

Research Article

An Empirical Research on Risk Perception for Infants Food Safety in Bengbu

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Abstract: As vulnerable consumers, healthy infants have been highly concerned. In order to make a research on risk perception for infants food safety in Bengbu Anhui province, we first conduct a questionnaire on status about parents risk perception levels for infants food safety in kindergartens in Bengbu urban district and its three administrative counties. By making the parents mark the factors when they purchase their infants food through the Likert Scale, we conclude that there are five crucial factors of genetically modified food, expired food, counterfeit food, pesticide residue and food additives. Meanwhile, this research also concerns about the parents demands for the information about food safety and government's attitude towards supervision efficiency to infant food, some relevant results are arrived at and proposals are contributed as well.

Keywords: Food safety, infants, perception, risk

INTRODUCTION

Food safety means food, non-toxic, harmless, conform to proper nutritive requirements of human health, does not cause any acute, sub-acute or chronic hazards (Wang, 2013). The methods of risk perception originated from the early 1980s, used by Western scholars to investigate how risk factors affecting people's social life aiming to find out people's subjective attitudes and evaluations with these risks (Pu, 2009). In recent years, research on risk perception of food safety has also been included by the risk perception researchers abroad in their extensive researching fields, such as the three risk sources of pesticide subdues, bacterial contamination and fat (Knight and Warland, 2005). In China, the study of risk perception for food safety is relatively new, with less research achievements, most of which are from a marketing point of view utilizing the principles of economics and psychology to explore the relationship between the influencing factors of risk perception for food safety and the purchasing behavior (Hu and Hua, 2008), while the empirical studies on risk perception for infant food safety is still blank. With regards to this, in reference to relevant literature and related expert advice, we conduct a survey about parents risk perception for infants food safety in 12 kindergartens in Bengbu urban district and its three administrative counties through a self-designed questionnaire of "Bengbu risk perception for infant food safety" to conduct a study on parents levels of risk perception for infants food safety, their demands of the information about food safety and their attitude towards government supervision efficiency, some results are arrived at and relevant proposals are contributed.

SUBJECTS AND METHODS

Subjects: Sampling 3 kindergartens from Bengbu urban district and its administrative counties of Huaiyuan, Guzhen and Wuhe. Questioning some infants parents with assistant of the kindergarten.

Time: From March 2015 to May 2015.

Methods: Utilizing stratified sampling to collect information from all subjects by applying uniformly self-designed questionnaire (Yin *et al.*, 2010).

Questionnaire design: The questionnaire of "Bengbu risk perception for infant food safety" is designed in reference to relevant literature and related expert advice. It consists of the two elementary informations, one is the background of the subjects inclusive of gender, age, education, register residence, political affiliation, occupation and family income, the other, 10 purchase options of the multiple choice test for risk perception for food safety including genetically modified foods, expired food, counterfeit food, microbiological contamination, heavy metal contamination, packaging pollution, pesticide residues in food, food additives, unsafe open way to packaging and building toys into package and 3 multiple choice tests about risk perception for food safety.

Scoring: By Likert scale.

Quality control: In the pre-research phase, 50% of eligible kindergarten parents were re-measured intermittently (at intervals of 21 days) and then check the reliability with a good Cronbach's alpha $\alpha = 0.853$.

Table 1: Features of valid sample for questionnaire against infant food safety risk in Bengbu

Demographic variables	Categories	Frequency	Percent
Gender	Male	489	42.74
	Female	655	57.26
Age	18-25	363	31.73
	26-35	601	52.24
	36-50	180	15.73
Education experience	Senior middle school and below	375	32.78
	A junior college	481	42.05
	Undergraduate and the above degree	288	25.17
Registered residence	Urban	287	25.09
	Rural	857	74.91
Political affiliation	Party member	396	34.62
	Non-party	748	65.38
	Management	273	23.86
Occupation	Employees	795	69.49
	Underemployed	76	6.65
	Family income	254	22.20
Family income	Below 4000 RMB	632	55.25
	From 4000 to 6000 RMB	258	22.55
	Above 6000 RMB	258	22.55

Table 2: Scores of risk perception for infant food safety in Bengbu

Multiple-choice for risk perception	1 points	2 points	3 points	4 points	5 points	6 points	7 points
Genetically modified food	114	161	118	152	173	182	244
Expired food	52	75	93	123	268	361	172
Counterfeit food	36	84	78	214	294	223	215
Microbiological contamination	156	244	226	208	112	109	89
Heavy metal contamination	178	296	205	187	104	101	73
Pesticide residues	38	83	69	245	269	271	169
Food additives	75	102	135	151	299	281	101
Unsafe open way to package	217	251	283	116	123	101	53
Building toys into package	208	218	189	195	150	109	75
Packaging pollution	155	267	265	230	108	94	25

Table 3: Anxious degree of parents concerns to infant food safety in Bengbu

Anxious degree	Frequency	percentage
Completely unworried	38	3.32
Not particularly worried	120	10.48
A little worried	291	25.44
Worried	385	33.65
Much worried	310	27.11

RESULTS

Background information of subjects: A total of 1200 questionnaires distributed to the parents of 12 kindergartens in Bengbu City and its three administrative counties were returned 1171, of which 27 copies are invalid, with the effective rate of 95.33%, in line with the research requirements. Basic information for the parents surveyed is shown in Table 1.

Result:

Factors for purchase: In the questionnaire, the question: If you buy infant food, the following factors may have an impact on you, to what degree, scoring please, the concerned options involve genetically modified food, expired food, counterfeit food, microbiological contamination, heavy metal contamination, packaging pollution, pesticide residues in food, food additives, unsafe open way to packaging and building toys into package. When marked by Likert Scale from minimum to maximum in 7 grades

(Table 2). It shows that the five factors of microbiological contamination, heavy metal contamination, unsafe open way to packaging, building toys into package and packaging pollution exert common influence or their influence under average degree. While the other five factors of genetically modified food, expired food, counterfeit food, pesticide residues in food and food additives the consumers concern more when they buy infant foodstuffs or their scoring levels are above average, respectively 65.65, 80.77, 82.69, 83.39, 72.73%, respectively.

Analysis to parents risk perception for food safety:

Levels of parents risk perception for food safety: In respect to the question, Currently, how do you worry about the extent of the security situation in children's food? It shows in Table 3 that 60.76% of the parents are more worried or very worried about infant food safety, while completely not worried only covers 3.32%.

The information demand for parents to food safety:

The effect of exchange risk is mainly determined by the credibility of information dissemination sources. Basic information published from low trust source can not promote consumers level of risk perception for food safety (Frewer *et al.*, 1996). About the question: on the information for infant food safety released by media, the survey shows that 23.86% of consumers would be much interested, 45.10% are more interested, 7.78% are uninterested or less interested. Thus it can be seen that

Table 4: The first credible sources for infant parents to food safety information in Bengbu

Sources	Frequency	percentage
Experts	338	29.55
Media	215	18.79
Government supervision department	369	32.26
Registered label in the package	143	12.50
Instructions	60	5.24
Other sources	19	1.66

68.96% of the parents are concerned about food safety information, giving account to the rising concern for the parents to the infant food safety, the demand for information about food safety also on the rise.

About the question in the questionnaires, parents are asked to make a sequence of information sources in the light of their credibility, the results show in Table 4 that for the first trustful sources, 32.26% of the parents choose the government supervision departments, 29.55% choose experts, 18.79% choose the media such as newspaper, TV and network. While information released by the stakeholders and risk assessors is under distrust.

Parents' attitudes towards efficiency of the government supervision: For the reply to the question: Do you think the current government regulation for food safety measures effective? 10.93% of the consumers think much effective, 25.79% believe partial effective, 42.05% believe effect ordinary, 12.24% believe scarce effect, 8.99% believe ineffective. hence, 63.28% of the infant parents generally have a negative attitude to the effect of government supervision.

CONCLUSION AND SUGGESTION

Conclusion: By making a research on risk perception for infant food safety in Bengbu, we draw the following conclusions:

Genetically modified foods, expired food, counterfeit food, pesticides residue and food additives are five factors that crucially affect parents to buy food for their infants.

Most of the infants parents feel more worried or much worried of the current food safety situation.

The parents in Bengbu are increasingly concerned about the infants food safety as well as the information about it.

The parents' first trustful sources for food safety information are experts and associated media while information released by the stakeholders and risk assessors is under distrust.

The infant parents generally have a negative attitude to the effect of government supervision.

Suggestions: As a vulnerable consumer group, the healthy growth of young children should cause great concern in society. Therefore, with the combination of the results of this study on how to reduce food safety risks in Bengbu to improve risk perception level for infants food safety, the following are suggested:

Government departments should intensify supervision to the infant foodstuffs, severely crack down on deterioration, expired and counterfeit food, strictly control pesticide residues in food and ban the use of food additives, with regard to genetically modified food, rigorous evaluation of international security system must be adopted to decrease parents worries about the current food safety situation.

The control achievement in food safety should make publicly known through experts, newspapers, televisions, Internet and other authoritative media as soon as possible in order to improve consumers creditability.

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