Investigation and Analysis of Consumers' Food Safety Cognition in Shandong Province

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Abstract. Major issues of people's livelihood that are of general concern to government departments and consumers when food safety issues arise. This paper surveys nearly 1,200 consumers in six cities of Jinan, Weifang, Dezhou, Linyi, Qingdao, and Heze in Shandong Province, and consumers' attitudes toward food safety risks, consumer purchasing behavior, and consumer food safety. The ability to judge and consumers access to food safety information was analyzed. The research results provide a basis for effective supervision and guidance by government departments.

1. Introduction
"The people take food for the sky and eat for the sake of security". The issue of food safety is a major livelihood issue that affects the vital interests of the people and is the material basis for human survival and development. With the development of the economy and the improvement of people's living standards, China's food industry has also developed rapidly. The total amount of food has surged and there are many kinds of food, but food safety incidents have occurred frequently. In recent years, government departments have attached great importance to food safety issues, and consumers are paying more and more attention to food safety issues. On October 1, 2017, the "Food Safety Law of the People's Republic of China", known as "the most stringent in history", was officially implemented after being reviewed and approved by the Standing Committee of the National People's Congress. The supervision departments at all levels are "strict" and take the lead in strengthening food safety supervision, but consumers satisfaction with food safety is still not high. This paper analyzes the factors affecting consumers' satisfaction with food safety through the survey of consumers at different levels in many cities in Shandong Province, and then provides the basis for the supervision of relevant departments.

2. Sample situation
2.1. Basic situation
The locations of this survey were selected from six cities: Jinan, Weifang, Dezhou, Linyi, Qingdao and Heze. Mainly because of the large population of the above cities, it is evenly distributed on the map of Shandong Province, which can represent the different consumption levels and consumption habits of Shandong Province. It can reflect the overall level of food safety in Shandong Province and ensure the comprehensiveness and accuracy of the data. In this survey, 1,200 questionnaires on food safety awareness and consumption behavior of residents in Shandong Province were distributed to
consumers, and 1,189 questionnaires were returned, of which 1,114 were valid questionnaires, and the effective recovery rate was 92.8%.

2.2. Sample characteristics
Among the consumers surveyed, 40.25% were men and 59.75% were women. The sample age distribution of consumers is: 39.3% under 25 years old, 21.5% under 25-40 years old, 30.2% at 40-55 years old, and 9% over 50 years old. The distribution of consumer education is 25.2% for junior high school and below, 22.6% for high school or secondary school, 50.1% for junior college or undergraduate, and 2.1% for postgraduate students. The occupational distribution of consumers is 19.4% for civil servants and institutions, 16.5% for private owners and freelancers, 31.6% for corporate employees, 8% for full-time wives and retirees, 6.5% for students, and 17.2% for farmers. Accounted for 0.8% [1-2]. The average monthly household income distribution of consumers is 6,000 yuan to 32.4%, 6000-10000-yuan accounting for 47.8%, and 10,000 yuan or more accounting for 19.8%.

3. Consumers' perception of food safety risks

3.1. Analysis of consumers' concerns about food safety status
Consumers are generally not optimistic about food safety. Respondents scored a total of 6.4 points (out of 10 points) on the status of food safety. Among the respondents, the proportion of people worried about food safety was as high as 88.1%, which said “very worried” accounted for 19.9%, saying “worry” and “more worried” each accounted for 34.6% and 33.6%, only 6.3%. Respondents stated that they “do not worry” about food safety issues, and another 5.6% of respondents did not care about food safety issues [3].

3.2. Consumers' analysis of the degree of concern about different foods
Among the more than ten kinds of foods listed, except for food, the respondents' confidence rate for other foods was less than 50%, and consumers were most uneasy about children's food, cooked food, meat and oil. The proportion of consumers who choose to care for children's food, cooked food, meat, and oil is 40.2%, 32.9%, 27.0%, and 24.2%, respectively. Respondents' confidence in vegetables, fruits, pastries, soy products, dairy products, aquatic products and alcohol is also low, between 10% and 20%. Food is the most reassuring food for consumers, and its unreliable rate is only 5.2%.

3.3. Analysis of food safety issues most worried by consumers
The abuse of additives or industrial hazardous substances, the deterioration of foods and the pollution of pesticides, antibiotics and heavy metals in foods are the most worrying food safety issues for consumers. The survey found that consumers' concerns about food safety run through the entire chain of the food industry chain [4-5]. In the production of agricultural products, consumers are most worried about pesticides, antibiotics and heavy metal pollution (24.0%); in food processing, consumers are most worried about the abuse of additives or industrial hazardous substances (26.0%); In the food circulation, consumers are most worried about the deterioration of food (accounting for 25.8). In contrast, consumers are relatively less worried about counterfeit, unidentified sources of food ingredients, genetically modified foods and other issues (the sum is 24.2%).

3.4. Analysis of consumers' access to food safety information
Television and radio are still the most important ways for residents of Shandong Province to obtain food safety information. The survey found that 45.8% of the respondents obtained knowledge on food safety consumption through television. The other channels were online, print media and relatives, with the proportions being 18.9%, 18.0% and 15.7%. The proportion of knowledge about food safety through knowledge lectures is extremely low, about 1.7%. In addition, the level of education of respondents has a greater correlation with the way to obtain food safety information. The survey data
shows that the higher the education, the greater the proportion of food safety information obtained through the network, the lower the education, the more inclined to pass TV, Broadcast access.

4. Consumers' purchase behavior analysis

4.1. Analysis of consumer food purchase channels
Supermarkets and farmers' markets are the main food purchase channels for residents in Shandong Province, and the income level directly affects the choice of household consumption channels. The survey found that 44% of consumers choose to buy food in supermarkets, the second choice is farmer's market, accounting for 32%, while the proportion of other forms of consumer sites such as wholesale markets, convenience stores and free booths is lower. As household incomes increase, consumers tend to increase their shopping preferences, while the tendency to shop in farmers' markets, wholesale markets, free booths, and convenience stores decreases. However, the proportion of households with a monthly income of more than 10,000 has increased, and the proportion of free booths and convenience stores has increased. This may be due to the busy work, so it is more inclined to shop freely and convenience stores [6].

4.2. Analysis of the main influencing factors of consumers purchasing food
Health and quality have become the main considerations for residents of Shandong Province when purchasing food. The survey found that up to 65% of respondents first consider the hygiene and quality of food when purchasing food, followed by price (16%) [7-8]. This shows that the residents of Shandong Province have a more rational attitude towards the consumption of food, and most people will not neglect the quality of food because of the cheaper. The results of the survey indicate that the higher the consumer's income level, the less the price considerations and the higher the packaging requirements.

4.3. Consumers' judgment on food safety
Residents' ability to judge food safety needs to be improved. More than half of consumers cannot distinguish the safety of common foods, and nearly 30% of consumers cannot distinguish between green, organic and common foods. The survey found that only 3.8% of consumers can completely distinguish the authenticity or quality of food, 40.1% of consumers can distinguish the safety of most foods, 45.8% of consumers can only distinguish the safety of their familiar food, and 7.8% and 3.0% of consumers can't or can't tell the difference between foods. Respondents had lower levels of awareness of green and organic vegetables, and only 5.8% of consumers clearly understood the difference between them and ordinary foods, 66.8% of respondents only knew about it, and 27.5% Consumers are completely unclear about the difference between them and ordinary foods. Consumers' ability to judge food safety is related to age and has little to do with cultural level. Cross-analysis of the respondents' age, education level and their ability to judge food safety revealed that with the increase of age, the ability to judge food safety is enhanced, which may benefit from the accumulation of experience; The influence of consumers' judgment is basically small.

5. Problem food and food poisoning and analysis of its treatment

5.1. Analysis of the situation of consumers purchasing foods
More than 30% of consumers have purchased problem foods or have experienced food poisoning, and their chances are negatively correlated with consumers' food safety resolution. Consumers who “cannot identify” food safety have the highest proportion of such problems, up to 47.1%, and consumers who choose “essentially indistinguishable” food safety have a higher proportion of such problems, at 36.3%, while “It can be discerned that “food safety consumption accounts for only 10.0% of such problems.
5.2. **Consumers' purchase problems after food analysis**

Most of the respondents who bought the problem food or experienced food poisoning did not actively complain about finding a solution. The main reasons were: “Thoughts were wasted time”, “Complaints could not solve the problem” and “I don’t know how to complain”. The survey found that only one in four consumers solved the food problem through complaints. The main complaints were 13.1% for sellers, 7.1% for consumers, 4.1% for manufacturers and 1.0% for government departments. The remaining 75% of consumers dispose of the problem foods themselves without active complaints. The main reason is that they are “wasted by complaints” (48.4%), “complaints cannot solve problems” (29.0%) and “no” Know how to complain” (22.6%).

Consumption through complaints to solve food quality problems or food poisoning is only about half, in addition to complaints to the government, the proportion of other complaint channels to solve food problems are less than 60%. The proportion of the four complaint channels of “Complaints to the seller”, “Complaints to the manufacturer”, “Complaints to the Consumers’ Association” and “Complaints to the government’s management department” to solve the consumer food problem were 57.3%, 58.1%, 58.9, 71.4%. In addition to obtaining a higher success rate from complaints to the government, other means are lower success rates, which is not only conducive to protecting the legitimate rights and interests of consumers, but also damaging the enthusiasm of consumers.

6. **Conclusion**

Consumers are less satisfied with food safety in Shandong Province, consumers have low judgment on food safety, and their awareness of active prevention is not strong. Therefore, relevant departments should strengthen the popularization of laws and regulations such as the Food Safety Law, incorporate food safety education into the national education system, and provide special financial support. Give full play to the role of social organizations such as industry associations and news media in food safety publicity and supervision, raise consumers' awareness of food safety legal system, expand their access to information, and enhance their own prevention capabilities. At the same time, it is necessary to strengthen the popularization of public health knowledge, improve consumers' awareness of food safety, and guide consumers to choose safe and healthy consumption to cultivate consumers' self-protection awareness. The whole people strive to create a concern for everyone's food safety and everyone's attention to food safety. Good social atmosphere.

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