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Prevalence and predictive factors of elder mistreatment in Chinese migrant families[†]

Original Article

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Abstract: **Objectives:** To examine the prevalence of and identify the predictive factors for elder mistreatment (EM) in Chinese migrant families.
Methods: This was a cross-sectional study. A total of 489 rural migrant elderly were recruited using multistage sampling technique from communities in Wenzhou city between June 2020 and October 2020. All participants completed the Mini-Cog, and then data were collected in a survey using the 12-Item Short-Form Health Survey Questionnaire, Abuser's Dependency Scale, the Friendship Scale (FS), Intergenerational Ambivalence Scale, Filial Piety Index, the Assessment Tool of Domestic Elder Abuse, and a demographic questionnaire. Descriptive statistics and multiple regression were carried out to analyze the data.
Results: The prevalences of physical mistreatment, psychological mistreatment, neglect, economic mistreatment, and social mistreatment among the migrant elderly were 1.23%, 20.65%, 22.50%, 0.61%, and 9.41%, respectively. Significant predictive factors were migrant elderlies' mental health status ($\beta = -0.118$, $P < 0.01$), adult children's filial piety (FP) ($\beta = -0.245$, $P < 0.001$), and intergene rational ambivalence ($\beta = 0.365$, $P < 0.001$).
Conclusions: EM was common among the migrant elderly. Predictive factors for EM in Chinese migrant families were identified. The findings could be useful in developing nursing interventions to promote migrant elderlies' mental health, uphold their children's FP, and harmonize intergenerational relationship to avoid EM.

Keywords: elderly • elder mistreatment • migrant • prevalence • risk factors

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1. Introduction

Elder mistreatment (EM) is an alarming public health problem worldwide. One in 6 older adults has been mistreated worldwide in the past year, 90% of all perpetrators are family members, and most perpetrators are adult children and spouses or partners.[1] In a systematic review by Tao et al.[2] that incorporated a total of 23,020 participants, the prevalence of elder mistreatment in China was reckoned at 39.42%. EM was associated with lower physical and psychological health status[3,4] and higher mortality of the elderly[5] and had consequently resulted in a dramatic increase in the use of health services.[5,6]

Different factors are related to EM. For instance, the poor physical and mental health status of the elderly[7,8]

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and their dependency on a caregiver[9] have always been associated with a higher possibility of mistreatment. Among the familial factors, lower intergenerational cohesion and higher intergenerational conflict were associated with a greater likelihood of EM.[10,11] Furthermore, social isolation (SI) was a strong predictor of EM.[12] From a cultural perspective, filial piety (FP) could enable a better sense of security among the elders and help them realize the "happiness of old age," which resulted in perceptible benefits by way of enhanced intergenerational relationships and avoidance of EM.[13]

In China, the number of older migrants is rising drastically. There were 5.03 million older migrants in China in 2000, and in 2015, this number had risen to 13.04 million, comprising 5.3% of the whole migrant population and 8.4% of the total elderly population of China.[14] More than half of the old migrants migrate with their adult children and care for their grandchildren.[15,16] Previous studies have shown that cultural and linguistic barriers, SI, and dysfunctional family relationships between generations are the risk factors for EM among international immigrant elderly.[17,18] The elderlies who have migrated within China face similar problems, including weakened interpersonal network, a significant difference in lifestyle from the rural environment, disagreement with their children's intergenerational values, SI, and difficulties with social adaption and integration,[19–21] all of which may increase the risk of EM.

Several studies have explored the prevalence and the factors predictive of EM in different countries. However, these studies have seldom considered the Chinese situation and culture. EM in China has been understudied, and literature on EM concentrating on migrant families is lacking. To address this gap in the literature, this study aims to determine the prevalence and predictive factors for EM among internal migrant families. An ecological bifocal model[22] and empirical evidence were used to guide the selection of predictive factors in this study. A better understanding of the predictive factors will enable effective EM prevention and reduce EM among migrant families in our society.

2. Methods

2.1. Design and setting

A community-based cross-sectional study design was used for this study. The predictive factors, including physical health status, mental health status, adult children's dependency, intergenerational ambivalence (IA), SI, and adult children's FP, were tested for effects on EM among the migrant elderly.

2.2. Participants and data collection

This study included 489 migrant elderlies who migrated with their adult children to Wenzhou, Zhejiang Province, in China. The inclusion criteria for the participants include: (1) aged ≥60 years, (2) no cognitive impairment, and (3) more than 6 months have passed since migrating with their adult children to Wenzhou City from a rural area,[23] which is the criteria to be considered a migrant within China. Multistage sampling was used in this study. First, 20 communities from 4 districts in Wenzhou were randomly selected by weight, and then a convenience sampling technique was used to recruit participants who met the inclusion criteria in each community.

In carrying out a multiple regression analysis, it is essential to maintain a sample size that is adequate for retaining the statistical computing power of the given number of estimated parameters. In keeping with the suggestions of Hair et al.[24] who have mentioned that a sample size of at least 200 participants would be needed, the present study has recruited more than double this number of respondents, given that there are 7 predictors. For nonrespondents, 20% of the final sample size was considered, and the final sample size was 489.

2.3. Instruments

After screening the old parents for any cognitive impairment using Mini-Cog,[25] data were collected using 7 self-reported questionnaires, with relevant permissions obtained from the original authors and administered in Chinese. Details of the 7 questionnaires are as follows.

2.3.1. Personal demographic information questionnaire

Personal demographic information questionnaire included age, gender, marital status, income, educational level, migrant time, migrant distance, and the migrant elderlies' main purpose of migration.

2.3.2. The 12-Item Short-Form Health Survey Questionnaire (SF-12)

The SF-12 (Chinese version)[26] was used to evaluate the physical and mental health status of the migrant old parents. It contains 8 factors (physical functioning, role physical, bodily pain, general health, vitality, social functioning, role emotional, and mental health). The first 4 factors constitute the physical health dimension, which reflects as the score of physical component summary (PCS). The other 4 factors constitute the mental health dimension and are reflected as the score of mental

component summary (MCS). The internal consistency reliability was good, with a Cronbach α coefficient of 0.89 found in this study.

2.3.3. Abuser's Dependency Scale

A numerical scale designed by the researchers was used to measure adult children's dependency. The migrant old parents were asked the question, "How much do you think your migrant adult children are dependent on you?", and their response was scored on a scale of 0–10, with 0 indicating "not at all dependent" and 10 indicating "completely dependent."

2.3.4. The Friendship Scale (FS)

SI of the migrant elderly was measured by the FS, which was specifically developed to evaluate the SI in older adults.[27] This scale comprises 6 items and is a Likert-type rating scale ranging from not at all (0) to almost always (4). A lower score indicates more severe SI. FS showed satisfactory reliability in this study with a Cronbach α coefficient of 0.85.

2.3.5. The Filial Piety Index

The Chinese version of the Filial Values Index developed by Ying[28] based on the original one[29] is a 12-item scale that shows 2 main factors: respect for the parents and care for the parents. It is a Likert-type rating scale ranging from strongly disagree (0) to strongly agree (4). A higher score indicates higher FP of the adult children. The reliability of the Filial Piety Index was high, with a Cronbach α coefficient of 0.90 in this study.

2.3.6. The Intergenerational Ambivalence Scale

Intergenerational ambivalence dimension extracted from the Chinese Adult Child–Parent Relationship Scale was used to assess intergenerational ambivalence.[30] Intergenerational ambivalence dimension included 3 items: (1) Can you frequently feel complicated emotions between you and your migrant adult children? (2) In every relationship, people can enjoy both pleasant and unpleasant time. How would you evaluate the relationship between you and your migrant adult children in general? (3) Every family has such a situation wherein the family members either do everything possible to maintain harmony or allow conflict to exist. What is the state of your family in this regard? It is scored on a 5-point Likert scale, and a higher score suggests more emotional ambivalence between the generations. Cronbach α coefficient of ambivalence was 0.81 in this study, which implies acceptable reliability.

2.3.7. The Assessment Tool of Domestic Elder Abuse

The Assessment Tool of Domestic Elder Abuse (Chinese version) was developed by Yi et al.[31] Seven subscales were used to test the physical mistreatment, psychological mistreatment, neglect, economic mistreatment, social mistreatment, sexual mistreatment, and self-neglect, amounting to a total of 34 items (4 for physical abuse, 6 for psychological abuse, 7 for neglect, 3 for economic abuse, 4 for social abuse, 4 for sexual abuse, and 6 for self-neglect). In the pilot study, it was found that everybody refused to answer the questions about sexual mistreatment as they found this topic too uncomfortable to discuss; thus, we did not include this subscale in our evaluation. In this study, we wanted to study the mistreatment of the migrant elderly by other people, and thus, the self-neglect subscale was also not included. Finally, 5 subscales remained – physical mistreatment, psychological mistreatment, neglect, economic mistreatment, and social mistreatment. It is scored on a 5-point Likert scale, and the total score ranges from 24 to 120. A total score of >1 suggested that the migrant elderly suffered mistreatment, with a higher score associated with more severe mistreatment. The Cronbach α coefficient of the tool used in this study was 0.89.

2.4. Data collection procedure

Data were collected from 20 June 2020 to 30 October 2020. After the Institutional Review Board (IRB) approval, the researcher trained 4 master nursing students as data collectors, and the training topics included human subject protection, questionnaires, data collection, and unified instruction words. Thereafter, the researchers met with the head of each community service center, who is in charge of the migrant families in the community, and described the study purpose, participation criteria, data collection procedure, and human rights protection. With the help of the corresponding heads, data collectors conducted face-to-face interviews with the migrant elderly to gather information at the community center.

2.5. Data analysis

Descriptive statistics were used to present demographic characteristics as means (M) with standard deviation (SD) and frequency with percentage. Data were tested for normality and assumptions of multiple regression. Pearson product correlation analysis was performed to examine the relation of EM with each individual variable. Standard multiple regression analysis was performed to determine the factors that influence EM.

Statistical significance was set at a *P* value of <0.05 for all analyses. Data were analyzed using SPSS version 23.0.

3. Results

A total of 489 participants answered the full questionnaire (Table 1). The participant age was 60–89 years (M = 64.37, SD = 4.84). Overall, 63.39% (*n* = 310)

Variables	Frequency	%
Age (years) (mean = 64.37, SD = 4.84)		
60–69	411	84.05
70–79	71	14.52
≥80	7	1.43
Gender		
Female	310	63.39
Male	179	36.61
Marital status		
Married	445	91.00
Divorced/separated/widowed	44	9.00
Income (¥/month) (median = 200, range = 0–30,000; QR = 2000)		
No income	187	38.24
≤1000	103	21.06
1001–3000	139	28.43
3001–5000	37	7.57
≥5001	23	4.70
Education level		
Illiteracy	191	39.06
Primary school	180	36.81
Middle school	83	16.97
High school	22	4.50
Diploma	6	1.23
Bachelor degree or higher	7	1.43
Migrant time		
6 months to 1 year	52	10.63
More than 1 year to 3 years	94	19.22
More than 3 years	343	70.14
Migrant distance		
From rural to downtown but in the same city	150	30.67
Cross city but in the same province	59	12.07
Cross province	280	57.26
The main purpose of migration		
Taking care of grandchildren	376	76.89
Finding care from the migrant family	23	4.70
Finding mutual care with the migrant family	57	11.66
Others	33	6.75

Note: SD, standard deviation; QR, Quartile Range.

Table 1. Sociodemographic and migration characteristics of the migrant old parents (N = 489).

of participants were women. Among all participants, 91.00% were married, 38.24% had no income, and 75.87% had not finished elementary education. Regarding the migration status, 70.14% of participants had migrated since over 3 years; 57.26% had migrated from another province. Notably, 76.89% of individuals migrated to care for their grandchildren (Table 1).

The prevalence of EM (both overall and its subtypes) is shown in Table 2. The prevalences of physical mistreatment, psychological mistreatment, neglect, economic mistreatment, and social mistreatment were found to be 1.23%, 20.65%, 22.50%, 0.61%, and 9.41%, respectively. Physical and economic mistreatment seldom occurred among the migrant elders, while psychological mistreatment and neglect were common.

Results from Pearson correlation analysis show that factors with significant correlation with EM scores included mental health status (r = –0.37), adult children dependency (r = –0.15), IA (r = 0.56), SI (r = 0.36), and adult children's FP (r = –0.48) (Table 3).

Multiple linear regression analysis revealed that only 3 factors were independently and significantly predictive of EM of migrant old parents. Intergenerational ambivalence was the strongest predictor of EM (β = 0.365, *P* < 0.001), followed by adult children's FP (β = –0.245, *P* < 0.001) and mental health status (β = –0.118, *P* < 0.01). However, SI, physical health, and adult children's dependency were not identified as independent or significant predictors. All 6 hypothesized factors were statistically significant, which explained 38.1% of the variance in EM (Table 4).

4. Discussion

EM is an intentional act or failure to act by a caregiver or another person in a trust relationship that causes harm to the elderly; the pooled prevalence rate of overall EM in community settings is 15.7% from 28 countries.[32] A recent meta-analysis encompassing 23,020 subjects showed that the prevalence of EM in China was 20.29%, and with a prevalence rate of 15.06%, psychological mistreatment was the most EM subtype.[2] Regarding EM, upon comparing the worldwide prevalence and the prevalence among common Chinese elderly, the prevalence rate of 36.40% in this study was higher. Previous studies on international Chinese immigrant elderly showed that cultural and contextual changes,[33] as well as financial, physical, and emotional dependence,[34] were the risk factors for EM; these findings apply to those who migrated within China as well. In this study, the subtype with the highest prevalence

Items	Prevalence (N)	Possible range	Actual range	Mean	SD
Physical mistreatment	1.23% (6)	4–24	4–7	4.02	0.24
Psychological mistreatment	20.65% (101)	6–30	6–26	6.71	2.31
Neglect	22.50% (110)	7–35	7–31	7.56	2.07
Economic mistreatment	0.61% (3)	3–15	3–6	3.01	0.17
Social mistreatment	9.41% (46)	4–20	4–11	4.16	0.57
Overall	36.40% (178)	24–120	24–70	25.46	4.42

Note: EM, elder mistreatment; SD, standard deviation.

Table 2. Descriptive statistics of EM and its subscales (N = 489).

	EM	PCS	MCS	DEP	IA	SI	FP
EM	1.000	−0.082	−0.365**	−0.153**	0.563**	0.357**	−0.484**
PCS		1.000	0.091**	0.240**	−0.095*	−0.258**	0.012
MCS			1.000	0.143**	−0.475**	−0.421**	0.245**
DEP				1.000	−0.074	−0.257**	0.135**
IA					1.000	0.482**	−0.544**
SI						1.000	−0.432**
FP							1.000

Note: *$P < 0.05$; **$P < 0.01$.
DEP, dependency; EM, elder mistreatment; FP, filial piety; IA, intergenerational ambivalence; MCS, mental component summary; PCS, physical component summary; SI, social isolation.

Table 3. Pearson product moment correlation coefficients among variables (N = 489).

Predictors	B	SE	β	t	P value
Constant	33.512	2.815		11.904	<0.001
PCS	−0.008	0.019	−0.016	−0.429	0.668
MCS	−0.066	0.024	−0.118	−2.795	0.005
DEP	−0.145	0.078	0.071	−1.872	0.062
IA	0.812	0.108	0.365	7.547	<0.001
SI	0.002	0.039	0.003	0.058	0.954
FP	−0.175	0.032	−0.245	−5.513	<0.001

Note: R = 0.617, R^2 = 0.381, adjusted R^2 = 0.373, SE = 3.502, F change = 49.404, *P* value < 0.001.
DEP, dependency; EM, elder mistreatment; FP, filial piety; IA, intergenerational ambivalence; MCS, mental component summary; PCS, physical component summary; SE, standard error; SI, social isolation.

Table 4. Predictors of EM among migrant old parents (N = 489).

was neglect, and those with the lowest prevalence were physical and economic mistreatment. Typically, the adult children migrate to a new city to pursue a better life, where they struggle to earn their livelihood. Most of them are very busy and do not have enough time to care for their old parents, thus resulting in neglect. "Physical and economic mistreatments are the true mistreatments" teaches Chinese culture. Both traditional Chinese Taoist and Confucian cultures believe that physical mistreatment is unforgivable and that supporting parents is every child's duty. The Protection of the Rights and Interests of Elderly People, also known as the Filial Piety Law,[35] clearly prohibit physical and economic mistreatment of the elderly. Thus, the prevalence of physical and economic mistreatment was low in this study.

Intergenerational ambivalence is a mixed or contradictory feeling between two different generations.[9] The unobligated ambivalent family type was the most common family relationship type among the Chinese families that have migrated to the US, and such families were characterized by high intergenerational closeness and a lot of conflicts as well, and further were associated with a greater likelihood of EM.[36] It is similar to the situation of families that have migrated within China. The problematic relationship may lead to negative mood and decreased communication efficiency and coping skills, which may result in EM.[8]

Father's kindness and son's FP are sound Chinese traditional family customs. The essence of FP is that everyone should respect and support their parents. The results of this study were consistent with Dong et al.'s study, wherein they reported Chinese traditional filial culture as a protective factor inhibiting EM.[37] A greater sense of FP means the children respect their parents more and have a stronger sense

of responsibility to support their parents. Filial piety is conducive to creating a harmonious family atmosphere[11] and avoiding EM.

In this study, we identified that the mental health status of the migrant old parents had a negative effect on EM. Mental health problems can increase dependency and vulnerability, which can increase the risk of EM. Impaired mental health is reportedly associated with an increased possibility of EM.[3,38,39] However, there are several unknown factors regarding how mental health may lead to EM. Old parents who have good mental health tend to have better self-efficacy and cope with negative events in their lives more effectively, thus facilitating the management of interpersonal conflicts and ambivalences, which helps avoid EM.

In this study, migrant elderlies' physical health, adult children's dependency, and SI did not have a significant effect on EM, which is a finding that is inconsistent with previous studies.[8,9,12] The reasons may be as follows: (1) most migrant elderlies in this study were relatively young and had good physical status; (2) Chinese traditional culture incorporates a notion that when there is greater dependence on old parents, this involves a greater responsibility to give back in terms of the care shown to them, and this cultural norm might have played a role; and (3) mobile phones and social software, such as WeChat and Jitterbug, have reduced migrant elderlies' SI.

5. Conclusions

In conclusion, based on our findings, the most prevalent mistreatment subtype in migrant Chinese families was neglect. The mental health of old parents, adult children's FP, and IA were independent predictors of EM among the study participants. Thus, tailored measures for promoting migrant old parents' mental health and keeping a good intergenerational relationship should be developed in the future. Migrant adult children should be educated and made aware to ensure they do not neglect their migrant old parents and keep FP.

The limitations of this study are that it was conducted in only 1 city in China, and there was no long-term follow-up. In future, it is planned to carry out similar studies in other cities in China to verify the risk factors, and a study with a long-term follow-up will be conducted to explore the change of the EM state over time.

Acknowledgments

Ethical approval

The IRB scrutinized this study proposal both at Burapha University in Thailand (IRB#G-HS 026/2563) and Wenzhou Medical University in China (IRB# 2000-001) to ensure that there was no violation of ethical concerns, including those pertaining to human rights. All potential subjects who consented to participate in the study were assured that their responses would be anonymized and kept confidential, and that every effort would be taken to ensure that identities were not revealed, although anonymity could not be guaranteed. Before data collection, each potential participant was asked to sign a consent form.

Conflicts of interest

All contributing authors declare that no conflicts of interest exist.

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