A Study on Health Education Needs of Residents in Different Community Types (Postprint)

Authors: Yi Minzhe, Gao Qingtao, Yang Xianxiao, Chen Weiwei, Minzhe Yi

Date: 2025-07-21T00:00:00+00:00

Abstract

Background Community health education, as a low-cost and high-benefit health promotion approach, has received widespread attention. However, current research on health education needs lacks an analytical framework based on different community types, making it difficult to fully explain residents' differential and diverse health education needs under the complex demographic composition of urban communities. Objective To investigate the needs for and differences in health education content among residents of different community types, so as to provide support for community health medical science popularization work. Methods The study was conducted in Hangzhou on 2024-04-06, employing a combined qualitative and quantitative research approach. At the qualitative research level, purposive sampling was used to select residents from heterogeneous, transformed, homogeneous, and parallel community types in Hangzhou as interview subjects (n=14) for open-ended interviews, to understand residents' perceptions of community health education needs; simultaneously, 21 policy documents were included to understand the knowledge system that residents should possess regarding health education. Nvivo 12.0 software was used to perform three-level coding of textual materials, categorizing health education content needs based on resident perspectives and policy document analysis. A survey questionnaire was designed based on the summarized need themes. At the quantitative research level, residents from the four community types in Hangzhou were selected as survey respondents, and residents' health education content needs were quantified using a 5-point Likert scale. Descriptive statistics, nonparametric tests, and multivariate Logistic regression models were employed to explore the degree of need for health education content and its differences among residents of different community types. Results The qualitative study integrated eight major health education themes based on resident perspectives, with 23 specific educational contents under them. The eight major health education themes were: major disease prevention and treatment, healthy lifestyle, maternal and child health, mental health, environmental health, medication health, safety

and emergency health, and sex education. The quantitative study collected 299 valid questionnaires, with an effective response rate of 94.03%. The health education content considered most needed by residents was first aid knowledge education [5 (4, 5) points], followed by cancer prevention and treatment education [4 (4, 5) points]. Kruskal-Wallis H test results showed that health education needs differed among residents with different education levels, income levels, and community types (P<0.05). Further multivariate Logistic regression analysis revealed that residents' education level influenced needs for diabetes prevention and treatment and life safety education (P<0.05), income level influenced needs for cardiovascular and cerebrovascular disease prevention and treatment and infectious disease prevention and treatment education (P<0.05), and community type influenced needs for natural environment pollution prevention, infectious disease prevention and treatment, diabetes prevention and treatment, cardiovascular and cerebrovascular disease prevention and treatment, first aid knowledge, and life safety education (P<0.05). Conclusion Residents' community health education needs vary, influenced by the interaction of multiple factors including residents' education level and income level, as well as community health resources. Different types of communities should closely center on residents' perceptions of health education needs for precise positioning, while ensuring the effectiveness and equity of educational resources.

Full Text

Preamble

The Residents' Perception of Health Education Needs in Different Community Types

YI Minzhe[1]*, GAO Qingtao[1], YANG Xianxiao[1], CHEN Weiwei[2]

[1]School of Art and Design, Zhejiang Sci-Tech University, Hangzhou 310018, China
[2]Ophthalmology, the First Affiliated Hospital of Nanchang University, Nanchang 330006, China

*Corresponding author: YI Minzhe, Associate professor; E-mail: minzhe@zstu.edu.cn

Abstract

Background Community health education is widely recognized as an effective health promotion strategy with low costs and high benefits. Nevertheless, existing research on health education needs lacks an analytical framework based on various community types, making it difficult to fully explain the differentiated and diverse health education needs under the complex population composition of urban communities. **Objective** To investigate the health education needs of residents in different types of communities and whether there are significant differences, thereby providing support for community health medical science popularization efforts. **Methods** This study was conducted in Hangzhou from April to June 2024, employing a mixed-methods research approach. The qualita-

tive research phase involved purposive sampling to select open-ended interviews from heterogeneous, transformed, homogeneous and system-based community types, aiming to understand residents' perceptions of health education needs. A total of 14 residents were included, along with 21 policy texts to understand the knowledge system residents should possess in health education. Nvivo 12.0 software was utilized to perform a three-level coding of the text data, categorizing health education content needs based on resident perspectives and policy document analysis. Based on the identified themes, a questionnaire was designed. In the quantitative research phase, residents from four community types were selected as survey subjects, and the Likert 5-point scale was used to quantify the needs for health education content. Then, descriptive statistics, nonparametric tests, and multivariate Logistic regression models were employed to investigate the degree of these needs and differences in health education content among different community types. **Results** The qualitative research synthesized eight primary themes of health education: major disease prevention and control, healthy lifestyles, maternal and child health, mental health, environmental health, medication health, emergency and safety, and sex education, encompassing 23 specific educational topics. A total of 299 valid questionnaires were collected in the quantitative research, with a response rate of 94.03%. The results highlighted that the highest need is first aid knowledge [5(4,5)], followed by cancer prevention and treatment [4(4,5)]. Kruskal-Wallis H test results indicated that residents' educational level, income level, and different types of communities had a significant impact on the health education needs ($P<0.05$). Further multivariate Logistic regression analysis showed that different educational levels significantly influenced the needs for diabetes prevention ($P<0.05$) and life safety education, different income levels significantly affected the needs for cardiovascular and cerebrovascular disease prevention and infectious disease prevention ($P<0.05$), and different types of communities had significant differences in the needs for natural environmental pollution prevention, infectious disease prevention, diabetes prevention, cardiovascular and cerebrovascular disease prevention, first aid knowledge, and life safety education ($P<0.05$). **Conclusion** Residents' perceptions of community health education needs are diverse, influenced by multiple factors such as educational level, income level, and community health resources. Different types of communities should closely align with residents' perceptions of health education needs for precise targeting, while ensuring the effectiveness and equity of educational resources.

[**Key words**] Health education needs; Community type; Community residents; Difference analysis; Text analysis

Introduction

Under the guidance of the "Healthy China 2030" Planning Outline, improving national health literacy and strengthening health promotion have become national strategic priorities. In this context, health education, as a low-cost,

high-yield approach to health improvement, has attracted widespread attention. Communities serve as crucial implementing entities for health education, yet they struggle to achieve comprehensive coverage given limited resources and diverse resident health issues. Therefore, it is necessary to optimize health education resource allocation based on actual community conditions and resident needs, laying the foundation for more targeted medical science popularization.

Current research on community health education needs has several limitations. First, studies often focus on specific disease populations, such as chronic diseases, infectious diseases, or cancer patients, or examine single demographic groups like the elderly, women, or parents of young children. While valuable, this approach may lead to resource allocation biases if community health education targets only specific groups. Second, community characteristics' impact on resident health has become a research hotspot in public health and epidemiology. Community health facility availability and health activity organization constitute important community features that influence residents' health education needs. Thus, incorporating community characteristics into health education needs analysis is essential.

This study examines health education needs from a holistic community characteristics perspective, addressing three key questions: (1) What health education content do residents prioritize? (2) What differences exist in health education needs among residents of different community types? (3) What are the underlying causes of these differences?

1. Subjects and Methods

This study employed a mixed-methods approach combining qualitative and quantitative research (Figure 1 [Figure 1: see original paper]) to investigate residents' health education content needs. The qualitative phase used three-level coding to identify health education demand themes, while the quantitative phase utilized descriptive statistical analysis, nonparametric tests, and multivariate Logistic regression models to analyze differences in health education needs across community types and explore underlying causes.

1.1 Community Type Classification

To understand education needs across different communities, this study adopted a composite community classification framework, drawing on standards from Wenzhou Medical University. From both physical and social environmental perspectives, communities were categorized into four types: homogeneous, transformed, heterogeneous, and system-based. This composite approach better captures overall community characteristics than single-dimensional classifications based solely on demographic features or functional capacity.

Homogeneous communities primarily refer to old work-unit communities in urban areas, characterized by low-rise buildings, inadequate supporting facilities, and prominent aging populations. **Heterogeneous communities** consist

of new commercial housing estates with standardized green space, emphasizing environmental and service quality, and housing predominantly middle- to high-income residents. **System-based communities** are typically located in suburban areas, having spatially integrated into the city while retaining village forms, serving as gathering places for low-income groups and migrant populations. **Transformed communities** comprise resettlement housing for demolished villages, with residents mostly being former villagers who retain rural governance models. Specific classification criteria are detailed in Table 1 .

1.2 Data Collection

1.2.1 Qualitative Data Collection Qualitative data were collected through policy text analysis and resident interviews, integrating macro-level policies and micro-level individual perspectives to categorize health education content.

At the macro policy level, programmatic government documents and policy regulations on health education were collected as guiding references to identify the knowledge system residents should possess. Data were collected from notices, opinions, and outlines issued by the State Council and National Health Commission between 2014-2024, using search terms "health education," "healthy China," and "health action." Following relevance screening, 63 policy documents were initially obtained. After detailed review and elimination of highly redundant documents across different years, 21 valid health education policy documents were retained, coded Z001-Z021.

At the micro individual level, open-ended interviews were conducted to capture residents' actual needs during community health education. Interviewees, as education recipients, generate subjective educational needs based on personal experiences and direct perceptions. Interview guides were designed around educational content needs, format preferences, and current community education status. Using purposive sampling, recruitment was conducted in Xiaoshan District, Hangzhou, targeting residents who: (1) had lived in the community for over six months; (2) were aged 18+; (3) possessed adequate comprehension and communication abilities. Interviews were conducted face-to-face at respondents' homes from April 3-17, 2024, by two research team members, with full audio recording and strict adherence to informed consent, privacy protection, and non-maleficence principles. Fourteen residents were interviewed (3 from heterogeneous, 4 from transformed, 3 from homogeneous, and 4 from system-based communities), with an average interview duration of 20 minutes. Transcripts yielded 38,905 words of text material, coded P001-P014.

1.2.2 Quantitative Data Collection Based on qualitative coding results, a resident health education needs questionnaire was developed including: (1) basic respondent information (gender, age, education level, annual household income, community type); (2) community health education content needs covering eight themes and 23 items (Table 3). Each item used a 5-point Likert scale scored 1-5, with higher scores indicating greater need. Reliability analysis yielded a

Cronbach' s α coefficient of 0.926, KMO value of 0.787, and Bartlett' s test of sphericity showed statistical significance (^{2}=913.039, P<0.001), indicating good reliability and validity.

Sample size was estimated using PASS software, setting α at 0.05, power at 0.8, and medium effect size (0.5), with variance set at 1 based on pilot data. The minimum sample size per group was calculated as 63. To account for potential invalid questionnaires, a 10% missing rate was added, requiring 296 total participants across four community types.

Using purposive sampling, field surveys were conducted from May 30 to June 12, 2024, in Chengxiang, Shushan, and Xintang subdistricts of Xiaoshan District, Hangzhou. Through site visits, communication with neighborhood committees and property management, and review of Anjuke platform information, 2 homogeneous, 3 heterogeneous, 2 system-based, and 3 transformed communities were selected. Inclusion criteria were: (1) age 18+; (2) adequate reading comprehension; (3) community residence over six months; (4) informed consent and voluntary participation. Exclusion criteria included community governance practitioners (property management, street/subdistrict staff) and those refusing participation.

A total of 318 questionnaires were collected, with 299 valid questionnaires after excluding incomplete responses, yielding a 94.03% valid response rate that met sample size requirements.

1.3 Data Analysis

1.3.1 Qualitative Data Analysis Nvivo 12.0 software was used for data analysis. Eighteen policy documents and 11 interview transcripts were randomly selected for coding, with remaining samples reserved for theoretical saturation testing. To ensure coding reliability, two coders independently analyzed the data, then merged and compared results. Discrepancies were resolved through repeated discussion until consensus was reached, yielding a Kappa value of 0.75, indicating high reliability.

Three-level coding was performed to identify health education content needs. **First-level open coding** extracted 673 raw statements for conceptual processing (Table 2), generating 78 initial concepts that were integrated into 66 initial categories after excluding duplicates and irrelevant concepts. **Second-level axial coding** clustered these into 23 main categories. **Third-level selective coding** consolidated these into eight core categories: major disease prevention and control, healthy lifestyles, maternal and child health, mental health, environmental health, medication health, emergency and safety, and sex education, with reference points of 160, 71, 66, 87, 128, 70, 68, and 45 respectively. Major disease prevention and control had the most reference points (23.0%), suggesting community health education should strengthen related publicity. Theoretical saturation testing of remaining documents yielded no new conceptual nodes, indicating data saturation.

1.3.2 Quantitative Data Analysis SPSS 26.0 software was used for statistical processing. Count data were expressed as relative frequencies; non-normally distributed measurement data were expressed as M(P25, P75). Mann-Whitney U test was used for two-group comparisons, Kruskal-Wallis H test for multi-group comparisons, and Holm-Bonferroni correction for pairwise comparisons. Given potential hierarchical structure in data from four community types, multilevel Logistic regression was initially considered. However, with intraclass correlation coefficients (ICC) <0.1 across all models, indicating weak hierarchical structure, single-level Logistic regression was adopted. Statistical significance was set at $P<0.05$.

2. Results

2.1 Qualitative Research Findings

Three-level coding identified eight health education themes with 23 specific content items based on resident perspectives and policy analysis.

2.2 Quantitative Research Findings

2.2.1 Demographic Characteristics Among 299 valid respondents, 74 were from homogeneous communities, 76 from transformed communities, 74 from heterogeneous communities, and 75 from system-based communities. Gender distribution was nearly equal (149 males [49.8%], 150 females [50.2%]). Age distribution: 18-30 years (91 [30.4%]), 31-40 years (80 [26.8%]), 41-51 years (64 [21.4%]), and >51 years (64 [21.4%]). Education levels: junior high school or below (30 [10.0%]), high school/technical secondary school (38 [12.7%]), college/bachelor' s degree (138 [46.2%]), and master' s degree or above (93 [31.1%]). Annual household income: $ $50,000 RMB (23 [7.7%]), >50,000-100,000 RMB (84 [28.1%]), >100,000-200,000 RMB (118 [39.5%]), and >200,000 RMB (74 [24.7%]).

2.2.2 Ranking of Resident Health Education Needs Analysis of medians, quartiles, and proportions of "relatively needed"and "very needed"responses revealed overall demand patterns. **First aid knowledge education** ranked highest [5(4,5) points], with 265 residents (88.6%) rating it as "relatively needed" or "very needed." **Cancer prevention education** [4(4,5) points] was second, with 252 residents (84.3%) expressing high need. Other high-demand content included respiratory disease prevention education, mental health education, and healthy diet education, all with medians of [4(4,5) points] and high-need proportions exceeding 83%.

Community-specific patterns emerged: **Homogeneous community** residents showed relatively balanced needs, with cancer prevention education having the highest proportion (67 [90.5%]) expressing high need, while medication safety, indoor air pollution prevention, and noise pollution prevention education had the lowest proportions (55 [74.3%] each). **Heterogeneous community** residents

demonstrated balanced needs across content areas, with 63 residents (85.1%) expressing high need for both first aid and reproductive health education. **Transformed community** residents showed extremely high demand for respiratory disease prevention education (71 [93.4%]) and first aid education (69 [90.8%]), but relatively low demand for natural environmental pollution prevention education (37 [48.7%]). **System-based community** residents generally showed high demand across all content, with life safety education (69 [92.0%]), infectious disease prevention education (69 [92.0%]), and mental health education (68 [90.7%]) ranking highest.

2.2.3 Comparison of Health Education Needs Across Demographic Groups No statistically significant differences were found by gender or age ($P>0.05$). However, significant differences emerged by education level, income level, and community type ($P<0.05$). At the thematic level, environmental health education, major disease prevention education, and emergency safety education showed significant differences across community types ($P<0.05$). At the specific content level, natural environmental pollution prevention, cardiovascular and cerebrovascular disease prevention, diabetes prevention, infectious disease prevention, first aid knowledge, and life safety education showed significant differences across community types ($P<0.05$) (Table 4).

2.2.4 Multivariate Logistic Regression Analysis of Health Education Needs Multilevel Logistic regression analysis showed ICC values <0.1 across all models, indicating weak hierarchical structure, thus single-level Logistic regression was adopted. The analysis focused on six education content items showing significant differences by community type in univariate analysis. Education level, income level, and community type were included as independent variables.

Education level effects: Compared with master' s degree or above, junior high school or below residents showed higher demand for diabetes prevention education [OR(95%CI)=3.974(1.718-9.192)] and life safety education [OR(95%CI)=5.133(2.051-12.846)] ($P<0.05$).

Income level effects: Compared with income >200,000 RMB, residents with incomes of >50,000-100,000 RMB [OR(95%CI)=2.003(1.102-3.639)] and >100,000-200,000 RMB [OR(95%CI)=2.246(1.286-3.921)] showed more urgent demand for cardiovascular and cerebrovascular disease prevention education ($P<0.05$). For infectious disease prevention education, all lower income groups showed significantly different demand compared with the highest income group [ORs(95%CIs) from low to high: 2.717(1.034-7.136), 1.921(1.061-3.480), 1.839(1.044-3.238)], with demand decreasing as income increased ($P<0.05$).

Community type effects: Community type significantly influenced needs for natural environmental education, cardiovascular and cerebrovascular disease prevention, diabetes prevention, infectious disease prevention, first aid knowledge, and life safety education ($P<0.05$). Pairwise comparisons revealed specific

patterns (Table 6): For natural environmental pollution prevention education, homogeneous communities [4(4,5) points] showed higher demand than transformed [3(3,4) points] and heterogeneous communities [4(3,4) points] ($P<0.05$), while system-based communities [4(3,5) points] showed higher demand than transformed communities ($P<0.05$). For cardiovascular and cerebrovascular disease prevention and diabetes prevention, system-based communities showed higher demand than heterogeneous communities ($P<0.05$). For infectious disease prevention education, heterogeneous communities [4(3,5) points] showed lower demand than both system-based [5(4,5) points] and transformed communities [5(4,5) points] ($P<0.05$). For first aid knowledge education, heterogeneous communities [4(4,5) points] showed lower demand than transformed communities [5(4,5) points] ($P<0.05$). For life safety education, system-based communities [4(4,5) points] showed higher demand than heterogeneous communities [4(3,5) points] ($P<0.05$).

3. Discussion

3.1 Causes of Varying Health Education Demand Levels

Residents showed strong demand for emergency safety and major disease prevention themes, consistent with He Yige et al.' s findings in Sichuan Province. This likely reflects the close connection between these themes and basic physiological health needs, mapping onto Maslow's hierarchy of physiological and safety needs. Among disease prevention topics, cancer prevention education had the highest demand. According to National Cancer Center data, China had approximately 4.8247 million new cancer cases in 2022, raising public awareness. Additionally, Zhejiang residents' insufficient recognition that "cancer is preventable" may further drive demand for cancer prevention education.

3.2 Causes of Differentiated Health Education Needs

Significant differences across community types emerged in three thematic areas:

Environmental health theme: Natural environmental pollution prevention education showed significant variation. Transformed communities demonstrated lower demand compared with homogeneous and system-based communities, while heterogeneous communities showed lower demand than homogeneous communities. This may stem from retained rural cultural values in transformed communities, where some residents cultivate vegetables in community green spaces, reflecting incomplete understanding of the environment-health relationship and reducing demand for professional environmental education. Cheng Mengguang' s analysis of CGSS data also found urban residents' environmental behavior scores generally higher than rural residents' . Conversely, homogeneous and system-based communities showed higher environmental education demand, possibly related to limited space, insufficient green coverage, and poor sanitation. During old community renewal, conflicts between infrastructure and ecological space needs become prominent, with residents increasingly

demanding improved green space quality and environmental sanitation. As one resident noted: "My community is old. During renovation, much greenery was converted to parking spaces. But I think greenery is important, and there are sanitation issues. I think residents need education on maintaining environmental hygiene" (P004). Heterogeneous communities' lower demand likely reflects their already high greening rates and environmental quality.

Major disease prevention theme: Cardiovascular and cerebrovascular disease prevention, diabetes prevention, and infectious disease prevention education showed significant differences. System-based community residents generally demonstrated higher demand than heterogeneous community residents, while transformed communities showed higher infectious disease prevention demand than heterogeneous communities. This may be attributed to health resource accessibility. Heterogeneous communities, benefiting from key government development, enjoy abundant public resources and services, enabling easier access to health services and more frequent community health education activities, thereby reducing dependence on external education. In contrast, system-based and transformed communities in urbanization processes have relatively scarce health resources. Interview data confirmed this: half of system-based community respondents reported lacking disease-related health activities, one-third of transformed community respondents reported the same, while no heterogeneous community respondents did. As Wang Sanxiu noted, this uneven distribution of health resources and services intensifies demand for major disease prevention education in some communities. Additionally, Logistic regression showed higher-income groups had lower demand for cardiovascular and cerebrovascular disease prevention and infectious disease prevention education. In this study, 67.6% of heterogeneous community residents had annual incomes exceeding 100,000 RMB, the highest proportion among all community types, confirming their lower demand. Education level also significantly affected diabetes prevention education demand, with junior high school or below residents showing higher demand than those with master' s degrees or above. One resident stated: "I didn' t even finish junior high. I hope the community can teach us low-education people more, like about my diabetes, in simple terms—how to use and read the glucometer, and how to adjust diet" (P001). Research confirms that chronic disease prevention literacy increases with education level, thereby reducing demand.

Emergency safety theme: First aid knowledge education demand differed significantly between heterogeneous and transformed communities, with transformed communities showing more prominent needs. This may relate to transformed community residents' recent transition from rural to urban areas, still adapting to urban environments, and lacking professional emergency knowledge and skills. One resident noted: "I' m quite concerned about how to provide first aid in emergencies. Although the probability is low, when it happens it' s very urgent" (P001). In contrast, heterogeneous communities as new commercial housing have more standardized and safe living environments with fewer emergencies. Additionally, community health education activity prevalence af-

fects first aid knowledge acquisition. Over half of heterogeneous community respondents reported community-hosted first aid lectures, indicating higher public awareness and lower demand, while less than one-quarter of transformed community respondents reported such activities. For life safety education, significant differences existed between system-based and heterogeneous communities, with system-based residents showing higher demand. As suburban villages, system-based communities may have more safety hazards like old buildings and damaged infrastructure awaiting repair. One resident stated: "There' s a river near my home with no protection, and someone fell in before. I think residents need safety knowledge education and preventive measures" (P003). Logistic regression also indicated this demand difference may be influenced by education level, with junior high school or below residents showing higher life safety education demand than those with master' s degrees or above, possibly because higher-education groups have stronger health information comprehension and discrimination abilities. Heterogeneous communities, as upper-middle class residential areas, have residents with generally higher education levels and greater safety awareness and mastery.

3.3 Recommendations for Optimizing Community Health Education Strategies

These findings provide empirical data for community health education, though limitations include the single-region focus on Xiaoshan District, Hangzhou. Future research should expand to multiple regions for broader generalizability. Additionally, this study focused on holistic analysis across community types; future research should examine specific populations like the elderly or chronic disease patients, and the applicability of different health education formats.

Ensure content authority: With diverse online health information channels, residents prefer authoritative sources. As one resident stated: "Compared with various articles, I' m more willing to read pieces published by professional authoritative institutions" (P012). Communities should collaborate with local hospitals, disease control centers, and universities to build professional, authoritative health education resource libraries ensuring scientific accuracy. Digital media has become crucial for health education dissemination, with residents noting: "I hope health education activities can incorporate digital elements for better online dissemination" (P002). Digital tools can enrich presentation formats and improve dissemination efficiency and acceptance through short videos, VR, AR, and other interactive methods that transform abstract knowledge into intuitive visual and interactive experiences, stimulating resident interest and participation.

Promote equitable resource distribution: Peripheral transformed and system-based communities have fewer health resources than central urban communities. Recommendations include integrating and optimizing existing community health resources while introducing external professional resources, such as collaborating with community hospitals for health education activities

and creating broader space for social forces to participate, thereby compensating for resource shortages and narrowing community health gaps.

Implement differentiated education content: Community health education should consider unique community needs and customize differentiated content. By analyzing community common characteristics and individual resident differences, universal health needs can be identified to build demand-oriented education content. For instance, system-based communities' urgent need for infectious disease prevention education should be a key entry point for improving health education work. Content should be subdivided to ensure comprehensive coverage of disease knowledge, risk factor identification, and prevention measures.

In conclusion, this study reveals diverse resident health education needs influenced by education level, income, and community health resources. Different community types show significant differences in environmental health, major disease prevention, and emergency safety education. These differences stem from multiple factors including resident demographics and community resource availability. Communities should align health education strategies with residents' perceived needs, ensure resource effectiveness and equity, and provide targeted, authoritative, and comprehensive health education content.

Author Contributions: YI Minzhe conceptualized and designed the study and took overall responsibility for the article; GAO Qingtao performed statistical analysis and drafted the manuscript; YANG Xianxiao collected and organized data and revised the manuscript; CHEN Weiwei provided quality control and critical revision.

Conflict of Interest: None declared.

ORCID IDs:
YI Minzhe https://orcid.org/0009-0005-3778-6558
GAO Qingtao https://orcid.org/0009-0007-0068-8879
YANG Xianxiao https://orcid.org/0009-0002-1575-6639
CHEN Weiwei https://orcid.org/0000-0002-3288-204X

References

[1] General Office of the State Council. Central Committee of the Communist Party of China and State Council issued the "Healthy China 2030" Planning Outline [A/OL]. (2016-10-25) [2024-07-19]. https://www.gov.cn/zhengce/2016-10/25/content_{5124174}.htm.
[2] HU Lingling, GAO Fei. Problems and management countermeasures of health education in urban communities [J]. Labor Security World (Theory Edition), 2013(7): 120.
[3] WANG Shangqian, XIE Xiuyuan, ZHAO Kai, et al. Preliminary exploration of medical science education under new media models [J]. Journal of Nanjing Medical University (Social Sciences Edition), 2022, 22(6): 632-635. DOI:

10.7655/NYDXBSS20220618.
[4] XU Zhiyue, WU Liangyu, FANG Yong, et al. Investigation on health literacy and health education needs of elderly patients with chronic diseases [J]. Shanghai Journal of Preventive Medicine, 2017, 29(4): 322-324.
[5] LIU Weisi, MA Xiaowei, CAI Wenfeng, et al. Investigation on cognition and needs of emerging infectious diseases among Guangzhou residents [J]. Chinese Journal of Health Education, 2020, 36(3): 282-284.
[6] GUO Xiaofei, CHEN Jing, SUN Yanmei, et al. Research on medical social work intervention in health education for cancer patients [J]. Medicine and Philosophy, 2021, 42(13): 49-53.
[7] LIU Kun, ZHAI Xiangming, LIU Liping, et al. Health education needs of community elderly under aging background [J]. Chinese Journal of Gerontology, 2021, 41(4): 861-864.
[8] HU ShengLan, ZHANG Jing, LÜ Guo, et al. Research progress on health education needs of pregnant and postpartum women [J]. Contemporary Medical Symposium, 2020, 18(21): 12-13.
[9] MA Guizhen. Survey analysis of parents' knowledge of child health care and health education needs and behavioral attitudes [J]. Chinese Rural Health, 2019, 11(13): 64-65.
[10] LIANG Ying. Community characteristics and depressive symptoms among rural elderly in China [J]. Beijing Social Sciences, 2018, 41(5): 105-116.
[11] CONG Yufei. Analysis of residents' health self-assessment and its influencing factors: Based on empirical survey of Shanghai communities [J]. The World of Survey and Research, 2013, 26(3): 22-27.
[12] ZHU Jinghui. Research on community types and governance mechanisms in urban space [J]. Changbai Journal, 2019, 35(1): 118-126.
[13] XIONG Changjun. Research on new community classification standards and their application from anthropological perspective [J]. Journal of Xiamen Radio & Television University, 2014, 17(1): 32-35.
[14] ZOU Xiaoyan. Research on urban community type classification and management model in Jinan [D]. Shandong: Shandong Normal University, 2002.
[15] GAO Zhonglan, CHEN Wuxian, LIANG Xiaomei. Construction and effect evaluation of follow-up methods for young and middle-aged hypertensive patients based on mobile medical concept [J]. Snake, 2022, 34(1): 85-89. DOI: 10.3969/j.issn.1001-5639.2022.01.022.
[16] HE Yige, LIU Yansu, HE Sheng, et al. Analysis of current status and needs of health education among urban and rural residents in Sichuan Province: Based on online survey of 1275 residents [J]. Chinese Rural Health Service Management, 2019, 39(11): 814-818.
[17] WANG Rui, SUN Tingrui, YU Huiqin. Qualitative study on community home-based elderly care service experience of elderly with family care beds in Xiamen [J]. General Nursing, 2024, 22(13): 2525-2528. DOI: 10.12104/j.issn.1674-4748.2024.13.035.
[18] HAN B, ZHENG R, ZENG H, et al. Cancer incidence and mortality in China, 2022 [J]. Journal of the National Cancer Center, 2024, 4(1): 47-53. DOI:

10.1016/j.jncc.2024.01.006.
[19] WANG Youqing, DU Lingbin, LI Huizhang, et al. Survey analysis of residents' core knowledge of cancer prevention and treatment in Zhejiang Province [J]. China Cancer, 2018, 27(12): 921-925. DOI: 10.11735/j.issn.1004-0242.2018.12.A006.
[20] CHENG Mengguang. Comparative study on environmental protection behaviors of urban and rural residents in China: Based on CGSS 2013 data analysis [J]. Hubei Agricultural Sciences, 2020, 59(18): 185-190.
[21] KUANG Xiaoming, HUANG Yue, LU Yongfeng. Research on optimization strategies for green space in old communities from benefit improvement perspective [J]. Housing Science, 2021, 41(12): 14-19.
[22] LIU Tong, LI Yinghua, WANG Lanlan, et al. Health literacy level and its influencing factors among urban residents in China in 2019 [J]. Chinese Journal of Health Education, 2021, 37(2): 99-103. DOI: 10.16168/j.cnki.issn.1002-9982.2021.02.001.
[23] XU Hong. Urban-rural differences in residents' self-rated health and its influencing factors: Based on 2017 CGSS data analysis [J]. Journal of Hubei University of Medicine, 2023(2): 178-183. DOI: 10.13819/j.issn.2096-708X.2023.02.013.
[24] WANG Sanxiu, LI Yijing. Balanced allocation of urban and rural health service resources: Connotation, needs, and implementation paths [J]. Changbai Journal, 2024, 40(5): 118-130.
[25] NIE Xueqiong, LI Yinghua, TAO Maoxuan, et al. Level of chronic disease prevention literacy among Chinese residents and its influencing factors [J]. Chinese Journal of Health Education, 2015, 31(2): 108-111.
[26] LI Yan, ZHANG Xiaojin. Community governance mechanisms and type comparison under rapid urbanization: Case study of four typical communities in Beijing [J]. Journal of Beijing Administration Institute, 2018(3): 64-72.
[27] LI Xin, XIAO Zemei, CHEN Jinli, et al. Current status and influencing factors of emergency preparedness among rural elderly in Hunan Province [J]. Chinese Nursing Research, 2024, 38(8): 1460-1466.
[28] WAN Qianqian. Investigation on current status, satisfaction, and needs of community health education among Shijiazhuang residents [D]. Hebei: Hebei Medical University, 2020.
[29] HE Zhaoxiang. Research on urban village renovation model guided by public rental housing in Shenzhen [D]. Xi' an: Xi' an University of Architecture and Technology, 2022.
[30] XU Lei, WANG Jie, JIANG Yan, et al. Construction and preliminary application of health education resource database in Changning District, Shanghai [J]. Chinese Journal of Health Education, 2021, 37(8): 764-767.
[31] HUANG Mengjie, ZENG Leixiao, GE Pu, et al. Study on community residents' health science popularization needs and influencing factors [J]. Chinese General Practice, 2023, 26(4): 426-433.
[32] LU Xinyue, XU Kun, KONG Junhui, et al. Current status and optimization of health communication system in China from new media perspective [J]. Medicine and Philosophy, 2021, 42(3): 28-31, 72.

[33] ZHANG Tianming, ZHANG Zhihong, WANG Weiqin. Development of digital education resources for Tianjin adolescent health science popularization cloud exhibition hall [J]. China Modern Educational Equipment, 2024, 27(8): 7-9.

(Received: 2024-11-07; Revised: 2025-03-01)
(Editor: WANG Fengwei)

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