic			
Female, n (%)	182 (74.9)	78 (84.8)	.03
Age, mean ± SD	49.6 ± 14.4	54.7 ± 13.4	.004[a]
Caregiver lives with the elderly adult, n (%)	209 (86.0)	82 (89.1)	.29
Occupational status			
Employed, n (%)	166 (67.5)	56 (60.9)	.25
Stopped working to care for elder adult, n (%)	45 (18.3)	16 (17.4)	.25
No previous or present work, n (%)	35 (14.2)	20 (21.7)	.25
Hours/day spent caring for elderly adult, mean ± SD	11.3 ± 7.4	17.8 ± 9.2	<.001[a]

[a]Mann–Whitney U-test.
SD = standard deviation.

communication disabilities and self-care and attention or learning disabilities had the highest prevalence of abuse. The prevalence of abuse increased when the person had more than one difficulty. In the case of women, this trend was more pronounced in those who had three or more disabilities (Table 1).

When comparing the group without abuse with the group with abuse, statistically significant differences were found for age, schooling, employment, place of residence, self-rated health, number of disabilities, emotional symptoms, past hospitalization, proportion that received other social support, and proportion with a primary caregiver (Table 2).

Three hundred thirty-eight (31.0%) elderly respondents had a primary caregiver, and the percentage of abuse was lower in those who had a primary caregiver than those who did not. When the characteristics of the primary caregivers in the groups with and without elder abuse were analyzed, the results showed that, in the group with elder abuse, a spouse or children more often provided care, caregivers were predominantly female, the mean age of the caregivers was 5.1 years older (54.7 ± 13.4 vs 49.6 ± 14.4), and the mean number of hours per day that the caregiver reported spending on elder care was 6.5 hours more (17.8 ± 9.2 vs 11.3 ± 7.4) than in the group without abuse (Table 3).

The variables that were associated with conflict abuse (n = 332) in elderly adults with long-term disability were age 80 and older, more than 9 years of education, unemployed, negative self-rated health, two or more disabilities, emotional symptoms, and hospitalization during the previous 12 months. The probability of abuse was lower in elderly adults who reported that they had a primary caregiver. The variables associated with financial exploitation (n = 130) were the same as those associated with conflict abuse, except having a primary caregiver. In this case, married or living with a partner was also significant (Table 4).

DISCUSSION

Elder abuse in persons with disabilities is a frequent problem with serious consequences for the health and welfare of this group. The results of this study add to international investigations that have reported that persons with disabilities are at greater risk of being abused.[11,12] The current study revealed that the prevalence of this problem was three times as high in adults with disabilities as in the general elderly population in Mexico (32.1% vs 10.3%).[16] These figures were similar to those reported in the general population and in persons with disabilities in Taiwan (36.0% vs 9.8%).[21] These data suggest that elderly persons with disabilities are at greater risk of being victims of abuse, although little research in this population has been undertaken. A study performed in the United States reported that older adults with physical disabilities, such as in ADLs (dressing, eating, toileting, bathing), mobility (walking one block, walking across the room), or sensory function (vision, hearing), were

Table 4. Factors Associated with Abuse in Elderly Adults with Long-Term Disabilities

	Conflict Abuse	Financial Exploitation	Total Abuse
Variable	Odds Ratio (95% Confidence Interval) P-Value		
Sociodemographic			
Female	0.94 (0.68–1.31) .73	0.49 (0.30–0.80) .01	0.88 (0.63–1.22) .44
Aged ≥80	1.52 (1.01–2.31) .05	2.43 (1.39–4.25) .002	1.99 (1.31–3.02) .001
Married or living with partner	1.14 (0.82–1.57) .44	2.72 (1.65–4.48) <.001	1.30 (0.94–1.79) .12
>9 years of education	5.82 (3.58–9.46) <.001	5.77 (2.79–11.91) .001	4.98 (3.04–8.17) <.001
Employment (no work)	1.69 (1.09–2.63) .02	3.91 (1.54–9.93) .004	1.75 (1.13–2.73) .01
Lives in urban area	1.36 (0.93–1.97) .11	1.21 (0.69–2.14) .50	1.52 (1.04–2.20) .03
Self-rated health (reference very good or good)			
Moderate	1.97 (1.37–2.82) <.001	6.01 (2.81–12.83) <.001	2.06 (1.44–2.96) <.001
Very poor or poor	2.17 (1.35–3.51) .001	3.94 (1.77–8.80) .001	2.57 (1.59–4.14) <.001
Number of activity of daily living disabilities (reference 1)			
2	1.89 (1.35–2.63) <.001	3.64 (2.01–6.57) <.001	1.87 (1.35–2.60) <.001
≥3	2.91 (1.74–4.85) <.001	12.31 (5.87–25.81) <.001	2.99 (1.79–5.00) <.001
Emotional symptoms	1.56 (1.13–2.14) .01	2.32 (1.48–3.65) <.001	1.59 (1.16–2.19) .004
Hospitalization	1.58 (1.01–2.47) .04	2.16 (1.20–3.89) .01	1.89 (1.22–2.93) .004
Social support and home care			
Has a primary caregiver	0.53 (0.37–0.75) <.001	1.43 (0.89–2.31) .15	0.52 (0.37–0.74) <.001
Other social support	1.10 (0.81–1.49) .56	1.47 (0.94–2.31) .09	1.34 (0.99–1.81) .06

more likely to experience verbal (OR = 1.13) and financial mistreatment (OR = 1.08).[22]

In the current study, psychological abuse was more frequent than the other types of abuse (physical, sexual, financial), consistent with the results of another study undertaken in Mexico but conducted in a general population of elderly adults.[16]

Regarding the factors associated with elder abuse, the results reported in the current study were similar to those reported in the literature, such as age, having more limitations, and negative self-rated health,[23] as well as psychological problems and greater functional dependence.[9]

A systematic review reported that, in five studies, ethnicity was a risk factor for financial, physical, and sexual abuse. These studies included African Americans, non-whites, and a Canadian aboriginal population.[9] This result was contrary to the current results because, in Mexico, speaking an indigenous language was not associated with abuse, and the possibility of abuse decreased when elderly adults reported living in a rural area. This difference might have occurred because these studies were conducted in different social and cultural contexts. In Mexico, in rural areas, elderly adults are highly regarded.[24]

Regarding education, the results of the current study showed that elder abuse was higher in respondents with more education, contrary to what other researchers have reported[13] but consistent with a study conducted in the United States in a population with similar cultural characteristics.[20] This suggests that people with more education are more likely to recognize and report that they experience abuse, although this finding should be confirmed in studies with this objective.

Previous studies have found that the absence of a support network or a poor informal support network for senior citizens and their caregivers can increase the likelihood that caregivers commit abuse.[25] Social support is considered to be a mediator of abuse in elderly persons. The results of this study showed that having a primary caregiver was a protective factor against conflict abuse, but in persons with other social support the likelihood of abuse was greater. This suggests that it is necessary to measure the informal social support in a clearer manner to elucidate the number of persons who provide substantial care and the number of secondary caregivers.

Other studies have previously shown a relationship between depressive symptoms and physical abuse.[16,26,27] The results of the current study supported this finding. A possible explanation for this relationship is that anxiety and depression can exacerbate self-negligent trends and changes in recent memory, which can promote a state of greater vulnerability for abuse, although a cross-sectional study conducted in a rural area found the opposite association.[28] Therefore, this finding also requires in-depth analysis.

This study provides useful information, but it had some limitations that should be considered in future studies. For example, it was not possible to compare cases with and without long-term disabilities and their relationships with elder abuse. Another limitation related to addressing problems in persons with cognitive impairment. Although persons with cognitive impairment are at greater risk of abuse than persons with physical disability, in this study, it was not possible to analyze this association because a valid instrument to detect the presence of abuse in persons with dementia in the Mexican population was not available. For this reason, the results of this study cannot be extrapolated to this population.

Despite these limitations, the results obtained are valuable because the sample was nationally representative, and the study addressed a problem of public health in a vulnerable population. In addition, identifying factors associated with elder abuse could help in planning strategies for prevention and early detection.

In Mexico, the prevalence of elder abuse with disabilities is high, suggesting that it is necessary to improve recognition of abuse as a public health concern. Also, it is important to improve research to understand the factors

involved and to develop strategies for prevention and early detection that could decrease the prevalence of abuse. It is important for healthcare professionals, social service agencies, and other disciplines to understand the risk of abuse of elderly adults with long-term disability. Further studies should explore the applicability of these results to other populations.

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APPENDIX

Table A1.   Abuse Scale from the National Survey of Disability in Mexican Population

Have you been treated in an aggressive or violent manner?	Yes ☐☐ No ☐☐
Has anyone said things to you and made you feel bad?	Yes ☐☐ No ☐☐
Has anyone disparaged or disrespected you?	Yes ☐☐ No ☐☐
Have you been humiliated in front of others?	Yes ☐☐ No ☐☐
Have you been insulted?	Yes ☐☐ No ☐☐
Have you been threatened?	Yes ☐☐ No ☐☐
Has anyone destroyed your things?	Yes ☐☐ No ☐☐
Has anyone made you feel afraid?	Yes ☐☐ No ☐☐
Have you been forbidden to go out or be visited?	Yes ☐☐ No ☐☐
Have your decisions not been respected about important events?	Yes ☐☐ No ☐☐
Has anyone invaded your privacy?	Yes ☐☐ No ☐☐
Have you been controlled or not been given money?	Yes ☐☐ No ☐☐
Has anyone managed or does anyone manage your money without your consent?	Yes ☐☐ No ☐☐
Have you been forced to sign or put your fingerprint on any document?	Yes ☐☐ No ☐☐
Have you been forced to sign or put your fingerprint on any document that you do not understand?	Yes ☐☐ No ☐☐
Has anyone decided the manner in which your money is spent?	Yes ☐☐ No ☐☐
Have you been forced to sell any belongings without your consent?	Yes ☐☐ No ☐☐
Have you been forced to work even if you did not want to?	Yes ☐☐ No ☐☐
Have you been forced to do things against your will?	Yes ☐☐ No ☐☐
Has anyone stolen your personal documents (birth certificate, personal identification)?	Yes ☐☐ No ☐☐
Has anyone touched you sexually or has anyone forced you to do anything sexual without your consent?	Yes ☐☐ No ☐☐

The overall Cronbach alpha of this scale was 0.863.