ORIGINAL RESEARCH

Cross-Sectional Study on the Management and Control of Hypertension Among Migrants in Primary Care: What Is the Impact of Segmented Health Insurance Schemes?

Haitao Li, PhD; Wu Zhu, PhD; Hui Xia, MSc; Xuejun Wang, PhD; Chen Mao, PhD

***Background*—**Information is scarce regarding the impact of fragmented health insurance schemes on the management and control of hypertension among migrants in primary care. This study aimed to investigate the relationship between insurance status and management and control of hypertension among migrants in primary care and to examine whether social capital could facilitate migrants' participation in local health insurance schemes.

***Methods and Results*—**A site-based, cross-sectional, face-to-face patient survey was administered in Shenzhen, China. Hypertensive primary care users who were migrants were selected using a systematic sampling design. The participants covered by local health insurance schemes were more likely than those without coverage to be managed by primary care facilities (82.6% versus 62.0%; odds ratio=2.63, 95% CI 1.41-4.89) and to take antihypertensive medications (87.9% versus 76.4%; odds ratio=2.38, 95% CI 1.34-4.24), and they had higher scores in first contact use (3.49 versus 3.23; β=0.17, 95% CI 0.05-0.29) and continuity of care (3.17 versus 3.02; β=0.11, 95% CI 0.01-0.21). The participants covered by local insurance schemes had higher scores in perceived generalized trust than their counterparts (4.23 versus 3.95; β=0.16, 95% CI 0.09-0.40). The hypertension control rate was also higher among the participants with local health insurance coverage (48.8% versus 42.2%; odds ratio=1.38, 95% CI 1.02-2.12).

***Conclusions*—**In conclusion, local health insurance schemes are associated with optimal control of hypertension for migrants compared with social health insurance schemes. Our study implies that one form of social capital, namely perceived general trust, contributes to migrant hypertensive patients' participation in local health insurance schemes. **(*J Am Heart Assoc*. 2019;8: e012674. DOI: 10.1161/JAHA.119.012674.)**

Key Words: health policy and outcomes research • health services research • hypertension • migration • primary care

Hypertension is an important contributor to cardiovascular diseases such as stroke and coronary heart disease,[1,2] making it a crucial health issue faced by policymakers in China. Approximately 50% of deaths in Chinese adults aged 40 years and older are attributable to prehypertension and hypertension.[3] The PEACE (China Patient-Centered Evaluative Assessment of Cardiac Events) Million Persons Project showed that, in 2017, the prevalence of hypertension was 44.7% among adults aged 35 to 75 years.[4] If the new definition of hypertension recommended by the 2017 American College of Cardiology/American Heart Association guideline is adopted, there will be a substantial increase in hypertension prevalence in China.[5]

China has been experiencing rapid urbanization and internal migration. In 2015, there were 247 million internal migrants within China, accounting for ≈18% of the total Chinese population.[6] Migration has been shown to be associated with increased prevalence of noncommunicable diseases.[7] Previous studies have indicated that, in China, the prevalence of hypertension was higher among rural-to-urban migrants than among the general population.[8] Although urbanization can improve access to health care, health insurance, health education, and economic resources, the awareness, treatment, and management of hypertension remain suboptimal among migrants, especially in developing nations.[9]

The Chinese government has proposed the implementation of primary care to deal with health challenges caused by

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Clinical Perspective

What Is New?

- Migrant hypertensive patients with local health insurance coverage were more likely to be under primary care management and initiate antihypertensive medications when compared with their counterparts.
- Migrant hypertensive patients covered by local health insurance schemes reported a higher score in first contact use and continuity of care.
- The hypertension control rate was higher among migrant hypertensive patients with local health insurance coverage, and perceived general trust was a factor contributing to the migrant hypertensive patients' participation in local health insurance schemes.

What Are the Clinical Implications?

- Participation in local health insurance schemes may result in improved management and control of hypertension in primary care for migrants.
- Encouraging migrant hypertensive patients' trust may improve participation in local health insurance schemes, resulting in better primary care management and control of hypertension.
- Consolidated and portable social health insurance schemes are an alternative approach for improving hypertension management and control in primary care.

hypertension. Community health centers (CHCs) are major primary care providers in urban areas of China. Prevention and management of hypertension at CHCs have become priorities. CHCs are responsible for establishing health records for and regularly monitoring hypertensive patients. Lifestyle modification initiatives and antihypertensive treatments should be proposed to hypertensive patients in the CHC setting because primary care management of hypertension has been shown to be associated with improved hypertension treatment outcomes.[10] Moreover, accessibility, continuity, and coordination have been widely recognized as features of primary care that are essential for the management of hypertension.[11]

Health insurance has been shown to be positively associated with treatment and control of hypertension.[12,13] The Chinese government has introduced several social health insurance schemes, such as the Basic Medical Insurance Scheme for Urban Employees and the Basic Medical Insurance Scheme for Urban Residents in urban areas and the New Rural Cooperative Medical Insurance Scheme in rural areas. These health insurance schemes are administered at the county or municipal level and have various premium rates, but they are not portable and transferable for internal migrants.[14] Through this approach, the Chinese government is trying to overcome economic barriers that prevent access to hypertensive care. However, health insurance for migrants remains a challenge due to the lack of access to local health insurance schemes through the Hukou restrictions. Individuals without local insurance coverage are required to pay full cost for medical services, and they can be reimbursed only when they return to their home towns. Therefore, migrants experience obstacles in accessing medical care, including hypertension care, which can result in poor hypertension management.

The Chinese government uses a 3-tiered healthcare delivery system, with primary, secondary, and tertiary health facilities (hospitals). Patients without local health insurance coverage are free to choose health facilities at different levels, potentially leading to the substitution effect. The substitution effect occurs when an increase in the price of health services at 1 level causes patients to consume more health services at the other levels.[15] However, the services delivered by primary care facilities are usually cheaper than those provided by facilities at the other 2 levels. According to reimbursement policy, higher-level health facilities will receive lower insurance reimbursement rates. These differential reimbursement rates change the relative prices of health services at different facility levels, increasing the likelihood that patients will use lower-level healthcare facilities.

Social capital refers to social life networks, norms, and trust, and it enables households to act together more effectively to pursue shared objectives.[16,17] It is widely recognized that social capital is vital for the sustainability and effective functioning of health insurance.[18] Social capital has been shown to be a potential determinant of the demand for health insurance.[18] This study aimed to investigate the relationship between insurance status (ie, with or without local health insurance coverage) and the management and control of hypertension among Chinese migrants in primary care. It also examined whether social capital could facilitate the participation of migrants in local health insurance schemes. This study was expected to provide potentially important implications to policymakers for improved management of hypertension in primary care for migrants.

Methods

All data and supporting materials have been provided with the published article.

Ethics

This study was approved by the Ethical Committee of Shenzhen University General Hospital, Shenzhen University.

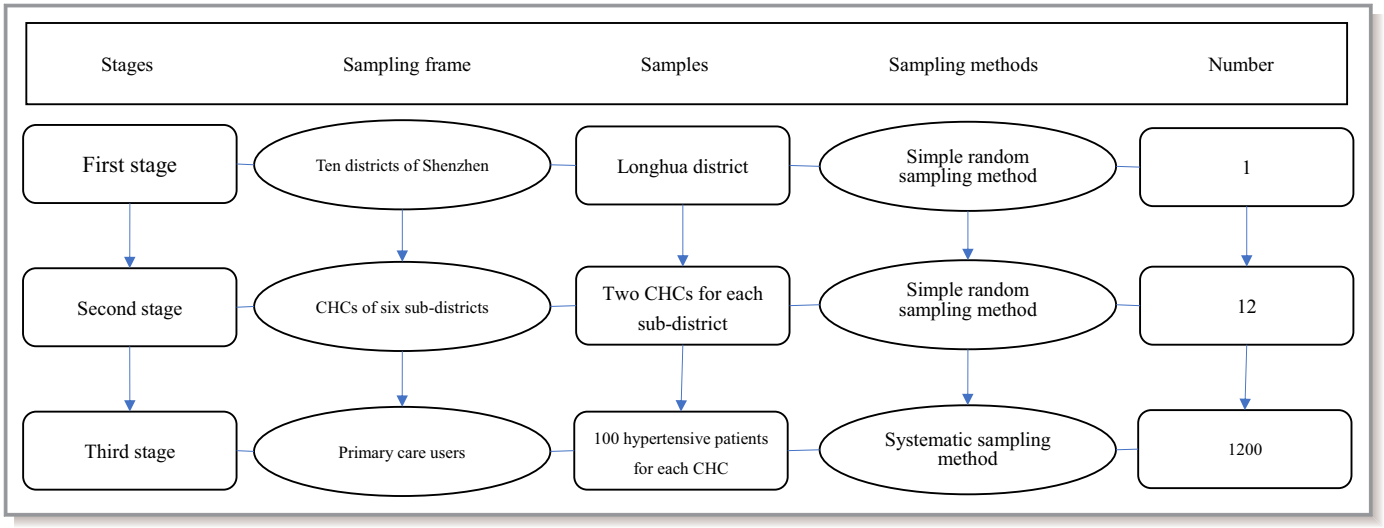

Figure. Participants were selected using multistage cluster random sampling methods. One of the 10 districts was first selected using simple random sampling methods. Then, 12 community health centers were selected employing a simple random sampling method (2 from each subdistrict). Finally, 100 hypertensive patients were consecutively approached for each community health center (1200 in total). CHC indicates community health center.

The participants were assured of the anonymity and confidentiality of the survey.

Study Settings

Shenzhen is 1 of China's economic powerhouses, attracting millions of rural-to-urban migrants. These migrants are usually minimally educated and unskilled. The Shenzhen government has launched social health insurance schemes that migrants can voluntarily join. Therefore, Shenzhen provides an interesting context for studying the impact of fragmented health insurance schemes on the management and control of hypertension for migrants in primary care.

This was a cross-sectional study conducted in Shenzhen, China. We employed multistage random cluster sampling methods to select CHCs as study settings (Figure).

Sampling Procedures

An on-site patient survey was performed. The population of primary care users formed the sampling frame. Out of a systematic sampling design, every fifth care user was selected. The inclusion criteria were (1) age more than 18 years, (2) ability to give informed consent, and (3) patient residing in Shenzhen for more than 6 months. We asked the selected primary care users whether they had diagnosed hypertension. We also performed a measurement of blood pressure. Selected participants either (1) had diagnosed hypertension or (2) had an elevated blood pressure (≥140/90 mm Hg) measurement. One hundred hypertensive patients were approached for each CHC (1200 in total) (Figure). Face-to-face interview surveys were conducted by extensively trained interviewers between March and September 2017. We obtained informed consent before the surveys started. Ultimately, 1046 participants completed the survey, for a response rate of 87.2%. The current study used a subset of the final data set that included migrants only. "Migrants" here refers to those who have lived at their current location for more than 6 months without changing their Hukou (registered resident certificate) to the new location. The study design and sampling procedures have been reported elsewhere.[19]

Variables

Employing a Donabedian framework, we used both process and outcome indicators to measure primary care management of hypertension.[20] The main health outcome was controlled hypertension, which was defined by blood pressure levels below 140 and 90 mm Hg for systolic blood pressure and diastolic blood pressure, respectively. The participants were grouped into 2 categories, those with optimal (<140/90 mm Hg) and suboptimal (≥140/90 mm Hg) blood pressure.

Interpersonal and technical indicators of the hypertension management process were studied. The Primary Care Assessment Tool was used to collect interpersonal variables. Interpersonal indicators included first contact use, first contact accessibility, continuity of care, coordination of services, and information. First contact implied accessibility to and use of services for each new health problem. Continuity of care implied care over time by a single primary

care provider and the nature of relationship with primary care providers. Coordination implied integrated services and information sharing. Technical indicators included primary care management and drug treatment of hypertension. Mean scores were calculated for the Primary Care Assessment Tool dimensions (ranging from 1 to 4). We asked the participants whether they were managed by CHCs (1=yes, 2=no, 3=do not know). We also asked the participants whether they were currently taking antihypertensive medications (1=yes, 2=no).

Social capital was measured by participation in organizations (formal networks, representing "bridging" social capital), social contacts (informal networks, indicative of "bonding" social capital), and generalized trust. For the measurement of participation in organizations/groups, the participants were asked: Are you involved in any of these kinds of organizations? Response categories included political parties, sports teams, associations such as technology and religious organizations, volunteers, hobby teams, colleagues, family, fellow townsmen, classmates (0=no, 1=yes). An unweighted sum score was estimated, ranging from 0 to 10. Three items were used to measure social contacts: (1) How often do you have contact with your family members or relatives? (2) How often do you have contact with your friends? (3) How often do you have contact with your neighbors? Responses included: 1=never, 2=seldom, 3=sometimes, 4=frequently, 5=always. An unweighted sum score ranging between 3 and 15 was estimated. We measured generalized trust by asking the participants: Would you say that most people can be trusted or that you cannot be too careful? Responses included: 1=never, 2=seldom, 3=sometimes, 4=frequently, 5=always. The mean score (ranging 1-5) was calculated.

Information on health insurance was recorded by asking: Which of the following insurance schemes you are covered by? (1=basic medical insurance scheme for urban employees, 2=basic medical insurance scheme for urban residents, 3=new rural cooperative medical insurance scheme, 4=comprehensive medical insurance scheme, 5=medical insurance scheme for migrant employees, 6=hospitalization insurance scheme, 7=do not know or not covered by any insurance scheme). The participants were grouped into 2 categories: individuals covered by local insurance schemes (4, 5, or 6) and individuals covered by social insurance schemes (1, 2, or 3).

Covariates included age in years (1=18–44, 2=45–60, 3=>60), sex (1=male, 2=female), education level (1=primary school and below, 2=middle school, 3=high school or equivalent, 4=3-year college and above), occupation (1=employed, 2=unemployed), years since diagnosis of hypertension, and family history of hypertension (1=yes, 2=no, 3=unknown).

Statistical Analyses

We used SPSS 23.0 (IBM, Armonk, NY) to perform all analyses. Descriptive statistics of the participants were calculated in terms of age, sex, education, occupation, years of hypertension, and family history of hypertension. We tested normality for these continuous variables using the Shapiro-Wilk test, and the results showed that the residuals were close to being normally distributed. A comparison of sociodemographic characteristics, social capital, hypertension management process measures, and outcome of hypertension management between the participants with and without local insurance was performed using a chi-squared test (or t test where appropriate). Multiple logistic regression models or multiple linear regression models were constructed to test the associations between insurance status and management of hypertension as well as between insurance status and social capital. Interactions between insurance status and sociodemographic characteristics were tested by analysis of covariance. All models were adjusted for age, sex, education, occupation, year of hypertension, and family history of hypertension. Odds ratios and βs (95% CIs) were reported. All $P<0.05$ were taken to represent statistical significance.

Results

Baseline Characteristics

The participants who did not know their insurance status and those who were local to the study areas were excluded from the final analysis. Any variable with >10% of data missing was excluded from further analysis on the assumption that these variables would likely be missing in a significant number of cases and would introduce bias. Consequently, 2 variables were omitted: household income and marital status. A total of 700 participants were included in the final analysis. The mean age was 54.75 years. The majority were men (60.0%) and were employed (57.8%). The mean duration of hypertension was 5.75 years. Almost half of the participants (44.9%) had a family history of hypertension. Compared with those covered by social insurance schemes, the participants covered by local insurance schemes were more likely to be younger (48.22 versus 59.71, $P<0.001$), to be male (77.0% versus 46.8%, $P<0.001$), to have a higher education level ($P<0.001$), to be employed (90.6% versus 32.8%, $P<0.001$), and to have had hypertension for fewer years (4.75 versus 6.49,[21] $P<0.001$) (Table 1).

Technical and Interpersonal Management of Hypertension and Insurance Status

The participants covered by local health insurance schemes were more likely to be managed by primary care facilities, that

Table 1. Sociodemographic Characteristics of Participants by Insurance Status

Characteristics	All Frequency (%) n=700	With Social Insurance Frequency (%) n=396	With Local Insurance Frequency (%) n=304	*P* Value*
Age (y), mean (SE)	54.75 (1.15)	59.71 (0.50)	48.22 (0.48)	
18 to 44	126 (18.6)	31 (8.1)	95 (32.4)	<0.001
45 to 60	334 (49.3)	155 (40.4)	179 (61.1)	
>60	217 (32.1)	198 (51.6)	19 (6.5)	
Sex				
Male	398 (60.0)	174 (46.8)	224 (77.0)	<0.001
Female	265 (40.0)	198 (53.2)	67 (23.0)	
Education				
Primary school and below	181 (26.4)	149 (38.5)	32 (10.7)	<0.001
Middle school	241 (35.1)	114 (29.5)	127 (42.5)	
High school and equivalent	195 (28.4)	94 (24.3)	101 (33.8)	
3-y college and above	69 (10.1)	30 (7.8)	39 (13.0)	
Occupation				
Employed	397 (57.8)	128 (32.8)	269 (90.6)	<0.001
Unemployed	290 (42.2)	262 (67.2)	28 (9.4)	
Years of hypertension, mean (SE)	5.75 (0.57)	6.49 (0.33)	4.75 (0.26)	<0.001
Family history of hypertension				
Yes	303 (44.9)	164 (42.5)	139 (48.1)	0.003
No	246 (36.4)	133 (34.5)	113 (39.1)	
Unknown	126 (18.7)	89 (23.1)	37 (12.8)	

SE indicates standard error.
*Chi-square test, or independent 2-sample t test where appropriate.

is, CHCs (82.6% versus 62.0%, $P<0.001$) and to take antihypertensive medications (87.9% versus 76.4%, $P<0.001$). Moreover, when compared with the participants without local health insurance coverage, the participants with local health insurance coverage reported a higher score in first contact use (3.49 versus 3.23, $P<0.001$), first contact accessibility (2.93 versus 2.82, $P=0.006$), continuity of care (3.17 versus 3.02, $P=0.025$), coordination of services (3.27 versus 3.13, $P<0.001$), and coordination of information (3.30 versus 3.20, $P=0.018$). After adjustments had been made for sociodemographic variables, the statistically significant differences still remained for primary care management (odds ratio=2.63, 95% CI 1.41-4.89), drug treatment (odds ratio=2.38, 95% CI 1.34-4.24), first contact use (β=0.17, 95% CI 0.05-0.29), and continuity of care (β=0.11, 95% CI 0.01-0.21) (Tables 2 and 3).

Hypertension Control and Insurance Status

The hypertension control rate among the participants with local health insurance coverage was higher than that among their counterparts without local health insurance coverage after adjustment for sociodemographic factors (48.8% versus 42.2%; odds ratio=1.38, 95% CI 1.02-2.12) (Table 2).

Social Capital and Insurance Status

After adjustments had been made for sociodemographic variables, individuals covered by local insurance schemes reported a higher perceived generalized trust score than their counterparts (4.23 versus 3.95; β=0.16, 95% CI 0.09-0.40). However, there were no statistically significant differences in participation and social contacts between the participants with and without local insurance (Table 4).

Discussion

This study compared primary care management process and outcome between migrant hypertensive patients with and without local health insurance coverage. It also investigated the association of insurance status and social capital. We

Table 2. Technical Management Process and Health Outcomes of Hypertensive Patients by Insurance Status

Variables	With Social Insurance Frequency (%) of Yes	With Local Insurance Frequency (%) of Yes	OR (95% CI)*	OR (95% CI)†
Technical management process				
Primary care management	241 (62.0)	247 (82.6)	3.00 (1.87-4.81)‖	2.63 (1.41-4.89)§
Drug treatment	298 (76.4)	261 (87.9)	2.24 (1.47-3.41)‖	2.38 (1.34-4.24)§
Health outcomes				
BP control	165 (42.2)	147 (48.8)	1.31 (1.10-1.77)§	1.38 (1.02-2.12)‡

Technical management process and health outcomes were dependent variables when regression analysis was performed. The "Do not know" response was treated as a missing value in conducting binary regression analysis. BP indicates blood pressure; OR, odds ratio.
*Univariate analysis.
†Multiple logistic regression models were performed with the participants covered by social insurance schemes as the reference group. The covariates adjusted included age, sex, education, occupation, years of hypertension, and family history.
‡$P<0.05$; §$P<0.01$; ‖$P<0.001$.

found that migrant hypertensive patients with local health insurance coverage were more likely to be under primary care management and to initiate antihypertensive medications when compared with their counterparts lacking such insurance. Moreover, the migrant hypertensive patients covered by local health insurance schemes reported a higher score in first contact use and continuity of care. The hypertension control rate was also higher among the migrant hypertensive patients with local health insurance coverage. Perceived general trust was a factor contributing to the participation of migrant hypertensive patients in local health insurance schemes.

The results showed that primary care management process and outcome, as reflected by primary care management rate, drug treatment rate, scores of first contact use and continuity of care, and hypertension control rate, were better for migrant hypertensive patients with local health insurance coverage than those without local health insurance coverage. Our findings are consistent with those of previous studies. Previous studies by Brooks et al[22] and Rivera-Hernandez and Galarraga[23] have shown that uninsured individuals were less likely to receive diagnostic screenings for hypertension and to receive treatment for hypertension. A study by Blustein[24] showed that insurance coverage increased the likelihood of patient access to antihypertensive medications. A study by Hendriks et al[25] demonstrated that an insurance program could increase access to and improve quality of health care, leading to a significant long-term reduction in blood pressure. Other studies have also confirmed that insurance was associated with improved hypertension treatment, control, or medication adherence.[26-28]

Migrant hypertensive patients without local health insurance coverage can obtain reimbursement only when they return to their home towns. Untimely reimbursement for health care services delivered in the urban areas where migrant hypertensive patients live may impose obstacles to the accessibility of hypertension care and result in poor hypertension management processes and outcomes. Although migrant hypertensive patients without local health insurance coverage are free to choose health care facilities, they tend to choose CHCs because of the lower price of health care.[29] In Shenzhen, internal migrants can apply to join local health insurance plans with no time constraints.Even so,

Table 3. Interpersonal Management Process of Hypertensive Patients by Insurance Status

Variables	With Social Insurance Mean (SD)	With Local Insurance Mean (SD)	β (95% CI)*	β (95% CI)†
First contact use	3.23 (0.03)	3.49 (0.03)	0.23 (0.18-0.34)‖	0.17 (0.05-0.29)‖
Accessibility	2.82 (0.03)	2.93 (0.02)	0.10 (0.03-0.20)§	0.09 (−0.03 to 0.20)
Continuity	3.02 (0.02)	3.17 (0.03)	0.15 (0.07-0.21)§	0.11 (0.01-0.21)‡
Coordination of services	3.13 (0.03)	3.27 (0.03)	0.14 (0.07-0.22)‖	0.09 (−0.02 to 0.19)
Coordination of information	3.20 (0.03)	3.30 (0.03)	0.09 (0.02-0.18)‡	0.06 (−0.06 to 0.18)

Primary Care Assessment Tool dimensions were dependent variables when regression analysis was performed.
*Univariate analysis.
†Multiple linear regression models were performed with the participants covered by social insurance schemes as the reference group. The covariates adjusted included age, sex, education, occupation, year of hypertension, and family history.
‡$P<0.05$; §$P<0.01$; ‖$P<0.001$.

Table 4. Social Capital of Migrants by Insurance Status

Social Capital	With Social Insurance Mean (SD)	With Local Insurance Mean (SD)	β (95% CI)*	β (95% CI)†
Organizations	1.95 (0.11)	2.20 (0.12)	0.07 (−0.04 to 0.59)	−0.02 (−0.50 to 0.31)
Contacts	10.37 (0.09)	10.66 (0.10)	0.06 (−0.06 to 0.54)	−0.01 (−0.46 to 0.37)
Trust	3.95 (0.04)	4.23 (0.03)	0.21 (0.21-0.45)§	0.16 (0.09-0.40)‡

Social capital dimensions, including participation in organizations, social contacts, and generalized trust, were dependent variables when regression analysis was performed.
*Univariate analysis.
†Multiple linear regression models were performed with the participants covered by social insurance schemes as the reference group. The covariates adjusted included age, sex, education, occupation, years of hypertension, and family history.
‡$P<0.05$; §$P<0.001$.

the willingness of migrants to acquire local health insurance schemes may increase over time. Migrant hypertensive patients with local health insurance coverage must obtain referrals from their CHC physicians for reimbursement of charges for hospital services. In other words, migrant hypertensive patients with local health insurance coverage must seek health care from CHCs before they attend higher-level healthcare facilities if they want to receive reimbursement from health insurance. Therefore, CHC physicians in Shenzhen might act as health gatekeepers for these patients, represented by good performance in first contact use and continuity of care. The gatekeeping role of CHC physicians may prevent the effective functioning of the substitution effect. Studies have suggested consolidating different health insurance schemes to reduce barriers to reimbursement for internal migrants.[30]

Results showed that generalized trust, an important component of social capital, was a factor facilitating the participation of migrant hypertensive patients in local health insurance schemes. Baum[21] and Kawachi et al[31] demonstrated that a high level of trust would facilitate cooperation and aid access to health care. Hsiao[32] pointed out that social capital was a major determinant of willingness to pay for health insurance. A study in China by Zhang et al[18] found that social capital, measured by a proxy of trust and reciprocity, had a positive and significant effect on farmers' demand for health insurance. These findings were confirmed by another study conducted by Donfouet et al[33] in a different social context, namely Central Africa. One important policy implication is to strengthen social capital through the building of trust. Our findings are important for formulating policies and strategies for sustainable development and long-term effectiveness of local health insurance schemes.

Results showed no statistically significant association between social ties and participation in local health insurance. Mladovsky et al[34] postulated that those with close ties with families, relatives, or friends often dislike benefiting others. In a qualitative study by Oh and Jeong,[35] respondents often noted that social ties did not provide helpful information about benefits, costs, and ways to use health insurance. Our findings are thus in line with those of previous studies. However, previous studies revealed that active community participation is associated with remaining enrolled in community-based health insurance schemes; that is, community participation is associated with increased community-based health insurance coverage.[36,37] Further investigations are needed to ascertain the relationship between social participation and enrollment in local health insurance schemes.

To the best of our knowledge, this study is the first to try to understand the impact of the participation of migrants in local health insurance schemes on the primary care management of hypertension. This study had a representative sample of 700 migrant hypertensive patients, and a high response rate was achieved. When sampling participants, we adopted a systematic sampling method due to the unavailability of the exact sampling population. This sampling approach could replicate random sampling methods effectively. Standard protocols and instruments were used for our data collection. Data were collected by extensively trained interviewers and supervised by a rigorous quality assurance program. However, the limitations of this study should be addressed. First, our sampling was site based, which limits its representativeness of the general hypertensive population. Second, the information collected for this study was self-reported, which may introduce recall bias. Third, the primary care management process and outcome of hypertension are subject to many other factors that were not collected and controlled for by the current study, such as comorbidities and lifestyle. Additionally, the exclusion of marital status from the final analysis may distort study findings. Fourth, a comparison of our study findings with those of previous studies should be cautious due to different definitions and measurements of social capital, the hypertension management process, and outcomes of hypertension. Finally, the cross-sectional nature of our study prevents us from establishing causal inference across social capital, participation of local health insurance, and performance in the process and outcome of hypertension management.

Conclusions

In conclusion, we found that segmented health insurance schemes have a negative impact on the primary care management and control of hypertension for migrants. Participation in local health insurance schemes may result in improved management and control of hypertension in primary care for migrants. Our study implies that social capital contributes to the participation of migrant hypertensive patients in local health insurance schemes, although the causal pathways cannot be established by the current study. Policymakers are encouraged to initiate interventions, such as social media, to build the trust of the migrant hypertensive patientst and to improve their participation in local health insurance schemes, potentially resulting in better primary care management and control of hypertension. Further studies are warranted to establish causal inferences across social capital, participation in local health insurance schemes, and primary care management process and outcome of hypertension for migrants. Consolidated and portable social health insurance schemes are an alternative approach for improvement of hypertension management and control in primary care.

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Author Contributions

Li conceived of the study. Zhu and Li took part in the study's design. Zhu and Mao participated in the data collection and analysis. Xia and Wang drafted the manuscript and were responsible for data interpretation. All authors read and approved the final manuscript.

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Disclosures

None.

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