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Attitudes of Workers Employed in Restaurants Toward Importance of Food Safety System Management Implementation

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Summary: Through this paper survey on attitudes of workers employed in restaurants and other food bussines operators (storages, distribution and market – sales and catering) has been performed. Survey covered cca 600 workers employed in 130 companies. It has been performed in several municipalities in Republic of Serbia (AP Vojvodina and Central Serbia).

Key words: snails, chemical composition, meat quality

Introduction

Exchanged eating habits, urban lifestyle, the development of collective nutrition, specific requirements of vulnerable groups of citizens, and more complex requirements for raw materials and finished food products, require a new approach to quality and food safety and nutrition. Health problems and foodborne diseases and diseases related to eating habits are increasing [Egan, et al, 2007] [Bolton, et al, 2008]. Every year, over one million people in the world become sick from these diseases [World Health Organization, 2000]. Prevalence analysis of the incidence of diseases caused by microorganisms in the world has shown that food poisoning is usually the result of operating during the preparation of food in small enterprises, canteens, homes and other places where it is prepared.

Food Safety Agency of Ireland has identified six factors related to food poisoning in catering: sick workers, cross contamination, inappropriate heat treatment, inappropriate food storage, inappropriate food defrosting and inappropriate food serving [Bolton, & et al, 2008]. Similar studies have shown that in England and Wales of all reported cases of food poisoning, 29% of incidents related to inappropriate food heat treatment, 28% related to inappropriate methods of food preservation, 25% related to cross contamination and 10% related to contamination of food by sick workers. [Olensen, et al, 2001] quote that food poisoning in 60% of cases occurs because of inappropriate cooling, 31% due to poor personal hygiene, 26% due to contaminated equipment and 18% of cases due to improper heat treatment process. The most effective way to prevent food poisoning is the rigorous application of the principles of HACCP [World Health Organization, 2000] and the food safety management systems (FSM) throughout the supply chain.

HACCP system implementation implies the practical implementation of procedures which will eliminate different hazards to acceptable levels, introduction of required documentation, verification procedures and control of the activities [Grujić, Sanchis, & Radovanović, 2003]. During previous studies [Taylor, 2001] [Seaman, & Eves, 2006] [Bas, Yüksel, & Çavuooflu, 2007] [Grujić, et al, 2010] [Grujic, et al, 2010] [Grujic, al, 2010] [Grujic, Ivanovic, & Antonic, 2010] number of barriers to the implementation of HACCP in small and medium enterprises is identified: lack of experience, lack of regulation, lack of financial resources and the desire to introduce changes in companies.

According to the papers which analyzed the application of HACCP in food business operators, in the initial phase of HACCP / FSM implementation, similar situation was in most countries of the world [Jevšnik, Hlebec, &

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Raspor, 2008] [Radovanović, 2009] [Kjeldgaard, Stormly, & Leisner, 2010] [Garayoa, et al, 2011] [Karaman, et al, 2012] [Carlos, et al, 2012] [Bánáti, & Lakner, 2012] [Wen-Hwa, 2013]. Better training of employees in food business operators has its limitations, such as: lack of motivation, low socio-economic and educational level of employees, rapid employee turnover, a large number of workers in the later years, the cost of courses maintenance.

Food production is a complex process aimed at the production of safe and quality foodstuff. This goal is determined by many factors, and one of the most important is knowledge of people involved in the process of food production throughout the food chain. Lack of knowledge in one of the stages of the chain can jeopardize all the efforts made to improve the safety of food products. In addition, people who manipulate the food, often can be (re) carriers of pathogenic microorganisms. [Mortlock, Peters, & Griffth, 1999] found that at least 10% of the problems of this kind can be reduced through adequate training of employees.

The purpose of this paper is to determine the level of knowledge of workers in restaurants and other facilities who deliver food directly to consumers, identify factors that represent barriers to adoption of new habits and practical implementation of HACCP in restaurants and other food bussines operators.

Materials And Methods Of The Paper

Questionnaire design

As a survey instrument, an anonymous questionnaire was used. Questionnaire sketch was designed on the basis of previous research in the world and our own experience in this field [Taylor, 2001] [Grujic, et al, 2010] [Grujic, et al, 2010] [Jevšnik, Hlebec, & Raspor, 2008]. Clear and understandable questions are set that are tailored to the knowledge of respondents. The questionnaire consisted of two areas:

□ knowledge on food safety in practice and

□ knowledge on the importance of HACCP system in restaurants and other facilities that deliver food directly to consumers.

Several answers were offered to respondents and they could give an answer in one of the following ways: by making them stand out or one of the proposed alternatives, or quantifying their answers by giving ratings from one to five.

Respondents survey

Survey has been performed in several municipalities in Republic of Serbia (AP Vojvodina and Central Serbia). It covered 130 food bussines operators (storages, distribution and market – sales and catering). The survey was anonymous and without restrictions of time required to complete the questionnaire.

The survey was conducted in the period August-September 2012. A number of respondents did not provide answers to all questions. After collecting the questionnaires, the data were analyzed using appropriate statistical methods. All questionnaires were reviewed, the data entered in the tables, and the results were analyzed by the text, tables and graphs.

Results and Discussion

Respondents, the survey participants, were offered to give their opinion on the nine attitudes regarding the food safety, so they could give a score between 1 (none) to 5 (very good). 474 respondents believe that *foodborne diseases are dangerous for vulnerable groups of people* and scored it as 5. The same number of respondents believe that they are responsible for the monitoring and implementation of the principles of HACCP. Only 26 respondents gave score 1 to this question, which means that they believe that they do

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not have personal responsibility for the consequences that may arise because they provided food that is not safe and can threaten consumers health. The largest number of respondents understand the importance of continued training regarding the products safety. Most workers are sure that the food they prepared is safe for consumers (424 respondents gave a rating of 5 and 108 grade 4).

To the question *"Who will you inform when you are not able to realize demands of products safety system"*, 410 workers were gave a rating of 5, and more than 110 grade 4. Employees are aware that the presence of sanitary-toxicological and infrastructure conditions affect the ability to meet the requirements in terms of served meals safety, as evidenced by responses to the question *"Working conditions allow me to perform my job according to the principles of food safety"* (Table 1). Most respondents felt that they and their colleagues adhere principles that enable the development and preparation of dishes that are safe for consumers. In response to the statement "My activities during food handling don't affect their safety" only 8 respondents gaven grade 1, and four respondents gaven grade 2.

Table 1. Food safety system rating by the surveyed workers

Question	1	2	3	4	5
Foodborne diseases are dangerous for vulnerable groups of people	52	6	18	38	474
I am responsible to follow safety principles for all products	26	6	34	48	474
Continous education on food safety is very important for me	30	4	24	80	450
I am sure that the food that I prepared/made is safe for consumers	22	0	34	108	424
If my working conditions don't allow me to implement food safety principles, it is mandatory that I report it to my supervisor	30	3	34	112	410
Working conditions allow me to do my job in accordance with food safety principles	12	4	46	138	388
I think that all employees in my company respect principles of good hygiene practice	8	4	92	112	372
My activities during food handling don't affect their safety	194	14	64	62	254
HACCP certificate gives additional marketing possibilities to my company	210	38	82	92	166

According to the results obtained during the tests, the three principles of hygiene are at least applied in food bussines operators, *"Sometimes I forget to wash my hands after using the toilet"*, *"When I don't manipulate with food, I'm not wearing work clothes"* and *"Sometimes I forget to control temperature in areas that are cooling."* More than 300 respondents has responded to the questions with evaluation of a very much (5). The smallest number of respondents considered a gum chewing while working as hygiene rools trespassing (138 respondents gave a rating of 5, as opposed to 136 respondents who gave the grade 1) (Table 2).

Table 2. Most often violations of principles of good hygiene practice by employees

Question	1	2	3	4	5
Sometimes I forget to wash my hands after using the toilet	76	12	24	32	368
When I don't manipulate with food, I'm not wearing work clothes	80	8	22	42	334
Sometimes I forget to control temperature in areas that are cooling	72	32	28	36	312
I don't use system for evaluation of foodstuff quality	134	26	50	48	222
Sometimes I forget to control baits for pests	114	7	56	46	212
I use inappropriate tools and accessories	98	62	44	28	200
I'm washing my work clothes at home	72	10	50	20	174
I use chewing gum at work	136	46	76	10	138

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Interpersonal relationships within the company can have a big impact on the process of production, and hence on food safety. Since all workers take part in the chain of production of safe products, it is considered that the chain is both safe and the weakest link. For questions about the employees opinion on the attitude of their colleagues in terms of food hadling hygiene, most or over 400 workers were in favor of the 10 proposed positions on hygiene in relation to food safety (Table 3).

Table 3. Employees opinion on the attitude of their colleagues in terms of hygiene when working with food

Question	1	2	3	4	5
They always wash their hands after using the toilet	4	4	50	50	490
They clean tools and mandatory equipment	2	6	22	84	484
They often clean their overalls	4	6	34	74	480
They control the shelf life of the product regularly	10	4	22	96	466
They are doing their job in accordance with the requirements for food safety	8	22	32	72	464
They regularly inform the supervisor about all health problems	18	6	42	72	460
They look out that the work flow does not cause contamination	10	8	56	94	430
They often perform requested temperature measuring	44	32	38	78	406
They follow the principles of good hygiene practice	46	12	52	82	406
They fulfill forms regularly and carefully	34	10	48	118	388

The employees' mood indicates the general state of the company, concerning financial, organizational, as well as other working conditions. Unsatisfied employee does not provide the maximum in terms of the production, and in terms of ensuring products safety. From 10 views offered on this issue, the highest score (5) got attitude, *"I always do my job in accordance with written and agreed instructions"* (470). Slightly fewer respondents (over 300) gave the maximum score to the attitude *"When I have professional problems, which upset me, I talk to my colleagues about it"*, while the worst score (1) got the attitude, *"I often compete with work colleagues"* (which is a sign that there is no competitive spirit, because obviously there are also incentives and rewards of any kind), and also a bad opinion of the majority of workers on the impossibility of talking about personal problems with superiors. Especially interesting are the answers given on two attitudes which essentially have the opposite meaning *"I will work in the same company until I retire,"* and *"I want to leave the company if I find a more interesting job"* (Table 4).

Table 4. General mood of employees in the company

Question	1	2	3	4	5
I always do my job in accordance with written and agreed instructions	10	4	34	72	470
When I have professional problems, which upset me, I talk to my colleagues about it	24	20	64	104	368
I found the job that I consider interesting temporary	76	24	86	100	304
If I chose a similar profession again, I would have chosen to work in the same company where I work now	44	18	82	180	266
If I choose again, I will choose the same profession	90	26	120	100	254
When I have professional problems, which upset me, I talk to my colleagues about it	160	30	94	54	252
I want to leave the company, if I find a better paying job	158	36	92	62	242
I will work in the same company until I retire	136	48	162	52	192
I want to leave the company if I find a more interesting job	206	60	70	90	164
I often compete with my working colleagues	262	42	112	70	104

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At the offered positions on the opinion on working colleagues, the lowest grade nothing (1) respondents gave to the following cases (Table 5): *"Work colleagues ignore me"*, *"My work colleagues are selfish"*, *"Work colleagues disturb me while I'm working "* , *"I have no contact with my colleagues"* and *"I'm not interested in my colleagues."* These responses indicate that there are good interpersonal relationships, although worker-supervisor relationships, as shown previously, are part of a positive working atmosphere. Good interpersonal relationships and collegiality at work are indicated by most respondents who evaluated the maximum (5) attitudes: *"Work colleagues are helping me at work"* (396), *"I have quite friendly relations with all colleagues"* (390), and *"I will make good job progress among these colleagues"* (340) (Table 5).

Table 5. Opinion on work colleagues

Question	1	2	3	4	5
Work colleagues are helping me at work	30		44	124	396
I have quite friendly relations with all colleagues	50	10	58	86	390
I will make good job progress among these colleagues	38	4	92	120	340
I find my work colleagues acceptable	76	10	86	116	306
I'm not interested in my colleagues	402	12	34	38	108
I have no contact with my colleagues	448	22	50	16	58
Work colleagues disturb me while I'm working	370	76	62	30	56
My work colleagues are selfish	428	28	64	28	46
Work colleagues ignore me	458	42	48	22	24

Analyzing the participants' attitudes regarding the treatment by superiors, it can be observed that the most annoying for employees is *"supervisor doesn't notice me"* and *"I have no contact with the supervisor"*. When it comes to work rewarding, attitudes are divided. The attitude of *"supervisor rewards me for a well done job"* 130 respondents gave a minimum rating (1), and 254 respondents gave a maximum score (Table 6). On the other hand, most respondents believe that the superior make efforts at his workplace to improve working conditions and that he develops their personality.

Table 6. Emloyees' attitude towards their supervisor

Question	1	2	3	4	5
Supervisor is honest	36	8	60	94	402
Supervisor knows what I'm doing	94	0	46	86	374
Supervisor is good in job organizing	36	8	48	112	372
Supervisor makes efforts to provide me with good job conditions	72	16	68	90	354
Supervisor is improving his work	74	10	66	98	352
Supervisor encourages me in my work	52	12	78	106	352
Supervisor fulfills all his promises	34	10	94	116	346
Supervisor respects my opinion and suggestions	34	6	90	138	332
I learned something from my supervisor	92	32	82	88	306
Supervisor rewards me for a well done job	130	52	92	72	254
I have no contact with the supervisor	420	6	64	26	84
Supervisors don't notice me	418	16	60	40	66

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According to the workers opinion, the greatest contribution to their satisfaction and motivation at work is reflected in the behaviour of the supervisors, relationship with them, job position, safety conditions and working conditions in general (Table 7). More than 300 respondents gave a maximum score to positions in Table 7 that are related to this field. Workers are not satisfied: *benefit achieved by the company, payment, supervisors understanding of their progress and progress possibility*. This points to the relations in the company, which is based on satisfying the needs of the company, but not the workers.

Table 7. Emloyees' view on satisfaction and motivation at work

Pitanje	1	2	3	4	5
I am satisfied with the relationship between me and the supervisor	34	6	64	118	374
I am pleased with my position at work	28	10	96	120	342
I am satisfied with the measures taken for the protection of health and security at work	28	14	64	162	328
I am satisfied with the working conditions	28	0	74	170	324
I am satisfied with the organization of education and training on the job	26	30	126	114	300
I am satisfied with evaluation of my work by supervisor	26	12	84	186	288
I am satisfied with the job I perform	34	10	116	168	268
I am satisfied with interpersonal relationships at work	46	10	128	146	266
I am satisfied with progress possibility at work	84	72	118	98	224
I am satisfied with the way of work payment	74	42	138	122	220
I am satisfied with the way of supervisor's acception of my progress at work	66	24	158	170	178
I am satisfied with the benefits I get in my company	62	52	216	96	170

Workers were offered 5 positions to response with'' agree'' and ''disagree'', related to the awareness of workers and their direct influence and responsibility for food safety. The vast majority of workers, over 500, agrees that safe food handling is one of the most important work commitments. Equally, the respondents think that they handle food properly (560), that the raw material in storage should be separated from cooked food (566), that frozen food can be defrosted only once (478), and they consider further learning on food safety as important (510) (Table 8).

Table 8. The attitudes of workers which handle food on product safety

I agree		Undecide-d	I don't agree
Raw materials should be separated from final products	566	14	4
I think that I handle food in accordance with food safety principles	560	22	2
Safe food handling is the most important part of my responsibility at work	530	40	14
Additional education on food safety is important to me	510	62	12
Defrosted foodstuf should not be frosted again	478	28	78

Conclusion

Employees are aware of the importance of application of HACCP in restaurants. They have clear views and requirements regarding improving working conditions in restaurants.

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