

Study on the Effectiveness of Prevention Propaganda and Health Insurance Policies Dissemination of Hemorrhagic Fever with Renal Syndrome (HFRS) in Weinan City of Shaanxi Province

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Abstract: Weinan City is a high-prevalence area for Hemorrhagic Fever with Renal Syndrome (HFRS) in China, and the knowledge of HFRS prevention and relevant health insurance policies are related to the health and life of all residents. In order to study the effect of disease prevention propaganda and health insurance policies dissemination of HFRS in Weinan City, Shaanxi Province, this paper obtained survey samples by distributing and returning questionnaires, and the results of the questionnaire data were screened, organized and correlated, resulting in the results of the empirical study. That is, the effectiveness of HFRS prevention propaganda and health insurance policies dissemination in Weinan City was poor, and a significant positive correlation was found between respondents' disease perception of HFRS and their knowledge of related health insurance policies, and this finding was interpreted using KAP and HBM theories. Discussions about strengthening IPC and leveraging Internet media to complete the transition from health beliefs to health behaviors are also presented.

Keywords: health communication, communication effect, health insurance

1. Introduction

With the rapid development of the Internet and new media, recent research on health communication has been centered on new media and online media, and after the worldwide outbreak of COVID-19 in 2019, researchers have focused their research on health communication on public health emergencies based on the COVID-19 outbreak. Under the broad scope of health communication and policy communication, there are very few studies on the communication effects of health insurance policies. In Weinan City, Shaanxi Province, no official or self-initiated survey on the effectiveness of health insurance policies dissemination has ever been done either.

Weinan City is a high prevalence area for Hemorrhagic Fever with Renal Syndrome(HFRS), and the knowledge of HFRS prevention and relevant health insurance policies are related to the health and life of all residents in Weinan City. The availability of prevention knowledge and the effectiveness of policy dissemination are issues of interest and concern for each health institution. Therefore, this paper will focus on HFRS and conduct an empirical study on the effectiveness of

prevention promotion and dissemination of policies on HFERS in Weinan City. The researcher will conduct a quantitative analysis of this research topic through a questionnaire survey and support the conclusions with the assistance of relevant theories and models.

The results of this study will give reference or warning to relevant health institutions in Weinan City and will contribute in some meaningful way to their further effort measures for the HFERS problem. Similarly, for other cities that are at a comparable level of development and governance as Weinan City, or that also have specific local diseases, this thesis will fill in the blanks about HFERS and about the effectiveness of health insurance policies dissemination studies in order to provide some reference.

2. Background of HFERS and Weinan City

2.1. Basic Overview of Weinan City, Shaanxi Province

Weinan City, a prefecture-level city in Shaanxi Province, is located in the middle of the Guanzhong Plain and the eastern part of Shaanxi Province. The city has a total area of 13,030 square kilometers, with 2 districts, 7 counties and two county-level cities under its administration. According to the 2022 City Business Attractiveness Ranking, Weinan City is a third-tier city in China [1].

By the end of 2021, the resident population of Weinan was 4.631 million. According to the seventh census bulletin of Weinan City, the age composition of the population in Weinan City is 16.83% of the population aged 1-14, 60.27% of the population aged 15-59, and 22.90% of the population aged 60 and above. Meanwhile, the male population in Weinan City accounts for 50.23% of the total population, while the female population accounts for 49.77%, with a total population sex ratio of 100.92 [2].

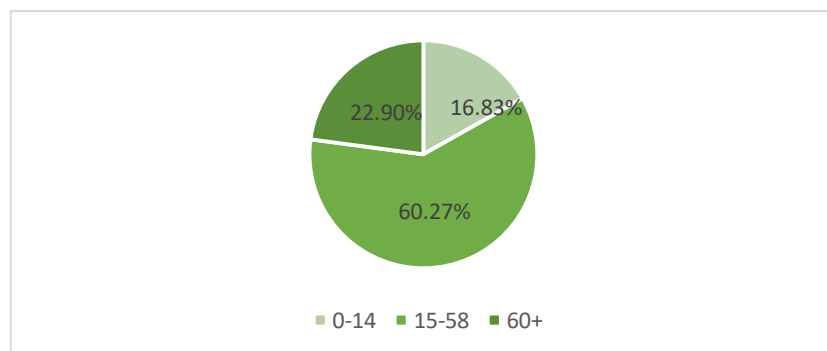


Figure 1: Age composition of Weinan's population.

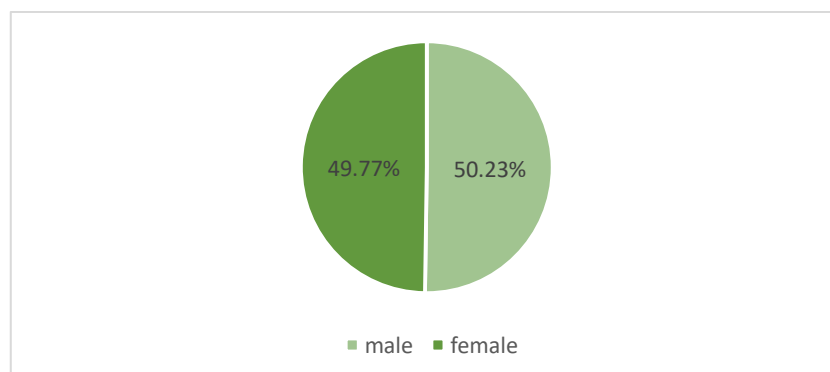


Figure 2: Gender composition of Weinan's population.

2.2. Introduction to HFRS

HFRS is a Category B infectious disease reported in China. It is a natural epidemic disease caused by Hantavirus, with rodents as the main source of infection. According to the statistics of the National Health and Family Planning Commission, from 1950 until 2016, China has reported more than 165,000 patients and over 47,000 deaths, with a total death rate of over 2.89% [3].

The incubation period for the onset of HFRS is 4-46 days, mostly 7-14 days. The typical clinical manifestations are fever, edema, congestion or hemorrhage, and renal damage, with five stages: fever, hypotensive shock, oliguria, polyuria, and recovery. Meanwhile, there are many special types of HFRS, such as pediatric HFRS, elderly HFRS, and combined HFRS in pregnancy, and there are also various complications such as pulmonary edema, heart failure, and secondary infections [4].

2.3. Current Situation of HFRS Incidence in Weinan City, Shaanxi Province

HFRS is endemic in most provinces and autonomous regions of China except Qinghai Province and Xinjiang Uyghur Autonomous Region, with the most serious cases in Northeast and North China and Shaanxi Province. According to statistics from the Shaanxi Provincial Center for Disease Control and Prevention, the number of reported HFRS cases in Shaanxi Province was 1388, 960 and 2001 in 2015, 2016 and 2017, accounting for 13%, 10% and 17% of the total number of cases nationwide in those years, respectively. HFRS is found in all cities in Shaanxi Province, and the high incidence counties are mainly concentrated in the Guanzhong region (Weinan City belongs to the Guanzhong region) [4].

According to data from the Chinese Disease Prevention and Control Information System, a total of 1,861 cases of HFRS were confirmed in Weinan City from 2010 to 2014, with an annual incidence rate of 7.12/100,000 which is higher than the rest of the country. In addition, the prevalence of HFRS in Weinan City showed many characteristics. There are two epidemic peak periods throughout the year, the small peak in April-July and the large peak in November-December. 76.14% of the total number of confirmed cases are among people aged 16-60, and the ratio of confirmed males to females is 3.09:1. In terms of occupational distribution, the cases are mainly farmers and students [5].

Table 1: Incidence of HFRS in Weinan City from 2010 to 2014 [5].

Year	Number of cases	Morbidity /(1/100000)	Incidence rate increased from the previous year /%
2010	266	4.71	
2011	455	8.61	82.80
2012	540	10.18	18.23
2013	310	6.27	-38.41
2014	290	5.84	-6.86
Total	1861	7.12	

In 2021, according to surveillance data from the Weinan CDC, by November 28, a total of 282 cases of HFRS were reported in the city that year, ranking second in Shaanxi Province in terms of the

number of cases and incidence rate [6]. These data can indicate that Weinan City is a high prevalence area for HFRS. Although there are no statistics for the latest data, it is predictable that the population of the immune protected population has increased significantly through comprehensive prevention and control measures such as vaccination in Weinan City in recent years.

2.4. Related Health Insurance Policies in Weinan City, Shaanxi Province

Based on the latest adjustment of health insurance policies by Weinan Health Insurance Office in 2023, urban and rural residents suffering from HFRS are entitled to inpatient and general outpatient insurance coverage during the treatment guarantee period. If a participant is hospitalized in the coordinating area (i.e. Weinan City), the starting line standard for township health centers and community health service centers is 200 yuan, and the insurance payment ratio is 85%; the starting line standard for first-class hospitals is 300 yuan, and the insurance payment ratio is 85%; the starting line standard for second-class hospitals is 600 yuan, and the insurance payment ratio is 75%; the starting line standard for third-class hospitals is 1,500 yuan, and the insurance payment ratio is 60%. If the participant is hospitalized outside the coordination area, the starting payment standard is RMB 500 for primary hospitals (including township health centers and community health service centers), RMB 1,000 for secondary hospitals and RMB 2,500 for tertiary hospitals, and the payment ratio is adjusted downward by 5% respectively on the basis of the policy standard in the coordinating area [7].

In addition, as reported in the winter 2022 Weinan Daily, the reporter learned from the Weinan Center for Disease Control and Prevention that since the peak incidence of HFRS is from October to January each year, eligible residents aged 16-60 can visit vaccination sites for free vaccination during this period.

Regarding the prevention and promotion of HFRS, various governmental health institutions in Weinan City are making their best efforts. In 2021, the Weinan Health and Wellness Committee issued an official document for health education and public opinion guidance on HFRS, and the document made important instructions. The document mentions that publicity and education are important links in the prevention and control of HFRS, and all departments should take the creative activities such as healthy campus and healthy community as a grasp, with the help of health poverty alleviation and health knowledge into the activity platform and into every household. It is also possible to carry out in-depth publicity activities on the knowledge of prevention and control of HFRS by issuing leaflets and other forms. The government should promote knowledge about HFRS to the public, guide the public to develop good health habits, and widely carry out warning publicity and education, while continuing to promote the investigation and remediation of HFRS vaccination for residents aged 16-60 and college students [6].

3. Hypothesis and Methodology

3.1. Research Hypothesis

Based on the comprehensive development and governance of Weinan City as a third-tier city in China, the researcher hypothesized that prevention promotion and related health insurance policies dissemination of HFRS in Weinan City would be less effective, and the proportion of residents expressing positive attitudes toward promotion and dissemination would be expected to be no more than 50%. Also, this thesis proposes a hypothesis regarding the relationship between residents' disease perception of HFRS and their knowledge of policies, i.e., the more sensitive residents are to the disease perception of HFRS, the higher their knowledge of related health insurance policies.

3.2. Research Design

To gain a deep understanding of the extent to which residents of Weinan City perceive HFRS and the effectiveness of the dissemination of related prevention and health insurance policies, the researcher designed a questionnaire with 14 questions that were distributed through the WeChat app Questionnaire Star platform after a small pre-fill. The questionnaire was designed to collect information from respondents in four areas: basic information such as age and gender, respondents' knowledge of HFRS, respondents' knowledge of health insurance policies related to HFRS in Weinan City, and respondents' access to information on HFRS prevention and related health insurance policies.

3.3. Sample

After a two-week-long online dissemination, the researchers received 298 responses. Based on the respondents' choice of "whether they live in Weinan City permanently" and an attention check question, 223 questionnaires completed by the permanent residents of Weinan City were selected eventually for their representativeness and validity. Quotas were set for gender (51% Female, 49% Male), and age (72% 15–59, 28% 60+), to obtain a sample that reflects Weinan City demographics. Of the 223 respondents, 114 (51%) were male and 109 (49%) were female; 161 (72%) were 15 to 59 years old and 62 (28%) were 60 and older.

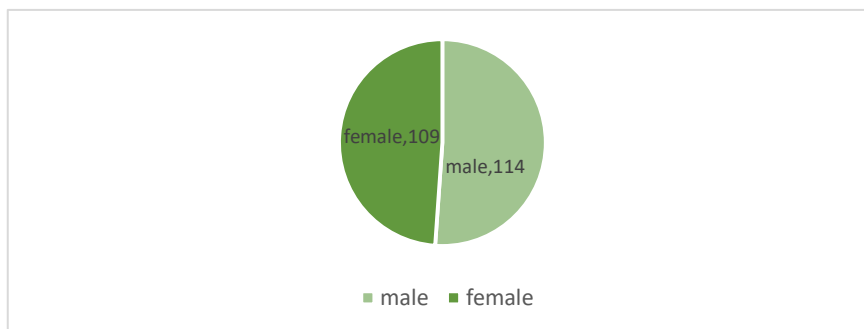


Figure 3: Gender composition of respondents.

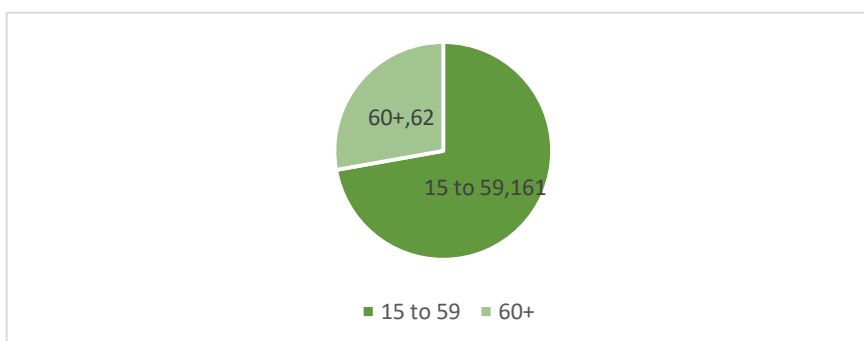


Figure 4: Age composition of respondents.

4. Results

4.1. Residents' Knowledge of HFRS

To investigate the knowledge and perception of HFRS among residents of Weinan City, the researcher set two main questions in the questionnaire.

The first one was “How much do you know about HFRS (including causes and symptoms of HFRS, etc.)”. This is a subjective question for the respondents, and the five-level option of the Likert scale was used to directly and positively collect data reflecting the respondents’ knowledge about HFRS. According to the results of the questionnaire data, 67 respondents expressed a definite positive attitude towards this question (11 fully informed and 56 relatively informed), i.e. they had some knowledge about HFRS. At the same time, however, 100 respondents were neutral, as well as 56 respondents who said they were relatively uninformed or fully uninformed of HFRS (35 relatively uninformed and 21 fully uninformed).

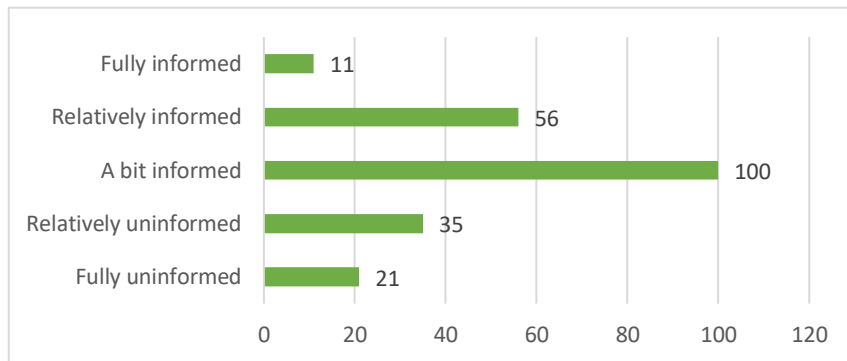


Figure 5: Respondents’ knowledge of HFRS.

The second is a question that unfolds from the side, “Have you received the free vaccine against HFRS?” There is no doubt that whether or not one has received the vaccine can also reflect to some extent the respondents’ knowledge and perception of the disease. The results showed that 110 of the respondents, or 49% of the total number, had received the free vaccine against HFRS.

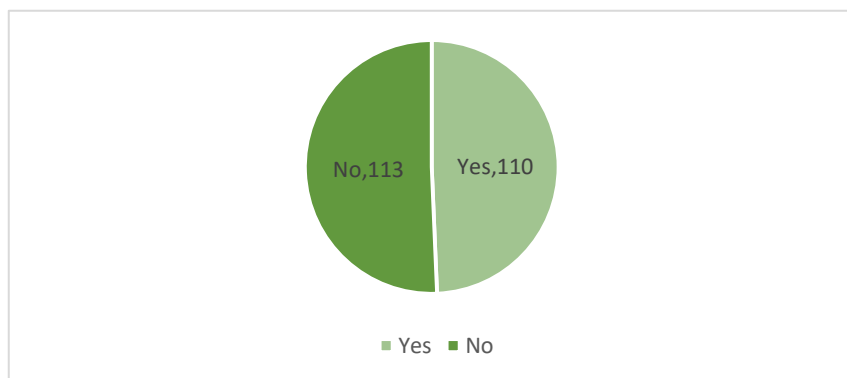


Figure 6: Survey on whether respondents received free vaccine against HFRS.

Overall, the proportion of respondents who have a positive attitude toward HFRS knowledge (30%) and the proportion who have received the free vaccine against HFRS (49%) are not high. This indicates that the residents of Weinan City haven’t formed a “universal awareness” of HFRS, and the daily prevention and promotion of HFRS may need to be further strengthened.

4.2. Residents’ Knowledge of the Health Insurance Policies on HFRS

Similarly, the researcher set a direct, positive question to explore the level of awareness of HFRS health insurance policies among Weinan City residents, i.e. How much do you know about the health insurance policies of Weinan City government on HFRS? (including free vaccination policies, reimbursement policies, etc.) Disappointingly, the results of this question show that Weinan City

residents do not have a high level of knowledge about the health insurance policies for HFRS in Weinan City. Only 51 respondents, or 23% of the total number of respondents, chose to be fully or relatively informed. However, while 71 respondents expressed a neutral attitude of knowing a bit, 101 respondents, or 45% of the total, showed a negative attitude of knowing little or nothing.

These numbers are undoubtedly astonishing, revealing the current state of shortcomings in the understanding of HFRS health insurance policies among Weinan residents.

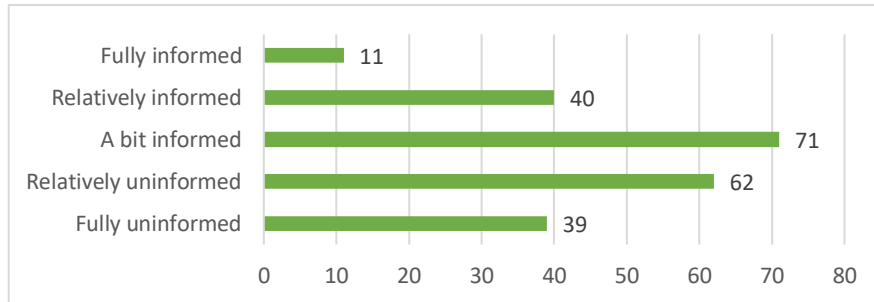


Figure 7: Respondents' knowledge of health insurance policies of Weinan's government.

4.3. Relationship Between Disease Perception and Policy Knowledge

To further investigate the correlation between respondents' perceptions of HFRS and knowledge of related health insurance policies, the researcher recoded the variable labels (1-fully informed/Yes, 2-relatively informed/No, 3-a bit informed, 4-relatively uninformed, 5-fully uninformed) of the questionnaire data of the above-mentioned questions and imported them into SPSS for cross-tabulation and correlation analysis.

First, by using descriptive statistics, the researcher obtained a cross-tabulation of respondents' knowledge of HFRS and related health insurance policies in Table 2. It is clear that the diagonal line from the top left to the bottom right of the table has a larger sample of data, which leads to the preliminary conclusion that the respondents' knowledge of HFRS and related health insurance policies are synchronous, and those who chose a certain level of knowledge of HFRS tend to make the same choice of knowledge of related health insurance policies.

Table 2: Crosstabulation (Respondents' knowledge of HFRS* Respondents' knowledge of health insurance policies on HFRS in Weinan City).

		Respondents' knowledge of health insurance policies on HFRS in Weinan City					Total
		1	2	3	4	5	
Respondents' knowledge of HFRS	1	7	3	1	0	0	11
	2	2	27	15	8	4	56
	3	1	8	44	30	17	100
	4	0	0	8	22	5	35
	5	1	2	3	2	13	21
Total		11	40	71	62	39	223

This was followed by a Pearson correlation analysis of the statistics for the two questions mentioned above, which leads to more definitive conclusions and validation. As shown in Table 3, the Pearson correlation coefficient for respondents' knowledge of HFRS and related health insurance policies was .527**, significant at the .01 level (two-tailed), meaning that the correlation was significant. This demonstrates that there is a significant positive relationship between respondents'

knowledge of HFRS and related health insurance policies, and that the more positive respondents' knowledge of HFRS also promotes their knowledge of related health insurance policies.

Table 3: Correlations (Respondents' knowledge of HFRS* Respondents' knowledge of health insurance policies on HFRS in Weinan City).

		Respondents' knowledge of HFRS	Respondents' knowledge of health insurance policies on HFRS in Weinan City
Respondents' knowledge of HFRS	Pearson Correlation	1	.527**
	Sig.(2-tailed)		<.001
	N	223	223
Respondents' knowledge of health insurance policies on HFRS in Weinan City	Pearson Correlation	.527**	1
	Sig.(2-tailed)	<.001	
	N	223	223

**Correlation is significant at the 0.01 level (2-tailed).

Similarly, a cross-tabulation (Table 4) and Spearman correlation analysis of the results of the questionnaire on whether respondents received free vaccination against HFRS and their knowledge of the HFRS health insurance policy yielded similar results to those described above: as seen in Table 5, the correlation coefficient is .196** and the correlation is significant at the 0.01 level (2-tailed).

Table 4: Crosstabulation (Whether respondents received free vaccine against HFRS* Respondents' knowledge of health insurance policies on HFRS in Weinan City).

		Respondents' knowledge of health insurance policies on HFRS in Weinan City					Total
		1	2	3	4	5	
Whether respondents received free vaccine against HFRS	1	10	24	35	25	16	110
	2	1	16	36	37	23	113
Total		11	40	71	62	39	223

Table 5: Correlations (Whether respondents received free vaccine against HFRS* Respondents' knowledge of health insurance policies on HFRS in Weinan City).

		Whether respondents received free vaccine against HFRS	Respondents' knowledge of health insurance policies on HFRS in Weinan City	
Spearman's rho	Whether respondents received free vaccine against HFRS	Correlation Coefficient	1.000	.196**
		Sig.(2-tailed)		.003
		N	223	223
	Respondents' knowledge of health insurance policies on HFRS in Weinan City	Correlation Coefficient	.196**	1.000
		Sig.(2-tailed)	.003	
		N	223	223

**Correlation is significant at the 0.01 level (2-tailed).

At this point, this thesis draws an important conclusion: there is a non-negligible relationship between disease perception of HFRS and knowledge of HFRS health insurance policies among residents of Weinan City; this relationship allows a positive correlation between disease perception and policy knowledge, i.e., the more sensitive residents are to disease perception of HFRS, the higher the level of concern and knowledge of related health insurance policies.

This conclusion can also be interpreted by existing models and theories, which will be analyzed in this thesis based on the Knowledge Attitude and Practice (KAP) and Health Belief Model (HBM). According to KAP theory, if people are to generate behaviors or make behavioral changes, knowledge diffusion is often the foundation; when knowledge is accumulated to a certain extent, people will build attitudes, or beliefs, towards it; on the basis of knowledge and attitudes, behaviors are paved [8,10]. In this paper, disease perception of HFRS is equivalent to acquiring certain knowledge, and after active reflection on the knowledge (i.e., information learned about HFRS), attitudes and beliefs about the willingness and even active access to health insurance policies for HFRS are formed. Interpreted through the perspective of the Health Belief Model, the relationship between residents' perceptions of illness and policy understanding that emerges from this paper is more intuitive. The Health Belief Model consists of three components: individual health beliefs, clues or intentions for behavior, and constraints on behavior. Starting from the health belief component, HBM believes that perceiving the threat of disease and further recognizing its severity is one of the basic conditions for people to adopt a certain healthful behavior or abandon a behavior that is harmful to health. This perception includes awareness of the susceptibility and severity of the disease [9-10], which corresponds to the respondents' knowledge of HFRS in this paper; it is this knowledge that makes people aware of the potential hazards of HFRS for them and thus stimulates the need to know about relevant health insurance policies. From the part of action clues or intentions, both disease prevention propaganda about HFRS and related health insurance policies would be contributing factors to people's ability to take preventive measures. However, unfortunately, the research in this paper stops at the formation of beliefs, and no extensive research has been conducted on people's health behaviors as mentioned in both theories after the formation of beliefs.

4.4. Access to Knowledge

To further enrich the findings of this thesis, the researcher investigated and analyzed the respondents' access to information about the HFRS health insurance policies. As shown in Figure 8, the questionnaire asked 122 respondents who were very or moderately knowledgeable about the HFRS insurance policies about the ways they had learned about the policies. The data results showed that the top three ways respondents obtained information about the policy were, in order, campaigns held by the community or school, viewing posters posted in communities or schools or at bus stops, etc., and being informed by family members or friends. These three methods of obtaining health insurance policies without depending on today's popular online platforms or media are by far the most relied upon by residents.

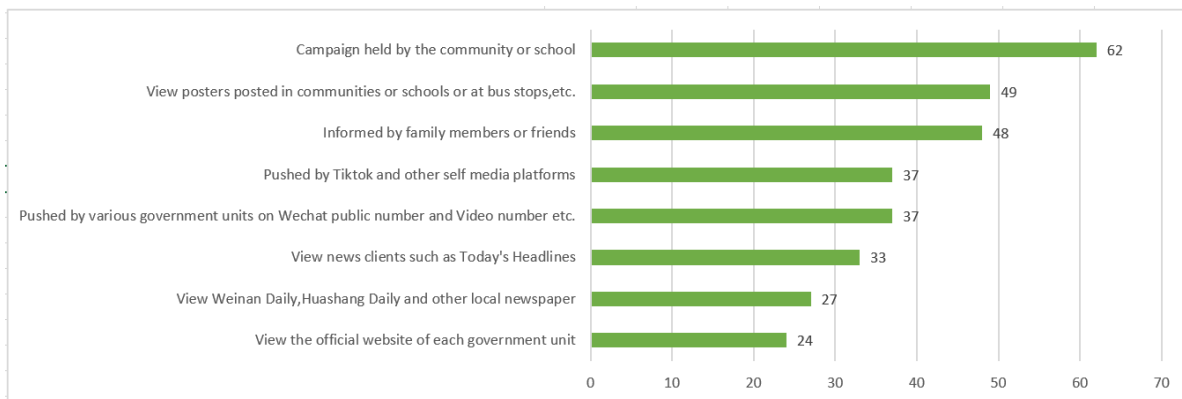


Figure 8: Respondents' previous access to health insurance policies.

At the same time, the researcher also set the question in the questionnaire to investigate people's preferred way to get information about HFRS health insurance policies, and the results are shown in Figure 14, campaigns held by the community or school were surprisingly the most expected choice by the respondents.

By interpreting and analyzing the data results, this paper draws four conclusions regarding the issue of more expected access to HFRS health insurance policies.

First, offline communication and promotion activities cannot be ignored. Campaigns held by the community or school topped the list of respondents' most desired access to policy knowledge by a wide margin, with being informed by family members or friends coming in a close second. What is clear is that in today's development status where internet communication is the main focus, people still maintain an unbreakable dependence on offline communication and promotion activities, which may be based on strong trust in institutions such as communities or schools and in friends and family members.

Second, people are more willing to be passively informed than actively browsing. If we carefully compare the preference ranking of respondents' most expected ways to obtain policy knowledge in Figure 9, it is easy to find that the first four methods are active ways for residents, such as being informed by institutions or friends and relatives, being recommended by self-published media or other online platforms, etc.; while the last four methods are passive ways for residents to obtain information by viewing news clients, websites, newspapers, etc. Of course, the reasons for this situation and other related health behaviors of people need further theoretical additions and analysis.

Third, the Internet and online media have become the backbone of policy dissemination. Although the access about online communication did not top the list, it cannot be ignored that self-media platforms such as Tiktok, social platforms such as WeChat, and online media such as news clients also occupy an important position and play an important role in the part of the access people expect

to get information about HFRS health insurance policies. Today, with the rapid development of the Internet and the rapid transformation of the media, the importance of online communication is even more worthy of maximum utilization.

Fourth, the power of traditional media is diminishing. Newspapers, as traditional media, are losing their power of communication. The official websites of various government units are also losing their function of policy promotion and dissemination if they do not use big data and other means for active promotion and recommendation.

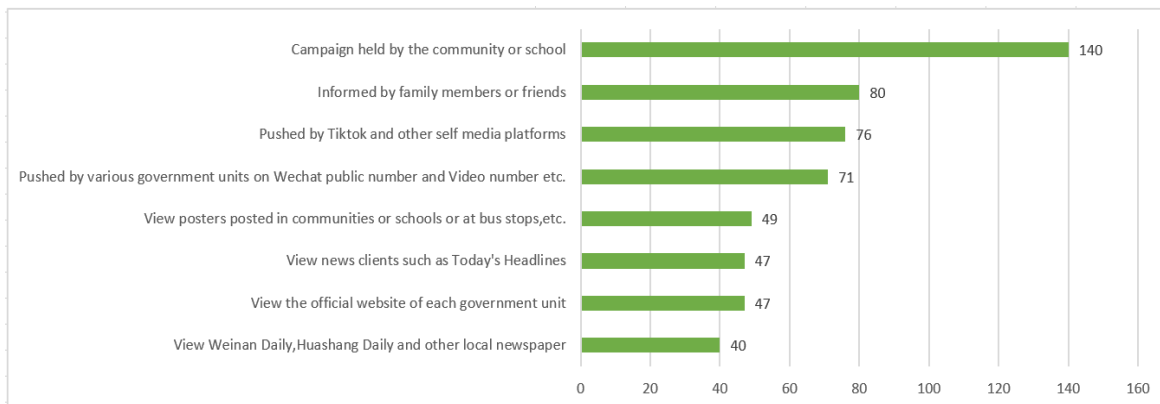


Figure 9: Respondents' expected access to health insurance policies.

4.5. Overall Effectiveness

In summary, only 30% of the respondents expressed a positive attitude toward the level of knowledge of HFRS (relatively or very well informed), and only 23% of the respondents were relatively or very well informed about the HFRS health insurance policies in Weinan City, which leads to the preliminary conclusion that the effectiveness of HFRS prevention and health insurance policy dissemination in Weinan City is not good.

In addition, at the end of the questionnaire, the researcher also set a more direct question on the effectiveness of the health insurance policies, namely, How satisfied are you with the effectiveness of the health insurance policy on HFRS in Weinan City? (i.e., do you think the policy has been publicized and disseminated for the benefit of the people?), and the data yielded similar results – 24 respondents were very satisfied and 92 respondents were relatively satisfied, while the sum of these two choices represents only about half (116,52%) of all respondents. All of these data indicate that further optimization and efforts are needed in the dissemination of HFRS prevention and health insurance policies in Weinan City.

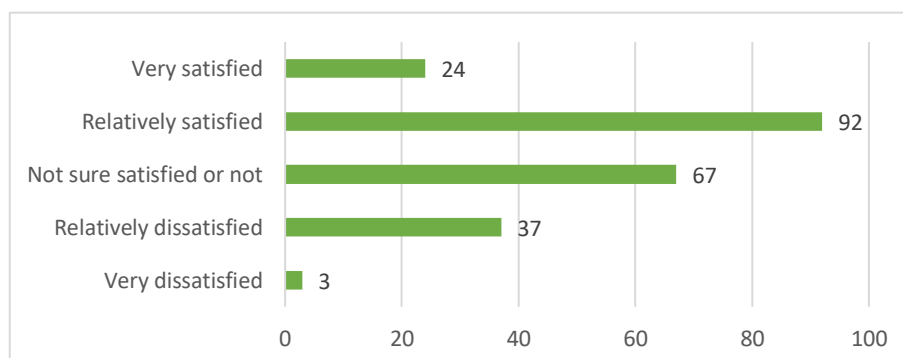


Figure 10: Respondents' satisfaction with the effectiveness of the health insurance policy on HFRS in Weinan City.

5. Discussion

5.1. From Knowledge, Beliefs to Behaviors: Leveraging Interpersonal Communication (IPC) and New Media

According to KAP and HBM theories, knowledge acquisition and belief formation are the basis and motivation for people to engage in healthy behaviors; but how to actually achieve this transformation, health communication requires some external forces. The ecological model of medical encounters proposed by Street for understanding the influence of variables and external factors on medical encounters proposes four external environmental factors: media, organization, culture, and politics [11]. Teresa L. Thompson and Nancy Grant Harrington published an extension of the Street model and advocated the addition of a fifth external environment, the daily IPC [10]. The discussion will start with the media and IPC that are better for communication interventions.

5.2. Significant Impact of IPC on Health Behaviors

As can be seen in the results section of this thesis, being informed by families or friends is one of the ways that Weinan City residents currently rely on most for access to HFRS health insurance policies and look forward to most in the future. This has demonstrated the important role of everyday IPC in health communication. Teresa L. Thompson and Nancy Grant Harrington summarize the role of IPC based on medical encounters. First, friends, family, and peers can help people begin to seek medical coverage, and second, decisions about health behaviors receive the influence of IPC [10].

However, most of the current research on IPC focuses on interpersonal communication skills between physicians and patients, and it is still worth exploring how IPC can play a role in the prevention of HFRS and the dissemination of health insurance policies in Weinan City. However, I think that the "letter to parents" that primary and secondary schools in Weinan City insist on doing is a way to elicit IPC, i.e., the school distributes a letter to parents about HFRS knowledge and warnings to students, and students need to get their parents' signs. In order to finish this operation, the process will inevitably lead to the communication and discussion between children and parents about HFRS, which also plays a part in the role of IPC.

5.3. Changes in Access to Health Information and Health Services Through New Media

With the development of new media, especially social media, the way people get health information and health services are being changed from the top-down approach of authority figures or institutions publishing to the way new media users take the initiative to become the creators and disseminators of health information.

It is interesting to note that people usually use search engines and official websites to seek and provide health messages, but more often use social media to read health information. If this phenomenon is explained according to the problems found in this paper, the researcher would argue that the vast majority of people do not fully understand the relevant policies published by the government independently is one of the reasons.

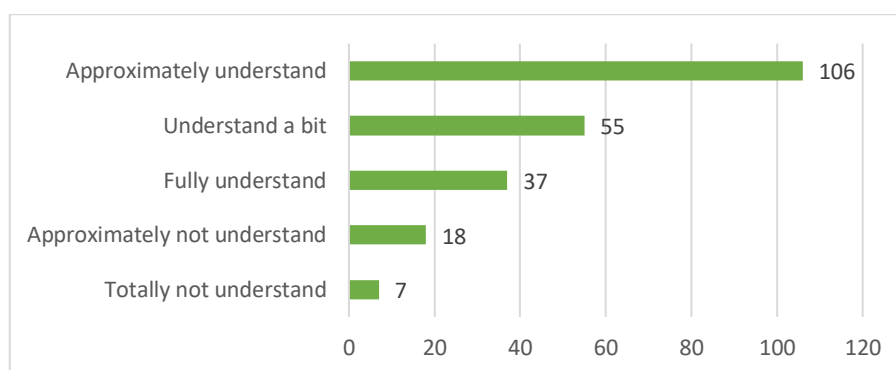


Figure 11: Respondents' ability to understand the information in governmental policies.

In conclusion, the role of new media in the influence of health behaviors can no longer be ignored, and it is worth looking forward to seeing how Weinan City can propose more and better methodologies for HFRS prevention and health insurance policies dissemination with the help of new media. They need more innovative measures, such as using modern scientific techniques like big data, or using various research approaches and methods to intervene in the health communication process on related topics, etc.

6. Conclusion

Through the empirical study of the research questions and research hypotheses, this paper confirms the validity of the research hypotheses. Only 30% of the respondents expressed a positive attitude toward the level of knowledge of HFRS (relatively or very well informed), and only 23% of the respondents were relatively or very well informed about the HFRS health insurance policies in Weinan City, and only 52% of the respondents were very satisfied and relatively satisfied with the effectiveness of the health insurance policy on HFRS in Weinan City, which leads to the preliminary conclusion that the effectiveness of HFRS prevention and health insurance policy dissemination in Weinan City is not good. Also, correlation analysis of the data using SPSS confirmed a significant positive correlation between people's disease perceptions of HFRS and policy knowledge, i.e., there was a driving effect between knowledge and beliefs, and the more sensitive people's perceptions of HFRS were, the higher their knowledge of related health care policies.

However, the sample size of this paper is small, and it is impossible to deny that the conclusions will have some bias. At the same time, in terms of the completeness of the relevant theories and models, the research in this paper is limited to knowledge and beliefs but lacks research on the health behaviors of Weinan City residents regarding HFRS. Future research on the effectiveness of communication on related topics can focus and start from health behaviors, and specifically explore the relationship between knowledge and beliefs and health behaviors.

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