A Descriptive Study of Sex Differences in Psychosocial Factors and Elder Mistreatment in a Chinese Community Population

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——————— SUMMARY ———————

Background: Elder mistreatment (EM) is a global health issue, and prior studies have indicated that EM is common in urban Chinese populations. The objective of this study was to examine sex differences in socio-demographic and psychosocial factors associated with EM in a community-dwelling population.
Methods: A cross-sectional descriptive study of 141 women and 270 men aged ≥60 years was performed in a community-dwelling Chinese population. The variables collected included EM, sociodemographic character-istics, and psychosocial measures of depression, loneliness and social support.
Results: Overall, 59 (41.8%) women and 86 (31.9%) men had experienced EM. For women, there were no major differences in the sociodemographic characteristics between those with and without EM. For men, those with EM were more likely to be younger, have a lower education level and income, and have more children. Comparisons of women and men with and without EM indicated that both women and men with EM had higher levels of depression and loneliness and lower levels of social support. Among women and men with EM, women had lower levels of education, and were less likely to be married, less likely to live in the city, more likely to stay at home, more likely to feel helpless, and more likely to need companionship and someone to listen to.
Conclusion: The sociodemographic characteristics associated with EM differed between men and women. Lower levels of psychosocial measures were associated with EM in both men and women. Among those with EM, there are significant sex differences across these sociodemographic and psychosocial factors. [International Journal of Gerontology 2008; 2(4): 206–214]

Key Words: China, elder abuse, population, psychosocial factors, sex

Introduction

Elder mistreatment (EM) is an important global public health issue. The World Health Organization has de-clared that EM is a violation of the human rights to be safe and free from violence[1]. Evidence in the United States indicates that 2 million elders suffer from mis-treatment annually, and that there are sex differences in EM[2]. Recent data from the US Adult Protective Services Agencies suggest a trend toward increased reporting of EM[3]. More importantly, prior studies indi-cate that EM predicts adverse health outcomes[4,5], yet we still have only rudimentary knowledge about this pervasive global issue. The US National Research Council concluded that rigorous research is needed in all aspects of EM, especially among different sex and racial/ethnic groups[6]. Unfortunately, our current understanding of EM is limited, especially among Chinese populations.

China is the most populous country in the world. Over recent years, China has experienced rapid economic growth and increased life expectancy[7]. Population estimates suggest that by the year 2050, one-quarter of the world's elderly population will be Chinese[8]. Social changes brought about by industrialization and urbanization have posed great challenges to traditional values and Chinese families, and multigenerational Chinese households are facing immense psychological and social burdens[9]. Furthermore, the rapidly widening socioeconomic gaps in China have brought remarkable psychological stress to Chinese families, especially the aging population. These challenges fundamentally threaten the fragile social support system for older men and women. Psychological and social support factors appear to have special relevance to the aging population, because previous reports have suggested that lower levels of these factors are associated with significant morbidity and mortality[10–12]. A greater psychological burden and lack of social support may reflect vulnerability and dependency, which in turn may strongly contribute to the increased risk for EM.

A prior Chinese study[13] suggested that women are more likely to report EM than men. In China, there are significantly more older women than older men, and life expectancy is higher for women[14]. In addition, evidence suggests that older women are more likely to have a lower socioeconomic status, to be much more likely to be financially dependent on others, and to need higher levels of social support[14,15]. Furthermore, compared with their male counterparts, older women have lower levels of physical and cognitive function and self-reported health[15]. However, most prior research has not paid sufficient attention to sex differences and EM, and there is incomplete knowledge about sex differences in the sociodemographic and psychosocial factors associated with EM. This gap in our knowledge has prevented comprehensive understanding of EM and hampered the development of sex-targeted prevention and intervention strategies to combat the global public health issues of EM.

The objectives of this study were: (1) to describe and compare differences in the sociodemographic and psychosocial characteristics associated with EM separately for men and women; and (2) to describe and compare the differences in these characteristics between mistreated men and women in a community-dwelling Chinese population.

Subjects and Methods

Setting
This study was carried out in 2005 at a major medical center in Nanjing, China. The details of this study were described previously[13]. Briefly, the study population consisted of patients aged ≥ 60 years who presented themselves to the medical center. The subjects were identified in four different medical clinics. When they registered with the clinic nurses, they were asked if they would like to participate in the study. Research assistants who spoke Mandarin as well as the local Nanjing dialect then approached the patients and explained the purpose of the study in detail. Subsequently, the subjects were asked whether they would provide consent to participate in the study. A total of 141 male and 270 female subjects agreed to participate. This study did not invite patients who lacked the ability to give informed consent or those with cognitive impairment (according to family members and/or clinic nurses). The survey was self-administered and did not involve anyone accompanying the elderly patients. Research assistants were available to answer any questions.

The study subjects were asked to complete a survey that had been translated from English into simplified Chinese, and the accuracy of the translation was repeatedly assessed to ensure that the original meanings of the questions were captured. The translation was confirmed by hospital officials who were translators and by the first author of this report, who is bilingual and bicultural in Chinese and English.

EM assessment
The EM screening questions used in this study were taken from the original Vulnerability to Abuse Screening Scale (VASS)[16,17]. We chose the questions based on the available evidence for brief screening questions suitable in outpatient settings without the need to involve the caregivers. Questions were asked about ever being: (1) afraid of anyone; (2) hurt or harmed by anyone; (3) called names; (4) forced to do things; (5) neglected or confined; (6) and/or exploited of personal or financial belongings without permission. These questions demonstrated high face validity for mistreatment, and moderate to good construct validity[16]. The VASS instrument measured domains of dependence, dejection, vulnerability and coercion, and yielded a Cronbach α of 0.31–0.74, indicating moderate to good internal

reliability and appropriateness for a brief screening instrument[16].

The study further considered the issues of EM in Chinese culture and the translational meanings of the previously asked questions. The study investigators felt that it was important to be more specific, and to explore the screening questions for physical, sexual and psychological abuse as well as financial exploitation in more detail. Additional direct questions were asked regarding: (1) being hit, kicked, slapped, pushed, etc.; (2) being insulted; (3) being abandoned; (4) having someone take their money or belongings without permission; (5) and/or being subjected to any non-consenting sexual contact of any kind. The study investigators felt that positive answers to any of these extremely direct questions usefully supplemented the original screening questions for EM in China. For the purposes of this study, positive screening on any of the above questions in the survey was considered self-reported EM.

Psychosocial factor assessment

Depression screening was assessed based on the five-question Geriatric Depression Scale[18]. Questions were asked regarding feelings of: (1) satisfaction with life; (2) boredom; (3) helplessness; (4) wanting to stay at home; (5) and/or worthlessness. Depression was defined as three or more positive answers to the five screening questions. A prior study demonstrated that this instrument has good sensitivity (94%), specificity (81%), and positive (81%) and negative (94%) predictive values[19]. This scale had a positive likelihood ratio of 4.92 and a negative likelihood ratio of 0.07. It also had good inter-rater reliability ($k=0.88$) and test–retest reliability ($k=0.84$).

Loneliness was assessed using a validated three-question survey[20], derived from the R-UCLA Loneliness Scale. Questions were asked regarding feelings of: (1) lacking companionship; (2) being left out of life; (3) and/or being isolated from others. The α coefficient of reliability for this three-question survey was previously shown to be 0.72 with internal consistency of 0.82, indicating good reliability and internal validity[20].

Social support was assessed using a validated Social Support Instrument[21,22]. Questions were asked regarding availability of someone to: (1) listen and talk to; (2) get advice from; (3) show love and affection; (4) help with daily chores; (5) provide emotional support; (6) and/or trust and confide in. The Social Support Instrument has demonstrated acceptable internal consistency and

was shown to be positively correlated with other social support instruments[23,24]. These previous studies indicated that the Cronbach α was 0.88, and the inter-item correlation was significant between all items and item total scores.

Statistical analyses

The sociodemographic and psychosocial variables were separated by sex and EM status. Descriptive sociodemographic and psychosocial variables were constructed and analyzed for the participants with and without EM by sex. First, comparisons were made using the χ^2 test or t test as appropriate for the EM status for men and women separately. Second, comparisons were made using the χ^2 test or t test as appropriate, only for those men and women who had experienced EM. Data analyses were performed using SAS version 9.0 (SAS Institute, Cary NC, USA)[25].

Results

A total of 141 women and 270 men completed the survey. Among these, 59 women (40.7%) and 86 men (59.3%) reported experiencing EM ($\chi^2=5.03$, $df=1$, $p=0.025$). Among women, the mean ages were 69.8 ± 6.8 years for those who were mistreated and 68.6 ± 5.9 years for those without mistreatment ($t=-1.04$, $df=139$, $p=0.302$). There were no significant differences across the levels of education, income, number of children, and place of residence (Table 1). Women who were mistreated were more likely to be currently unmarried (55.9%) compared with those without mistreatment (75.6%) ($\chi^2=5.45$, $df=1$, $p=0.019$). Among women, there were significant differences across all psychosocial measures of depression, loneliness and social support between those with and without mistreatment (Table 1).

Among men, the mean ages were 68.5 ± 6.9 years for those who were mistreated and 70.7 ± 6.9 years for those without mistreatment ($t=2.39$, $df=268$, $p=0.018$) (Table 2). Men who were mistreated were significantly more likely to have lower levels of education (7.4 ± 4.8 vs. 10.6 ± 4.9 years; $t=5.04$, $df=266$, $p<0.001$) and lower monthly incomes ($1,151\pm1,420$ vs. $1,823\pm1,207$ renminbi; $t=4.01$, $df=265$, $p<0.001$). In addition, men who were mistreated were more likely to have more children (3.0 ± 1.7 vs. 2.8 ± 1.4; $t=-2.29$, $df=268$, $p=0.023$) and less likely to reside in the city (65.1% vs. 75.5%;

Table 1.	*Characteristics of psychosocial factors and elder mistreatment (EM) among women*					
	EM (*n* = 59)	No EM (*n* = 82)	χ^2	*t*	*df*	*p*
Demographic characteristics						
Age, mean (SD), yr	69.8 (6.8)	68.6 (5.9)		−1.04	139	0.302
Education, mean (SD), yr	5.4 (5.7)	6.9 (5.0)		1.60	137	0.111
Income, mean (SD), renminbi	793 (819)	969 (860)		1.21	137	0.227
Married, *n* (%)	33 (55.9)	62 (75.6)	5.45		1	0.019
No. of children, mean (SD)	3.1 (1.4)	2.6 (1.4)		−1.34	139	0.182
Reside in city, *n* (%)	28 (47.5)	46 (56.1)	1.19		1	0.275
Depression measures, *n* (%)						
Not feeling satisfied with life	21 (35.6)	6 (7.3)	17.72		1	< 0.001
Feeling bored	21 (35.6)	4 (4.9)	22.19		1	< 0.001
Prefer to stay home	33 (55.9)	28 (34.1)	6.63		1	0.01
Feeling worthless	18 (30.5)	6 (7.3)	12.83		1	< 0.001
Feeling helpless	21 (35.6)	4 (4.9)	22.19		1	< 0.001
Depression	22 (37.3)	5 (6.1)	21.23		1	< 0.001
Loneliness measures, *n* (%)						
Often lacking companionship	11 (18.6)	2 (2.4)	16.03		2	< 0.001
Often feeling left out	4 (6.8)	2 (2.4)	10.43		2	0.005
Often feeling isolated	6 (10.2)	6 (7.3)	6.18		2	0.045
Social support measures, *n* (%)						
Lack of someone to listen to	16 (27.1)	5 (6.1)	25.13		2	< 0.001
Lack of someone to get advice from	15 (25.4)	4 (4.9)	29.21		2	< 0.001
Lack of someone to show love and affection to	12 (20.3)	3 (3.7)	17.78		2	< 0.001
Lack of someone to help with chores	18 (30.5)	10 (12.2)	9.53		2	0.008
Lack of someone you trust	14 (23.7)	1 (1.2)	30.36		2	< 0.001
Lack of someone to provide emotional support	9 (15.3)	2 (2.4)	33.64		2	< 0.001
Currently living with a partner	33 (55.9)	54 (65.9)	4.30		1	0.038

SD = standard deviation.

$\chi^2 = 4.14$, *df* = 1, *p* = 0.04). Among men, there were significant differences across the psychosocial measures of depression, loneliness and social support between those with and without mistreatment (Table 2).

Among those subjects who had suffered mistreatment, the study compared the sex differences across the above sociodemographic and psychosocial measures (Table 3). There were no significant differences in age, income, and number of children. However, mistreated women were more likely to have lower levels of education (5.4 ± 5.7 vs. 7.4 ± 4.8 years; *t* = −2.19, *df* = 140, *p* = 0.029), less likely to be currently married (55.9% vs. 80.2%; $\chi^2 = 9.94$, *df* = 1, *p* = 0.002), and less likely to live in the city (47.5% vs. 65.1%; $\chi^2 = 4.86$, *df* = 1, *p* = 0.027). With respect to depressive symptoms, mistreated women were more likely to prefer to stay at home rather than go out (55.9% vs. 27.9%; $\chi^2 = 11.52$, *df* = 1, *p* < 0.001) and more likely to have depression (37.3% vs.

17.4%; $\chi^2 = 7.25$, *df* = 1, *p* = 0.007). With respect to loneliness measures, women more frequently described feeling a lack of companionship (18.6% vs. 4.7%; $\chi^2 = 7.95$, *df* = 1, *p* = 0.019). Among social support measures, mistreated women were more likely to report lacking someone to listen to (27.1% vs. 23.3%; $\chi^2 = 7.39$, *df* = 2, *p* = 0.025) (Table 3).

Discussion

In this Chinese population, the men and women were found to have different sociodemographic factors associated with EM. Compared with men and women without mistreatment, both mistreated men and women were more likely to have higher psychological burdens and lower social support levels. Furthermore, among the EM victims, there were significant

Table 2. *Characteristics of psychosocial factors and elder mistreatment (EM) among men*

	EM (*n* = 86)	No EM (*n* = 184)	χ^2	*t*	*df*	*p*
Demographic characteristics						
Age, mean (SD), yr	68.5 (6.9)	70.7 (6.9)		2.39	268	0.018
Education, mean (SD), yr	7.4 (4.8)	10.6 (4.9)		5.04	266	< 0.001
Income, mean (SD), renminbi	1,151 (1,420)	1,823 (1,207)		4.01	265	< 0.001
Married, *n* (%)	69 (80.2)	136 (73.9)	0.41		1	0.521
No. of children, mean (SD)	3.0 (1.7)	2.8 (1.4)		−2.29	268	0.023
Reside in city, *n* (%)	56 (65.1)	139 (75.5)	4.14		1	0.04
Depression measures, *n* (%)						
Not feeling satisfied with life	20 (23.3)	13 (7.1)	14.18		1	< 0.001
Feeling bored	22 (25.6)	15 (8.2)	14.91		1	< 0.001
Prefer to stay home	24 (27.9)	50 (27.2)	0.01		1	0.920
Feeling worthless	16 (18.6)	15 (8.2)	6.13		1	0.013
Feeling helpless	15 (17.4)	12 (6.6)	7.68		1	0.006
Depression	15 (17.4)	8 (4.3)	12.67		1	< 0.001
Loneliness measures, *n* (%)						
Often lacking companionship	4 (4.7)	6 (3.3)	6.27		2	0.043
Often feeling left out	2 (2.3)	5 (2.7)	6.90		2	0.032
Often feeling isolated	7 (8.1)	8 (4.3)	6.06		2	0.048
Social support measures, *n* (%)						
Lack of someone to listen to	20 (23.3)	11 (5.9)	25.44		2	< 0.001
Lack of someone to get advice from	22 (25.6)	14 (7.6)	27.69		2	< 0.001
Lack of someone to show love and affection to	11 (12.8)	9 (4.9)	30.83		2	< 0.001
Lack of someone to help with chores	17 (19.8)	15 (8.2)	12.31		2	0.002
Lack of someone you trust	18 (20.9)	5 (2.7)	36.75		2	< 0.001
Lack of someone to provide emotional support	20 (23.3)	8 (4.3)	40.32		2	< 0.001
Not currently living with a partner	14 (16.3)	33 (17.9)	0.36		1	0.550

SD = standard deviation.

sociodemographic and psychosocial differences between men and women.

Our findings expand prior studies in a number of ways. This is the first study of a Chinese population to describe the sex differences across a wide range of sociodemographic and psychosocial factors with respect to EM. This information contributes to the global understanding of sex differences and EM. In addition, the study found that sociodemographic characteristics associated with EM differed between men and women. This has important practical implications for targeted detection, management, and prevention strategies in the different sex groups. Furthermore, greater psychological burdens and lower social support levels were frequently found in both men and women with EM. These findings indicate that further studies are required to elucidate the relationships of sex, depression, loneliness, and social support with EM. Lastly, among those

mistreated, there were significant sex differences across the sociodemographic and psychosocial factors. These findings have important practical implications for social services agencies with respect to the management, support, and follow-up of EM victims.

Studies in Western countries

The findings of the US National Elder Abuse Incidence Study suggested that being female is frequently a risk factor for EM[26]. In addition, the study indicated that there are specific sex differences among EM subtypes. A recent publication from the US National Research Council has also provided evidence that female sex is frequently associated with EM[6]. Evidence from the Established Population for Epidemiological Studies of the Elderly (EPESE) cohort suggested that female sex is a risk factor for EM[27]. However, there is still a paucity of systematic information about the sex differences in

Table 3.	*Sex differences in the psychosocial factors of subjects with elder mistreatment (EM)*					
	EM women	EM men	χ^2	t	df	p
No. of subjects, *n* (%)	59 (40.7)	86 (59.3)	5.03		1	0.025
Demographic characteristics						
Age, mean (SD), yr	69.8 (6.8)	68.5 (6.9)		1.10	143	0.272
Education, mean (SD), yr	5.4 (5.7)	7.4 (4.8)		−2.19	140	0.029
Income, mean (SD), renminbi	793 (819)	1,151 (1,420)		−1.75	143	0.083
Married, *n* (%)	33 (55.9)	69 (80.2)	9.94		1	0.002
No. of children, mean (SD)	3.1 (1.4)	3.0 (1.7)		0.31	143	0.758
Reside in city, *n* (%)	28 (47.5)	56 (65.1)	4.86		1	0.027
Depression measures, *n* (%)						
Not feeling satisfied with life	21 (35.6)	20 (23.3)	2.62		1	0.105
Feeling bored	21 (35.6)	22 (25.6)	1.68		1	0.195
Prefer to stay home	33 (55.9)	24 (27.9)	11.52		1	<0.001
Feeling worthless	18 (30.5)	16 (18.6)	2.76		1	0.097
Feeling helpless	21 (35.6)	15 (17.4)	6.18		1	0.013
Depression	22 (37.3)	15 (17.4)	7.25		1	0.007
Loneliness measures, *n* (%)						
Often lacking companionship	11 (18.6)	4 (4.7)	7.95		2	0.019
Often feeling left out	4 (6.8)	2 (2.3)	3.06		2	0.217
Often feeling isolated	6 (10.2)	7 (8.1)	2.23		1	0.328
Social support measures, *n* (%)						
Lack of someone to listen to	16 (27.1)	20 (23.3)	7.39		2	0.025
Lack of someone to get advice from	15 (25.4)	22 (25.6)	5.19		2	0.074
Lack of someone to show love and affection to	12 (20.3)	11 (12.8)	1.99		2	0.369
Lack of someone to help with chores	18 (30.5)	17 (19.8)	2.98		2	0.224
Lack of someone you trust	14 (23.7)	18 (20.9)	0.26		2	0.880
Lack of someone to provide emotional support	9 (15.3)	20 (23.3)	4.83		2	0.089
Not currently living with a partner	21 (35.6)	14 (16.3)	7.64		1	0.006

SD = standard deviation.

sociodemographic characteristics with respect to EM. Larger population-based studies are needed to elucidate these relationships.

A number of Western studies have indicated that EM victims often have coexisting psychological burdens[28,29]. Fulmer[30] suggested that elders with depression are more likely to be mistreated. Another European study suggested that depression can predict the occurrence of EM[29]. With respect to loneliness and EM, we are aware of one qualitative study[31] involving in-depth interviews of mistreated women, which suggested that loneliness is frequently experienced and that the combination of loneliness and mistreatment generates enormous psychological distress in daily life. A number of Western studies have also suggested that lower levels of social support may be a risk factor for EM[32,33]. In 2005, Fulmer et al.[32] suggested that victims of caregiver

neglect had lower levels of social support. Shugarman et al.[33] found those with brittle support systems have an increased risk for EM. Despite these findings, there is a great paucity in the existing Western literature of information regarding the sex differences in psychosocial factors and EM.

Studies in Asian countries
The population of China is rapidly aging. Social problems associated with an aging population, such as EM, have begun to emerge in China in recent years. Yan and Tang[34] examined a cohort of 355 elderly Chinese subjects in Hong Kong, and estimated the overall prevalence rate of EM to be 21.4%. However, while some studies have found that female sex is more frequently associated with a higher risk for EM[34,35], others have not reported any sex differences for EM[36].

Current knowledge of psychosocial factors and EM in Asian cultures is even more limited. Recent evidence suggests that depression and loneliness may be risk factors for EM in the Chinese population[37,38]. In a Korean study, Lee and Kolomer[39] found that formal, but not informal, social support was associated with a lower level of EM. In an Indian population, Chokkanathan and Lee[40] found that low levels of social support may be associated with an increased risk of EM. However, we are not aware of any previous studies of Chinese populations that have examined the sex differences in psychosocial factors and EM.

The issues associated with EM in China are still very much unexplored. China is facing enormous challenges as its aging population rapidly increases. Traditionally, old age was revered, and older adults enjoyed support and comfort in a multigenerational system. However, social changes brought about by China's urbanization and industrialization may have weakened the traditional family social support structures and precipitated value changes, which in turn have placed older adults in economic and psychological distress. Furthermore, evidence suggests that older women face higher socio-economic and psychosocial burdens than older men[14,15], and further comprise an extremely frail subset of the population that has not been well studied, especially with respect to EM.

Current scientific knowledge of EM in China is still in its infancy, and there is a great paucity in our understanding of this pervasive public health issue. The present study found that there were distinct sex differences in sociodemographic and psychosocial factors associated with EM in a Chinese population. These results emphasize not only the importance of screening for depression, loneliness and social support among older Chinese men and women, but also the need for further rigorous investigations into the relationships of sex, sociodemographic factors and psychosocial factors with EM in the Chinese population.

Limitations

First, this study involved a clinical population and was not representative of the general population. Thus, it may not be possible to make generalizations about other Chinese populations from the results of our study. This includes Chinese minority groups and immigrant Chinese residents in other countries, because they may be subject to varying degrees of social, economic and Western influences. Second, the study involved a self-administered survey and excluded elderly subjects with cognitive impairment, which further limits the ability to generalize from our study findings. The study team was concerned that persons with cognitive impairment may not be able to appropriately complete the survey. Third, our study was based on self-reports of elderly participants, which may have been subject to recall bias. Fourth, this study did not examine the associations of sex and psychosocial factors with specific subtypes of EM. Fifth, this study did not obtain information about the perpetrators involved or any qualitative information regarding the circumstances in which the mistreatment occurred. Finally, this was a cross-sectional study examining the associations of sex and psychosocial factors with EM, thereby limiting our ability to make inferences regarding temporal relationships. Prospective studies are needed to quantify these relationships. Nevertheless, the present study does provide a window into sex differences and EM in a Chinese population, and lays the groundwork for future studies on these issues.

Conclusion

Overall, the present study suggests that sociodemographic and psychosocial factors associated with EM differ between men and women. Owing to the vast geographical area of China and its skewed economic growth and diverse cultures, there is a need for a multisite study of EM in China. Further in-depth studies across sex are needed for the cultural, familial and psychosocial factors of both victims and perpetrators. Further prospective studies are required to quantify the temporal relationships of sex, psychosocial measures, and EM. Future work is necessary to better understand the health impacts of EM across sex in the Chinese population. Community, local government, health care professionals, and family members could play important roles in reducing the psychological burden and increasing social support and companionship for aging Chinese men and women.

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