

Postprint: A Study on Factors Influencing Health Information Acquisition Among Migrant Workers

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Date: 2023-04-01T00:00:00+00:00

Abstract

[Purpose/Significance] To investigate the influencing factors of health information acquisition among China's migrant worker population, thereby providing a foundation for precise health information services for migrant workers and enhancing their health awareness, information acquisition capabilities, and the effectiveness of such targeted services. [Method/Process] Employing grounded theory, sampling interviews were conducted with 36 representative migrant workers regarding their health status, health awareness, and health information acquisition practices. The obtained audio data were transcribed verbatim, and the textual content underwent substantive coding procedures including open coding, axial coding, and selective coding, with theoretical saturation verified. [Results/Conclusion] The study identified that the primary factors influencing migrant workers' health information acquisition encompass personal, interpersonal, organizational, community, and social dimensions. A theoretical framework of the influencing factors of migrant workers' health information acquisition was constructed, elucidating the mechanisms of action of each factor. This framework can serve as a valuable reference for future research and practice in precise health information services for migrant worker populations.

Full Text

Preamble

Study on Influencing Factors of Health Information Acquisition Among Migrant Workers

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Abstract:

[Purpose/Significance] This study investigates the factors influencing health information acquisition among China's migrant worker population to provide a basis for targeted health information services, thereby improving health awareness, information retrieval capabilities, and service effectiveness for this group. [Method/Process] Based on grounded theory, 36 representative migrant workers were sampled and interviewed regarding their health status, health awareness, and health information acquisition practices. Audio data were transcribed into text and subjected to substantive coding, including open coding, axial coding, and selective coding, with theoretical saturation verified. [Result/Conclusion] The study identifies five main factors affecting migrant workers' health information acquisition: personal, interpersonal, organizational, community, and social factors. A theoretical framework of these influencing factors is constructed, clarifying the mechanisms through which each factor operates, which can better inform research and practice on targeted health information services for migrant workers.

Keywords: migrant workers; health information; information acquisition; grounded theory; influencing factors

Classification Number: G252

DOI: 10.13266/j.issn.0252-3116.2020.08.012

In 2016, China's State Council outlined in the "Healthy China 2030" blueprint that citizens' health literacy should increase from 6.48% in 2008 to 30% by 2030, while standardizing and promoting "Internet + Healthcare" services. To achieve this ambitious goal, President Xi Jinping proposed the "Healthy China Strategy" in the 19th Party Congress report, emphasizing that people's health must be prioritized in national development, with comprehensive health policies providing full-cycle health services for all citizens [1].

Migrant workers constitute a massive population that has been instrumental in driving China's urban development and industrialization, making irreplaceable contributions to the nation's modernization. However, this group typically has lower educational attainment, social status, living conditions, and economic resources, placing them in a relatively disadvantaged position. They endure year-round hard labor, face heavy pressures of raising children and supporting elderly parents, and often work in harsh environments that compromise their physical resilience. Compounding these challenges, migrant workers generally exhibit weak health awareness and limited information literacy, making them particularly in need of targeted health information services.

2 Literature Review

Health information retrieval and acquisition can facilitate self-health management, improve healthy lifestyles, prevent diseases, and provide evidence for diagnosis, playing a crucial role in enhancing public health outcomes [2].

Current domestic and international research on health information behavior has

focused on diverse populations, including the elderly [3-6], middle-aged urban residents [7], youth [8-9], college students [10-13], women [14], and healthcare consumers [15], examining their health information-seeking behaviors and influencing factors. Studies have also investigated health information queries among patients with specific conditions such as hypertension [16] and diabetes [17-18], as well as health information acquisition among urban residents [19], urban-rural heterogeneous populations [20], general users [21-23], online communities [24], and consumers [25]. Additionally, Zhang Xin studied factors influencing individual medical health information source selection behavior [26] to provide targeted guidance for domestic medical health information resource development. While these studies cover broad populations and have generated significant impact, research on health information behavior among socially vulnerable groups remains scarce, particularly regarding migrant workers.

Meanwhile, domestic library and information science research on migrant workers has primarily concentrated on their information needs [27], information literacy [28], online information acquisition [29], influencing factors of information seeking [30], and daily life information search behaviors [31], but lacks studies specifically addressing health information behaviors and services for this population. This research gap limits understanding of how to enhance migrant workers' health awareness, disease prevention, and health management capabilities.

3 Theory and Method

Traditional qualitative research often lacks reproducibility, generalizability, and verifiability [32]. Grounded theory successfully introduces quantitative analytical methods into qualitative research [33], employing generative induction to continuously extract core concepts and categories from raw data through a process of constant comparison and progressive abstraction: (1) achieving data conceptualization and simplification through continuous abstraction; (2) extracting core concepts and categories through constant comparison; and (3) mapping conceptual relationships to construct substantive theoretical models based on logical analysis of relationships between concepts and categories [34]. Grounded theory has been effectively applied in library and information science research [21, 26, 30, 32-35].

This study collected data primarily through interviews to investigate migrant workers' health status, health awareness, and health information acquisition patterns, analyzing multiple factors that influence their health information-seeking behavior. Based on grounded theory, the study excavated conceptual categories affecting migrant workers' health information acquisition and conducted substantive coding: open coding, axial coding, and selective coding.

3.1 Data Collection and Interview Design

Data collection occurred from March to May 2019. Initial convenience sampling was used to interview migrant workers at construction sites near Jiangsu Uni-

versity. The research team found that older and less-educated migrant workers had lower awareness and demand for health information, lacking recognition of its importance. Therefore, subsequent interviews employed differentiated sampling across gender, age, education level, occupation type, and work location. Interviewees included market vendors, security guards, restaurant servers, delivery personnel, construction workers, electronics factory workers, and garment factory workers. Given the challenges of written documentation at construction sites, interviews were audio-recorded and later transcribed. Participants were migrant workers employed in Zhenjiang (Jiangsu), Nantong (Jiangsu), and Shanghai. Theoretical saturation was reached at 36 participants, with no new conceptual categories emerging from subsequent interviews. Basic participant information is shown in Table 1 .

The interview outline covered five main aspects, as detailed in Table 2 : (1) current life and health status; (2) health information attention patterns and types; (3) circumstances triggering health information queries; (4) preferred channels for obtaining health information; and (5) perceived facilitators and barriers in health information acquisition.

After interviews, researchers organized and transcribed the audio materials, producing 36 text transcripts totaling over 40,000 characters. Thirty transcripts were randomly selected for data analysis using three levels of grounded theory coding to construct the theoretical model, while six transcripts were reserved for theoretical saturation testing.

3.2 Data Coding

NVivo qualitative analysis software was used as the analytical tool. Interview text data were imported into NVivo and coded with case identifiers (ZJ01, ZJ02,...ZJn for Zhenjiang; NT01, NT02,...NTm for Nantong; SH01, SH02,...SHp for Shanghai). Data were cleaned and irrelevant content removed. Following A.L. Strauss et al.'s coding procedures and validity control methods [34], the study employed member checking, memo writing, and expert analysis to ensure rigor, conducting substantive coding based on constructivist grounded theory.

3.2.1 Open Coding Open coding generated numerous conceptual categories [35]. Researchers first condensed 36 interview audios into text and coded them, yielding 371 original statements. Each statement was conceptually indexed, merging repetitive or overlapping concepts and eliminating infrequent ones. Table 3 presents examples of original statements and their conceptual coding. Through initial conceptualization, cross-cutting concepts were organized and synthesized, resulting in 67 initial concepts. Through continued comparison, induction, and merging, along with analysis of existing research, 12 conceptual categories (initial codes) were ultimately obtained, as shown in Table 4 .

3.2.2 Axial Coding Based on the 12 conceptual categories from open coding, axial coding involved classification, abstraction, and synthesis to identify shared

frameworks and establish logical relationships between categories, ultimately forming five main categories: personal factors, interpersonal factors, information factors, institutional factors, and social factors. Table 5 details these main categories, their subcategories, and connotations.

3.2.3 Selective Coding In selective coding, repeated comparison and analysis of the main categories from axial coding revealed their typical relational structures, excavating an overarching core category and developing a storyline. Table 6 presents the typical relationships. Results indicate that all five main categories significantly influence migrant workers' health information acquisition, with the core category designated as "Migrant Workers' Health Information Acquisition." Relationships between the core category and main categories were established and verified, demonstrating the core category's overarching nature. To adhere to grounded theory's saturation principle, six reserved interview transcripts were re-analyzed, with no new concepts or categories emerging, confirming theoretical saturation.

4 Model Interpretation and Findings

4.1 Model Construction

Through continuous analysis, comparison, refinement, and relationship exploration of the categories, the study found that personal, interpersonal, information, institutional, and social factors significantly influence migrant workers' health information acquisition. Personal factors play a dominant role, while interpersonal, institutional, social, and information factors provide important support, promotion, facilitation, and guarantee functions, respectively. The theoretical model of influencing factors is shown in Figure 1 [Figure 1: see original paper].

4.2 Model Analysis and Discussion

4.2.1 Personal Factors Personal factors—including individual characteristics and motivations for acquiring health information—play a dominant role. Age, education level, health awareness, and health status directly affect health information-seeking behavior: younger, better-educated, or more health-conscious migrant workers demonstrate stronger awareness and capabilities in health information acquisition. Those with poorer health often avoid hospitals due to concerns about expensive routine examinations, lost work time and income, and potential disrespect from medical staff. When urgently needing health information, they typically turn to coworkers, family, or online searches for information about symptoms, causes, precautions, and treatment options.

Individual interests, habits, and the severity or urgency of health problems for themselves or family members create specific motivations for acquiring health information. Migrant workers' daytime jobs are often long, heavy, and exhausting. After dinner, many lack televisions in their rental accommodations, making

mobile internet their sole entertainment and hobby. While online searching for health information is not operationally difficult, they often lack awareness or ability to evaluate source credibility—a critical issue in internet health information assessment [36]. For older, illiterate, or non-internet users, health information acquisition relies more on traditional “folk remedies,” hearsay, past medical experiences, street advertisements, or assistance from children and coworkers.

4.2.2 Interpersonal Factors Interpersonal factors provide supportive influence. Many migrant workers with older children still work year-round to support younger children’s education or older children’s housing needs, reuniting with family only during Spring Festival. When family members have strong health awareness and information capabilities, they become primary sources of health information. If relatives, friends, or coworkers have experienced similar health issues, migrant workers prefer consulting these trusted individuals directly. The group places high expectations on interpersonal relationships, relying on trust in consultants to judge information reliability.

4.2.3 Information Factors Information factors encompass information quality and acquisition channels. Primary channels include television/radio, social networks, the internet, and medical professionals. Convenience is paramount: migrant workers’ income is typically proportional to work hours, leaving fragmented free time mostly spent on mobile internet. When health queries arise, mobile searches are most convenient. For serious or urgent conditions, they prefer nearby hospitals, consulting medical professionals, undergoing examinations, and carefully following doctors’ advice, prioritizing information reliability. When referrals to larger hospitals are necessary, despite cost concerns, they comply, trusting medical authority.

4.2.4 Institutional Factors Favorable institutional factors promote health information acquisition, including work hours, work environment, and health security provisions. Migrant workers often face long hours, harsh conditions, and lack health security from employers. Heavy life pressures, poor environments, and excessive work hours threaten their health, leaving no time or energy for health information seeking when not ill. If employers would prioritize humanization over profit maximization—by improving compensation, respecting workers’ health, regulating work hours, providing safe environments, basic health security, and free health lectures—this would significantly enhance health awareness, health levels, and information acquisition capabilities.

4.2.5 Social Factors Social factors include service perception, economic costs, and spatial distance. When seeking medical care, migrant workers often wear work clothes and have limited education, comprehension, and expression abilities. They may speak without focusing on key points, some cannot speak Mandarin, and fail to consider whether doctors understand them, often not grasping the importance of carefully listening to and comprehending medical

advice. This communication barrier is compounded when doctors lack empathy and patience, creating a negative service perception that makes migrant workers feel disrespected, fostering inferiority complexes and fear of discussing health information.

Medical expenses—registration, examination, treatment, and lost wages—create substantial economic pressure. For major illnesses requiring transfer to larger or distant hospitals, travel costs and mobility issues due to poor health further hinder access to critical health information from specialists.

5 Conclusions and Future Directions

5.1 Research Conclusions

This study conducted in-depth interviews with 36 migrant workers in Zhejiang, Nantong, and Shanghai regarding their health status and information acquisition practices. Using grounded theory for qualitative analysis, the study constructed a theoretical model of influencing factors and provided detailed interpretation. Key findings include:

1. **Five-factor framework:** Influencing factors comprise personal, interpersonal, information, institutional, and social factors, playing dominant, supportive, guaranteeing, promoting, and facilitating roles, respectively.
2. **Dominant personal factors:** Migrant workers' low education levels, weak health awareness, poor health literacy, and heavy economic pressures lead them to avoid hospitals due to concerns about lost income, language barriers, transportation difficulties, and high costs. They often rely on experience or folk remedies when ill, preventing access to professional medical information. Daily high-intensity labor leaves them without time, energy, awareness, or ability to search for health information.
3. **Interpersonal trust:** The group places high expectations on relationships, relying on trust in helpers to judge information source reliability. Family members or relatives with higher education and stronger information capabilities can assist with online searches and expert consultations. Those with similar medical histories are particularly trusted sources.
4. **Channel convenience over reliability:** Migrant workers prioritize convenience, using fragmented time for mobile internet searches. Those lacking these skills rely on television, acquaintances, or street advertisements, with weak ability to assess information reliability. For serious conditions, they turn to medical professionals, recognizing their authority.
5. **Institutional barriers:** Exploitative employment relationships, excessive work hours, polluted environments, inadequate health and safety protections, and lack of basic health security threaten workers' health and limit their awareness and time for health information acquisition.

6. **Social obstacles:** Some doctors' lack of empathy and patience, even discrimination, creates negative service perceptions. High medical costs, lost income, and travel expenses for referrals create economic burdens. Spatial barriers include long distances, unfamiliarity with routes, and mobility limitations. These factors hinder access to critical health information from medical experts.

5.2 Future Directions

This study clarifies influencing factors, providing a foundation for targeted health information services. Future research should address the practical problems identified, developing precision services from an information professional perspective to improve health awareness, information capabilities, healthcare accessibility, and cost efficiency. Specific areas include: screening and providing authoritative information sources; digitizing and permanently preserving medical records and imaging from various hospitals; constructing and managing migrant workers' health records; training in health information retrieval; recommending nearby hospitals; providing contact information for disease specialists; disseminating popular knowledge about symptoms, causes, prevention, and treatment; and categorizing occupational safety and health information. Developing one-stop precision health information services tailored to migrant workers' needs aligns with the "Internet + Healthcare" trend for this large population.

References

- [1] Central Committee of the Communist Party of China, State Council of the People's Republic of China. "Healthy China 2030" Planning Outline[J]. Chinese Practical Journal of Rural Doctor, 2017(7): 1-2.
- [2] Pan Ying, Zheng Jianming. Review of Foreign User Information Behavior Research from a Multidisciplinary Perspective[J]. Library, 2019, 47(9): 67-74.
- [3] Eriksson B, Kristina, Enwald, et al. Health information seeking, beliefs about abilities, and health behaviour among Finnish seniors[J]. Journal of Librarianship and Information Science, 2018, 50(3): 284-295.
- [4] Enwald H, Kangas M, Keränen N, et al. Health information behaviour, attitudes toward health information and motivating factors for encouraging physical activity among older people: differences by sex and age[J]. Information Research, 2017, 22(1): isic1623.
- [5] Tong Qiuwen. Research on Health Information Acquisition Behavior of Urban Elderly in Hebei Province[D]. Baoding: Hebei University, 2016.
- [6] Zhu Shubei, Deng Xiaozhao. Research on Influencing Factors of Elderly People's Online Health Information Seeking Behavior[J]. Library and Information Service, 2015, 59(5): 60-67, 93.

- [7] Wang Ziyue. Research on Online Health Information Seeking Behavior and Its Influencing Factors Among Middle-Aged Urban Residents[D]. Hangzhou: Zhejiang University, 2019.
- [8] Tang Haixia, Zhao Wenlong, Wu Hao, et al. Research on Young People's Health Information Acquisition Channels and Influencing Factors[J]. Journal of Medical Informatics, 2016, 37(4): 22-28.
- [9] Li Ying, Yang Weina, Li Yuan. Research on Health Information Seeking Behavior of Urban and Rural Youth in Digital Environments[J]. Information Science, 2016, 34(11): 53-59.
- [10] Khalil GE, Beale IL, Chen MX, et al. A videogame promoting cancer risk perception and information seeking behavior among young-adult college students: a randomized controlled trial[J]. Jmir Serious Games, 2016, 4(2): e13.
- [11] Jin Yan, Han Yongli, Deng Shengli. Research on College Students' Health Information Seeking Behavior Based on Mobile Terminals[J]. Library Theory and Practice, 2018, 40(6): 72-76.
- [12] Xu Yao. Research on Influencing Factors of College Students' Health Information Acquisition Behavior in New Media Environment[D]. Wuhan: Central China Normal University, 2018.
- [13] Zhou Xiaoying, Cai Wenjuan. Research on College Students' Online Health Information Seeking Behavior Patterns and Influencing Factors[J]. Information and Documentation Services, 2014, 35(4): 50-55.
- [14] Zhu Shubei. Research on Female Users' Online Health Information Seeking Behavior[J]. Information Research, 2018, 254(12): 65-70.
- [15] Jaafar NI, Ainin S, Wai YM. Why bother about health? a preliminary study on the factors that influence health information seeking behaviour among healthcare consumers[J]. International Journal of Medical Informatics, 2017, 104: 38-44.
- [16] Zhou Jie. Research on Health Information Query Behavior of Hypertension Patients in Guizhou Province[D]. Zunyi: Zunyi Medical University, 2019.
- [17] Jamal A, Khan SA, AlHumaid A, et al. Association of online health information-seeking behavior and self-care activities among type 2 diabetic patients in Saudi Arabia[J]. Journal of Medical Internet Research, 2015, 17(8): e196.
- [18] Nina, Wu Ke, Jia Huiying, et al. Correlation Study Between Health Information Acquisition Behavior and Health Status of Community Diabetic Patients[J]. Chinese Journal of Health Education, 2019, 35(1): 46-49, 53.
- [19] Hou Wanjiao, Yang Zigang. Analysis of Influencing Factors of Health Information Seeking Behavior Among Chinese Urban Residents[J]. Modern Intelligence, 2019, 39(7): 77-85.

- [20] Song Shijie, Zhao Yuxiang, Zhu Qinghua. Impact of Health Information Acquisition Channels on Health Literacy Cultivation: Based on Urban-Rural Heterogeneity Perspective[J]. *Library and Information*, 2018(5): 36-43.
- [21] Zhang Min, Liu Xuerui, Zhang Yan. Conceptual Model of Online Health Community Users' Medical Information Help-Seeking Behavior Formation Mechanism: An Exploratory Study Based on Grounded Theory[J]. *Information Science*, 2019, 37(4): 22-28.
- [22] Zhang Min, Liu Xuerui, Zhang Yan. Systematic Review of Empirical Research on Online Health Information Help-Seeking Behavior: Knowledge System, Influencing Factors, and Frontier Analysis[J]. *Library and Information Service*, 2018, 62(15): 122-131.
- [23] Deng Shengli, Guan Xian. Research on Influencing Factors of Users' Health Information Acquisition Intention Based on Q&A Platforms[J]. *Information Science*, 2016, 34(11): 53-59.
- [24] Deng Shengli, Fu Shaoxiang. Application of Qualitative Comparative Analysis (QCA) in Library and Information Science: A Case Study on Influencing Factors of Online Community Health Information Seeking[J]. *Information Studies: Theory & Application*, 2017, 40(12): 23-28, 11.
- [25] Wei Xuexia. Analysis of Obstacles and Countermeasures for Consumer Health Information Acquisition and Utilization[D]. Chongqing: Chongqing Medical University, 2017.
- [26] Zhang Xin, Wang Dan. Research on Influencing Factors of Individual Medical Health Information Source Selection Behavior Based on Grounded Theory[J]. *Library and Information Service*, 2018, 62(14): 5-13.
- [27] Wei Wei, Huang Lixia. Analysis of Migrant Workers' Information Needs Based on Maslow's Hierarchy of Needs[J]. *Library Science Research*, 2016, 37(5): 58-62.
- [28] Cheng Huawei, Liu Jinxing. Analysis of New Generation Migrant Workers' Information Literacy Status and Cultivation Paths[J]. *Information Science*, 2015, 33(2): 105-108, 120.
- [29] Fang Feiyan, Wang Xueqin, Yang Wujian. Analysis of Migrant Workers' Online Information Retrieval Behavior: A Case Study of Zhejiang Province[J]. *Library Work and Study*, 2016, 239(1): 121-125, 129.
- [30] Tao Ying, Zou Chunlong, Zhou Li. Research on Influencing Factors of Migrant Workers' Information Seeking Based on Grounded Theory[J]. *Library and Information Service*, 2016, 60(17): 110-115.
- [31] Han Zhengbiao, Lin Yansheng. Empirical Study on Migrant Workers' Daily Life Information Seeking Behavior from Social Capital Perspective: A Case Study of Jiangsu Province[J]. *Library and Information Service*, 2016, 60(13): 100-108.

- [32] Charmaz K. Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis[M]. Thousand Oaks: Sage, 2006.
- [33] Charmaz K. Constructivist and Objectivist Grounded Theory[A]//Denzin N K, Lincoln Y. Handbook of Qualitative Research. Thousand Oaks: Sage, 2000: 509-535.
- [34] Wu Yi, Wu Gang, Ma Songge. Review of the Origin, Schools, and Application Methods of Grounded Theory: Based on Case Analysis of Workplace Learning[J]. Distance Education Journal, 2016, 35(3): 32-41.
- [35] Zhang Xiaona. Influencing Factors of Public Library Health Information Service Satisfaction from Grounded Theory Perspective[J]. Library Tribune, 2019, 39(7): 91-98.
- [36] Strauss AL, Corbin JM. Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory[M]. Thousand Oaks: Sage, 1998.
- [37] Layder D. New Strategies in Social Research: An Introduction and Guide[M]. Cambridge: Polity Press, 1993.
- [38] Song Shijie, Zhao Yuxiang, Song Xiaokang, et al. Research on Influencing Factors of Distorted Health Information Credibility Judgment in Internet Environment[J]. Journal of Library Science in China, 2019, 45(4): 72-85.

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Received: 2019-09-02

Revised: 2019-10-26

Pages: 103-110

Responsible Editor: Yi Fei

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

Source: ChinaXiv — Machine translation. Verify with original.