Rural Doctors' Organizational Identification with Family Doctor Teams and Influencing Factors: A Postprint Study

Authors: Yu Yuncong, Shao Jiaxian, high sensitivity, Li Xiaona, Ma Dongping, Yin Wenqiang, Zhongming Chen, Chen Zhongming

Date: 2024-08-06T00:00:00+00:00

Abstract

Background: Rural doctors' organizational identification with family doctor teams influences their work enthusiasm and the quality of work performed by these teams, which is related to the quality of contracted family doctor services enjoyed by rural residents. Objective: To explore the influencing factors of rural doctors' organizational identification with family doctor teams, and to provide feasible measures for better operation of family doctor teams in rural areas and improvement of contracted family doctor service quality. Methods: From November to December 2021, using stratified random sampling, a total of 1,004 rural doctors from 3 prefecture-level cities in Shandong Province were selected. A self-designed questionnaire was used to investigate their demographic characteristics, work status, and organizational identification with family doctor teams. Pearson correlation analysis was used to explore the correlations between organizational identification and work-family conflict, job stability, professional training, and organizational isolation. Multiple hierarchical regression analysis was used to investigate the influencing factors of rural doctors' organizational identification. Results: Rural doctors had relatively high organizational identification with family doctor teams, with a score of (3.757$±0.713). $Correlation analysis showed that professional training was positively correlated with organizatio$ $0.156, P < 0.01)$, $while organizational isolation was negatively correlated with organizational identification(r =$ $-0.287, P < 0.01)$. $Regression analysis results indicated that professional training(=$ $0.154, P < 0.001)$ $and organizational isolation($ $=-0.262, P<0.001) were influencing factors of rural doctors' organizational identification with family doctor teams. Conclusion: Rural doctors have relatively strong identification with family doctor teams. Improving professional training for rural doctors and reducing organizational isolation among family doctor team members can help further strengthen rural doctors' organizational identification with family doctor teams.

Full Text

Study on Village Doctors' Organizational Identification with Family Doctor Teams and Its Influencing Factors

YU Yuncong[1,2,3], SHAO Jiaxian[1,2,3], GAO Min[1,2,3], LI Xiaona[1,2,3], MA Dongping[1,2,3], YIN Wenqiang[1,2,3], CHEN Zhongming[1,2,3]*

1. School of Management, Shandong Second Medical University, Weifang 261053, China

2. "Health Shandong" Severe Social Risk Prevention and Management Synergy Innovation Center, Weifang, Shandong 261053, China

3. Collaborative Innovation Center of Social Risks Governance in Health, Shanghai 200032, China

Corresponding author: CHEN Zhongming, Professor; E-mail: czm3306196@163.com

Abstract

Background: Village doctors' organizational identification with family doctor teams affects their work enthusiasm and team service quality, which in turn influences the quality of contracted family doctor services received by rural residents. **Objective:** To explore the factors influencing village doctors' organizational identification with family doctor teams and provide feasible measures to improve team operation and service quality in rural areas. **Methods:** From November to December 2021, we used stratified random sampling to survey 1,004 village doctors across three prefecture-level cities in Shandong Province using a self-designed questionnaire covering demographic characteristics, work status, and organizational identification with family doctor teams. Pearson correlation analysis examined relationships between organizational identification and work-family conflict, job stability, professional training, and organizational isolation, while multiple hierarchical regression analysis identified influencing factors. **Results:** Village doctors demonstrated relatively high organizational identification with family doctor teams (3.757 ± 0.713). Correlation analysis revealed a positive relationship between professional training and organizational isolation ($r = 0.156$, $P < 0.01$) and a negative relationship between organizational isolation and organizational identification ($r = -0.287$, $P < 0.01$). Regression analysis showed that professional training ($\beta = 0.154$, $P < 0.001$) and organizational isolation ($\beta = -0.262$, $P < 0.001$) were significant influencing factors. **Conclusion:** Village doctors have strong organizational identification with family doctor teams. Enhancing professional training and reducing organizational isolation among team members can further strengthen this identification.

Keywords: Village clinic doctors; Family doctor team; Organizational identification; Rural health; Health workforce

Village doctors serve as health gatekeepers in rural areas, providing primary healthcare services including basic medical care, disease prevention, and health education, thereby ensuring essential medical and public health services for rural residents. In 2013, to further standardize service content and address issues such as unclear role definition and poor teamwork among rural doctor service teams, the National Health and Family Planning Commission issued "Guiding Opinions on Launching Pilot Programs for Village Doctor Contracted Services," which mandated full implementation of village doctor contracted services in 2014. Subsequently, pilot programs for rural family doctor services were promoted across provinces, establishing a primary care-first system with two-way referrals that provides proactive, continuous, comprehensive, and personalized services to meet population health management needs.

Current research primarily focuses on the role of family doctor teams and existing problems, with few scholars examining village doctors' organizational identification with these teams. Organizational identification refers to members' recognition of and emotional attachment to their organization and its goals, their sense of belonging as organizational members, and their participation level. This psychological bond between employees and organization facilitates collaboration, enhances job satisfaction, and improves organizational performance. Studies on construction workers, nurses, and remote employees have identified work-family conflict, organizational training, and organizational isolation as potential influencing factors.

Rural family doctor teams mainly comprise township hospital physicians, nurses, public health doctors, and village doctors. However, these four member types do not belong to the same department, and team leaders lack substantive authority such as appointment or disciplinary powers, hindering team management and cohesion building. Teams provide disease diagnosis and treatment, nursing care, health education, and chronic disease management services to all residents across several villages, facing shortages of general practitioners, complex workloads, and heavy caseloads that require close collaboration while maintaining clear role divisions. Some teams experience issues such as public health doctors having unclear professional identities and weak participation, nurses performing monotonous tasks with limited involvement in other work, and village doctors bearing heavy workloads, reflecting problems with team member engagement and collaboration.

1.1 Study Participants

From November to December 2021, we conducted a multi-stage stratified random sampling across Shandong Province. Based on economic development levels (high, medium, low), we randomly selected three prefecture-level cities, then three counties from each city, 4-6 townships from each county, and 20-30 village doctors from each township. We distributed 1,200 questionnaires, recovered

1,093 valid responses (91.1% valid response rate), with 1,004 respondents being village doctors who had joined family doctor teams. Inclusion criteria were: engaged in family doctor service work and provided informed consent.

1.2 Survey Content

Drawing upon the Organizational Identification Scale developed by Mael and Ashforth and revised by Li Yongxin et al., and the Work-Family Conflict Scale developed by Netemeyer et al., we designed a questionnaire tailored to our research objectives. The scales used in this study have undergone reliability and validity testing in previous research with satisfactory results. The questionnaire comprised two parts: (1) demographic characteristics including gender, age, work duration, education level, and employment mode; and (2) work status measuring organizational identification, work-family conflict, organizational isolation, professional training, and job stability. All items in the second part used a 5-point Likert scale, with higher scores on professional training and organizational identification indicating greater satisfaction/stronger identification. Work-family conflict, job stability, and organizational isolation used reverse scoring, where higher scores indicated more severe conflict, poorer stability, or greater isolation.

1.3 Quality Control

Before formal data collection, research team members trained the survey administrators. A pilot survey was conducted to revise questionnaire issues. Survey administrators conducted one-on-one on-site surveys with detailed documentation. During data analysis, we inspected and excluded unqualified questionnaires.

1.4 Statistical Methods

We used SPSS 26.0 for data analysis. Categorical data were presented as frequency and percentage; continuous data were described as (x-±s). Independent samples t-test compared two groups, and one-way ANOVA compared multiple groups. Pearson correlation analysis explored relationships between organizational identification and work-family conflict, job stability, professional training, and organizational isolation. Multiple hierarchical regression analysis examined influencing factors of organizational identification. $P < 0.05$ indicated statistical significance.

2.1 Demographic Characteristics and Organizational Identification Scores

Among the 1,004 village doctors, most were male (635, 63.2%) versus female (369, 36.8%). Age concentrated in the 41-50 range (540, 53.8%), followed by 51-60 (213, 21.2%), 31-40 (187, 18.6%), $ $61 (53, 5.3%), and 18-30 (11, 1.1%). Regarding work duration, over half (518, 51.6%) had 21-30 years of

experience, with 229 (22.8%) at 11-20 years, 160 (15.9%) at 31-40 years, 41 (4.1%) at 1-10 years, 48 (4.8%) at 41-50 years, and only 8 (0.8%) at $ $51 years. Education levels were predominantly technical secondary school (557, 55.5%), followed by junior college (366, 36.5%), bachelor's degree or above (69, 6.9%), and junior high school or below (12, 1.2%). Employment modes were mainly part-farming/part-medical (427, 42.5%) and full-time medical (408, 40.6%), with medicine-primary/farming-secondary (128, 12.7%) and farming-primary/medicine-secondary (41, 4.1%) being less common.

Univariate analysis showed no significant differences in organizational identification scores by gender, age, or education level ($P > 0.05$), but significant differences by work duration and employment mode ($P < 0.05$). Post-hoc comparisons revealed that doctors with 11-20 and 21-30 years of experience had significantly higher identification than those with 1-10 years ($P < 0.05$), and those with 21-30 years had higher identification than those with 31-40 years ($P < 0.05$). For employment mode, part-farming/part-medical and farming-primary/medicine-secondary practitioners had significantly lower identification than full-time practitioners ($P < 0.05$). See Table 1 .

2.2 Scores on Organizational Identification, Work-Family Conflict, Job Stability, Professional Training, and Organizational Isolation

Village doctors' organizational identification with family doctor teams scored (3.757 ± 0.713), with the highest subscales being "using 'we' instead of 'they' " (4.174 ± 0.881) and "praising the team is praising you" (4.124 ± 0.931). Other relatively high scores included "feeling embarrassed when the team is criticized" (3.809 ± 1.209), "wondering how others view the team" (3.798 ± 0.935), and "team success is personal success" (3.611 ± 1.389). The lowest scoring item was "feeling unhappy when outsiders criticize the team" (3.024 ± 1.416). Work-family conflict was moderate (2.605 ± 0.710). Job stability scored slightly high (3.195 ± 0.943), indicating relatively poor stability. Professional training satisfaction was low (2.053 ± 0.680). Organizational isolation was high (3.757 ± 0.713), indicating serious isolation between village doctors and family doctor teams. See Table 2 .

2.3 Correlation Analysis of Organizational Identification Dimensions

Correlation analysis showed professional training positively correlated with organizational isolation ($r = 0.156$, $P < 0.01$), while organizational isolation negatively correlated with organizational identification ($r = -0.287$, $P < 0.01$). See Table 3 .

2.4 Multiple Hierarchical Regression Analysis of Influencing Factors

In Step 1, we entered work duration and employment mode (showing significant differences in univariate analysis) as control variables (Model 1). In Step 2, we added professional training as an independent variable (Model 2). In Step 3, we

added organizational isolation (Model 3). Model 2 showed that after controlling for confounders, professional training significantly influenced organizational identification ($\beta = 0.154$, $P < 0.001$), with ΔR^2 increasing from 0.020 to 0.024. Model 3 revealed organizational isolation had a stronger negative effect ($\beta =$ -0.262, $P < 0.001$), substantially improving model explanatory power as ΔR^2 increased from 0.024 to 0.066. See Table 4 .

3.1 Strong Organizational Identification Among Village Doctors

Village doctors showed relatively strong organizational identification with family doctor teams (3.757 ± 0.713), exceeding the median score of 3, indicating strong but improvable identification. Doctors with $ $51 years of experience and those in farming-primary/medicine-secondary employment modes showed lower identification, suggesting these groups need targeted attention to better integrate into family doctor teams and serve rural residents.

3.2 Negative Impact of Organizational Isolation on Identification

Organizational isolation refers to employees working remotely from colleagues, unable to participate in traditional organizational activities and communication, reducing direct interaction with coworkers and managers. This can lead to perceptions of differential treatment and lack of respect, fostering marginalization and insecurity that weaken organizational identification. Our regression results confirm organizational isolation negatively affects village doctors' identification. This likely stems from family doctor team members not working long-term in the same location, limited communication, and relatively independent work environments that create administrative and psychological barriers. To mitigate these effects, we recommend leveraging internet technology to overcome geographic limitations, increase joint work time and opportunities, enhance mutual understanding, and promote collaboration. Additionally, breaking administrative barriers and appropriately expanding team leaders' authority can improve team cohesion, strengthen village doctors' sense of presence and achievement, and reduce isolation's negative impact. Most village doctors still hold farmer status with part-farming/part-medical employment modes, differing from formal health technicians within the system and substantially affecting their organizational identification.

3.3 Positive Impact of Professional Training on Identification

Professional training positively influenced organizational identification. After family doctor contracted service promotion, some village doctors experienced increased workload and difficulty without corresponding improvement in professional skills, affecting their service delivery willingness and creating resistance toward contracted services, thereby weakening team identification. Professional training can enhance service capabilities, win patient trust, and reduce resistance to family doctor work. Additionally, training strengthens communication

and cooperation among team members, mitigating organizational isolation's negative effects. Therefore, we must strengthen village doctor training by expanding training venues, improving faculty quality, and rationally planning content to enhance applicability and practicality, ensuring training quality.

In conclusion, professional training and organizational isolation are key influencing factors. To strengthen village doctors' organizational identification, we must implement practical training programs to improve professional skills while fostering positive team climates, breaking work environment and administrative barriers, and enhancing team collaboration capabilities.

Author Contributions: YU Yuncong, SHAO Jiaxian, and CHEN Zhongming conceived the study and designed the framework; GAO Min and LI Xiaona organized and entered data; YU Yuncong and SHAO Jiaxian analyzed and interpreted results; CHEN Zhongming, MA Dongping, and YIN Wenqiang revised the manuscript; CHEN Zhongming supervised quality control and final approval. All authors confirmed the final manuscript.

Conflict of Interest: The authors declare no conflicts of interest.

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(Received: December 20, 2023; Revised: June 7, 2024)
(Editor: LI Tingting)

Note: Figure translations are in progress. See original paper for figures.