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Building Long-term Mechanisms for Medical Students to Find Work in Their Hometowns within the Framework of Rural Revitalization

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Abstract: As urbanization has increased, the supply-demand gap for rural medical care has expanded, making rural revival harder. This study used the Theory of Planned Behavior (TPB) and the Benefit-Risk Theory model to identify attitudes, subjective norms, perceived behavioral control, perceived benefits, and perceived risks as influencing medical students' willingness to return home for work. For the survey questionnaire, eight hypotheses were proposed. The study's analysis of 528 valid questionnaires found that most medical students dislike going back to their hometowns for work, that improving rural conditions can encourage them to return, and that some who are willing to do so are not interested in healthcare. These data support all eight theories. After investigating medical students' unwillingness to return home for employment, the study found that the government, medical institutions, the education sector, and medical students all affect the five elements. This study offers specific solutions to encourage medical students to return to their hometowns to revitalize rural healthcare.

Keywords: Rural revitalization; Medical students; Employment; Structural equation model; Long-term mechanism

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1. Background and importance

Currently, the supply of medical services in large rural areas has long been marginalized due to the uneven economic development of urban and rural areas. This has led to the uneven allocation of medical resources between urban and rural areas, and there is an urgent need to strengthen and develop the medical and healthcare team [1]. Most medical students would rather remain in big cities above the county level, big hospitals, or big businesses due to societal attitudes, traditional family ideas, and other issues, including poor rural infrastructure building and inadequate employment policy subsidies [2]. The countryside has raised its demands for medical and healthcare professionals as well as medical service levels as a result of the extensive promotion of the rural

revitalization plan. Young medical students can contribute fresh medical ideas and service models for rural revival as they are the future of the medical industry's precursors.

To build a theoretical model of the factors influencing medical students' willingness to return to their hometowns, this study combines the Theory of Planned Behavior (TPB) and the Benefit-Risk Analysis (BRA) model. It then analyzes the factors influencing medical students' willingness to return to their hometowns and offers workable solutions and recommendations to deal with the reality of medical students' reluctance to return to their hometowns in search of employment. In addition to expanding the knowledge of medical students' employment decision-making behavior and enhancing the understanding of college students' employment decisions when they return to their hometowns, this will offer a strong theoretical foundation for the development of relevant policies as well as a fresh theoretical viewpoint on how people make career decisions [3].

2. Analysis of variables affecting medical students' decision to return

2.1. Developing a theoretical framework

Five factors influenced medical students' inclination to return to their hometowns for work in this study, which was based on the Theory of Planned Behavior (TPB) and Benefit-Risk Analysis (BRA) model. The particular model is displayed in **Figure 1** [4].

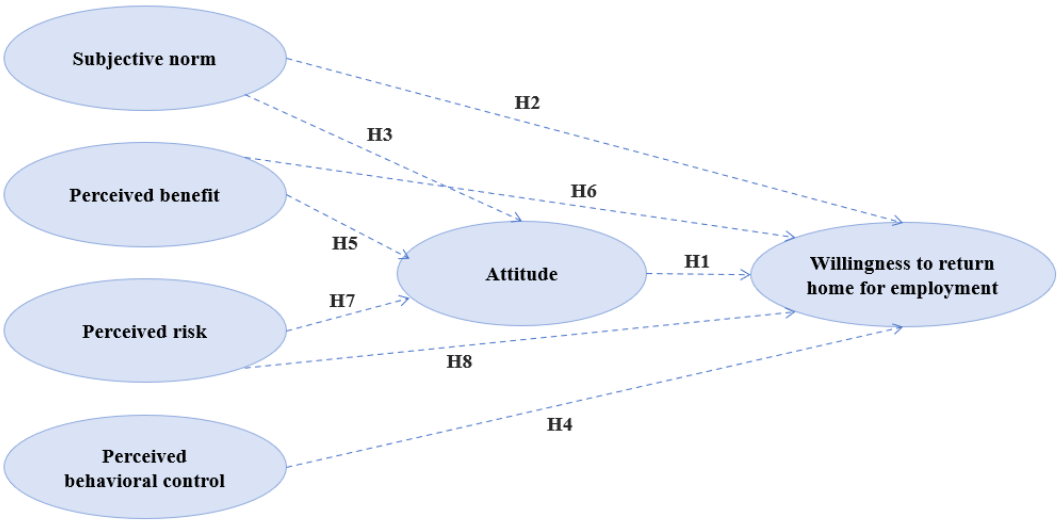

Figure 1. Theoretical model of factors influencing medical students' willingness to return home for employment

Medical students' attitudes toward rural jobs have a direct impact on their desire to work in rural areas. The expectations and assessments that medical students experience from friends, family, teachers, the school, the local government, and others when deciding whether to return to rural work are referred to as subjective norms. The medical students' self-assurance and resourcefulness in determining whether they can effectively return to rural employment and adjust to the new setting is known as perceived behavioral control. The term "perceived benefits" describes how medical students view the social recognition, exercise opportunities, national favoring policies, and self-worth realization that come with working in their hometowns. Contrarily, perceived hazards are the unknowns, difficulties, and demands that medical students think they would encounter while practicing in rural areas. These mostly include a challenging work environment, reduced pay, and societal and familial obligations [5].

Based on this, eight hypotheses are proposed: H1: Medical students' attitudes have a significant positive effect on the willingness to return to the countryside for employment; H2: Subjective norms have a significant positive effect on medical students' willingness to return to the countryside for employment; H3: Subjective norms have a significant positive effect on medical students' attitudes to return to the countryside for employment; H4: Perceived behavioral control has a significant positive effect on medical students' willingness to return to the countryside for employment; and H5: Perceived benefit have a significant positive effect on medical students' return to the countryside for employment attitude; H6: Perceived benefit has a significant positive effect on medical students' willingness to return home; H7: Perceived risk has a significant negative effect on medical students' attitude to return home; H8: Perceived risk has a significant negative effect on medical students' willingness to return home.

2.2. Basic data about survey participants

2.2.1. Information sources

To understand the primary determinants influencing the employment of medical students returning to their hometowns, the study team visited rural medical colleges in July 2024. Based on their findings, they created a questionnaire. The study team disseminated the surveys in 11 prefecture-level cities in Zhejiang Province using the Questionnaire Star platform. A total of 558 questionnaires were recovered, 528 of which were legitimate, yielding a valid questionnaire recovery percentage of 94.2%. The samples' primary attributes were as follows: 371 women (70.27%), 157 men (29.73%), 406 undergraduates (76.9%), 103 postgraduates (19.5%), 19 specializations (3.6%), 465 Han Chinese (88.07%), and 63 members of ethnic minorities (11.93%) [6].

2.2.2. Methods of research

After conducting literature research and field visits to gather and analyze opinions from both domestic and international sources regarding medical students' willingness to return to their hometowns for employment, as well as the factors that influence these opinions, the questionnaire was scientifically designed and assessed by experts and scholars. The questionnaire's primary contents are: (1) the medical students' personal information, such as their education, grade, gender, family location, whether they are the only child, etc.; and (2) their willingness to return to their hometowns for work and the factors that influence that willingness, such as the intended place of employment and the reasons for it, their opinions of rural healthcare institutions, the expected salary of rural work, and the extent to which relevant talent revitalization initiatives have an impact.

2.3. Status of willingness to return home for employment

2.3.1. Most medical students have unfavorable attitudes about going back to their hometowns to work

According to the results of the questionnaire, only 25 (4.73%) of the medical students thought that the countryside would be the best place to work after graduation, while 376 (71.27%) thought that the city would be the best place to work. This suggests that most medical students had a negative attitude toward going back to the countryside for work and were unwilling to accept the countryside as the location for achieving their career goals.

2.3.2. Improving rural areas can encourage medical students to go back to their hometowns

According to the results of the questionnaire, 359 (67.9%) of medical students are only willing to work in the city, suggesting that most medical talent is not very driven to take part in rural revitalization and is not eager to return to their hometowns for employment. The fact that 424 (80.30%) medical students agreed with the statement, "I

will choose to return to my hometown to work in the countryside if there is a good opportunity", suggests that this status quo can be altered as long as favorable internal and external conditions for medical students' career needs are met.

2.3.3. Some medical students are hesitant to pursue a career in medicine because they want to go home

According to the results of the questionnaire, 26 (15.38%) medical students decided to return home for work but were not interested in working in the healthcare sector. The primary reasons for this were the following: poor employment prospects (30%), fewer jobs (33%), low job pay (33%), and high work pressure in rural medical jobs (40%). Together, these elements have an impact on medical students' career choices; they do not exist separately.

The aforementioned analysis of the current situation reveals that: on the one hand, medical students' career choices exhibit a diversified trend, with some students choosing to change careers and pursue other fields instead of focusing solely on the medical industry; on the other hand, medical students' employment intention is skewed toward the city, and they are more willing to work in the medical industry in an urban setting than in a rural one.

2.4. Modeling affecting factors using structural equations

A structural equation model was created using Stata to evaluate the eight hypotheses while accounting for attitude's role as a latent and mediating variable. The established structural equation model's three key indicators satisfy the requirements and have a strong model fit. As shown in **Table 1**, all eight study hypotheses were valid.

Table 1. Hypothesis testing results

Paths	Path factor standardization	Z-value	Speculation	Test findings
Attitude → Willingness to return home for employment	0.464	11.45***	H1	Support
Subjective norm → Willingness to return home for employment	0.155	3.50***	H2	Support
Subjective norm → attitude	0.601	18.29***	H3	Support
Perceived behavioral control → Willingness to return home for employment	0.114	2.87**	H4	Support
Perceived benefit → Attitude	0.269	7.39***	H5	Support
Perceived benefit → Willingness to return home for employment	0.192	4.62***	H6	Support
Perceived risk → attitude	-0.108	4.23***	H7	Support
Perceived risk → willingness to return home for employment	-0.105	4.21***	H8	Support

Note: *** denotes $P<0.001$,** denotes $P<0.01$,* denotes $P<0.05$.

3. Analyzing the reasons affecting the return of medical students to their homes for employment

3.1. The reasoning for the five elements

The five main factors—attitudes, subjective norms, perceived behavioral control, perceived benefits, perceived risks, and the constant presence of medical students, education departments, medical institutions, and the government—all have an impact on medical students' willingness to return to their hometowns for employment.

Medical students' perspectives are reflected in their interest in and awareness of going back to work. The

level of support that medical students receive from their friends, family, schools, the government, and other sources for returning to work is the source of subjective norms. Medical students' views and desire to return to rural jobs are influenced by both perceived hazards and perceived rewards. Perceived behaviors influence medical students' capacity to adjust to their rural living and working circumstances, as well as their confidence in the medical knowledge and communication skills necessary for rural practice.

3.2. Reasons for reluctance to return home for employment

When it comes to attitudes, medical students have negative ideas about working in rural areas; when it comes to subjective norms, there is a lack of social recognition for rural doctors and fewer rural internships offered by schools; when it comes to perceived behavioral control, returning medical students have low confidence in their ability to adjust to rural life, and there is a lack of communication and experience sharing between medical students and rural doctors; when it comes to perceived benefits, rural medical institutions offer fewer opportunities for promotion, and the policies and benefits that returning students enjoy are not properly implemented; when it comes to perceived risks, the rural working conditions are subpar and the task of understaffing is difficult. Regarding perceived benefits, rural medical organizations offer fewer opportunities for advancement, and policies and benefits for returning medical students are not in place. Regarding perceived risks, rural working conditions are subpar, there is a shortage of personnel, the workload is demanding, and the patient groups they treat are of low quality.

Three explanations have been summed up as follows: First, the idea of medical students choosing their careers is firmly established and orthodox. The development potential and need for primary healthcare facilities are frequently overlooked by medical students, who are more likely to select large cities with three hospitals. Second, there is not enough government policy support and direction. The issue of the unequal distribution of medical resources between urban and rural regions is made worse by the lack of government support and the poor infrastructure in rural areas, which make it less appealing for medical students to return home for work. Third, there is no connection between the hiring and employment processes. There is a gap between the supply of graduates and the demand for recruitment as a result of the information asymmetry between universities and medical institutes.

4. Long-term mechanism to promote the return of medical students to their homes for employment

4.1. Universities rethink hiring young medical staff based on native emotions

Helping medical students make confident career choices. Colleges should offer "Career Planning and Employment Guidance for College Students" to help medical students make career decisions.

Improve medical students' rural internships [7]. Schools should create strong alliances with rural medical schools, boost internship bases, and give more opportunities for medical students to visit the countryside and learn about people's lives.

Create a medical skill database. Medical talent introduction is more successful, and medical students have more career advancement alternatives when basic data, professional experience, and skills are carefully acquired and organized.

4.2. Rural medical schools create a talent development platform to modernize medical education

Facilitate rural physician-medical student contact. To ensure full and timely information exchange, improve the online and offline communication system, and regularly design and coordinate engaging online and offline communication events, including teleseminars, learning site visits, case-sharing sessions, etc.

Provide remote medical care. Internet and communication technology can alter medical consultation administration and service delivery by enabling remote diagnosis and treatment, condition tracking, real-time doctor-patient contact, and other services. Use extended functions like training and continuing education to improve rural medical institutions' diagnosis and treatment quality and service capacity, recognize the interdependence of urban and rural medical resources, and offer medical students returning home new educational and employment opportunities [8].

Excellent medical skills. Rural medical institutions should partner with medical schools to offer focused training, select rural-focused students, and provide financial aid and career development support.

4.3. The government optimizes rural services to complement policy

Make living situations better. Boost the development of infrastructure, maintain the strengthening of the rural communication infrastructure's supply power, streamline the network design, and hasten the industrial chain's digital transformation [9]. To satisfy the higher-level living requirements of rural physicians, strengthen the social insurance subsidy program, and improve the social insurance treatment of these professionals [10].

Financing innovation and scientific research. To encourage medical talent to return to their hometowns for work, the government boosts the amount of financial aid available to offer a firm basis for medical students to do so.

Increase rural physicians' social recognition. Make broad use of new media platforms like social media and conventional media like radio, television, and newspapers to spread the word about the accomplishments of excellent rural physicians.

Disclosure statement

The authors declare no conflict of interest.

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