

Satisfaction of nutritionists who work in food service

Satisfação dos nutricionistas que atuam na alimentação coletiva

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ABSTRACT

Objective

To evaluate the job satisfaction of nutritionists who work in food service in the state of *Paraná* (Brazil).

Methods

A survey was carried out with 249 nutritionists through a semi-structured online questionnaire, which assessed their profile, professional activities, and job satisfaction. The Mann-Whitney and Kruskal-Wallis tests and the ordinal logistic regression at a 5% significance level were applied to evaluate the differences and relationship between job satisfaction and the independent variables.

Results

The average age of the survey participants was 31.9±6.4 years, the majority was female (95.58%), and graduated between 2000 and 2016 (90.36%). The survey revealed that 55.41% of the nutritionists were satisfied at work, 33.68% were indifferent, 6.86% were highly satisfied, and 4.04% were dissatisfied. The variables that influenced job satisfaction the most were age, years of training, income, and workdays in the week. Income explained satisfaction positively. There was statistical difference in relation to the satisfaction of participants regarding their knowledge on food service ($p=0.0350$), completion of postgraduate courses ($p=0.0082$), and interest in working in an area of nutrition other than food service ($p<0.0001$).

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Conclusion

Although most professionals are satisfied, many were indifferent to job satisfaction, which may reflect a low perspective on their current job or poor experience in the food service. These results suggest the need for further actions aiming at raising nutritionists' perceived professional importance.

Keywords: Food service. Job satisfaction. Nutritionists.

RESUMO

Objetivo

Avaliar a satisfação no trabalho dos nutricionistas que atuam na área de alimentação coletiva no estado do Paraná.

Métodos

Pesquisa realizada com 249 nutricionistas, por meio de um questionário semiestruturado online, que avaliou o perfil, o exercício profissional e a satisfação do nutricionista. O teste Mann-Whitney, Kruskal-Wallis e a regressão logística ordinal com nível de significância de 5% foram utilizados para avaliar a diferença e relação entre a satisfação e as variáveis.

Resultados

A idade média dos respondentes foi de 31,9±6,4 anos, sendo a maioria do sexo feminino (95,58%) e graduado entre 2000 e 2016 (90,36%). Constatou-se que 55,41% dos nutricionistas estavam satisfeitos no trabalho, 33,68% indiferentes, 6,86% altamente satisfeitos e 4,04% insatisfeitos. As variáveis que mais influenciaram a satisfação foram a idade, os anos de formação, o salário e os dias da semana de trabalho, sendo que a renda explicou positivamente a satisfação. Houve diferença estatística com relação à satisfação dos participantes com a avaliação do conhecimento sobre alimentação coletiva ($p=0,0350$), a realização de pós-graduação ($p=0,0082$) e o interesse em atuar em outra área da nutrição que não a alimentação coletiva ($p<0,0001$).

Conclusão

Apesar de a maioria dos profissionais estarem satisfeitos, muitos foram indiferentes à satisfação no trabalho, podendo refletir ausência de perspectiva sobre seu trabalho atual ou indicar a falta de familiaridade com a alimentação coletiva. Os dados indicam a necessidade de mais ações de valorização junto a esses profissionais.

Palavras-chave: Serviços de alimentação. Satisfação no trabalho. Nutricionistas.

INTRODUCTION

In several countries, the population's food consumption pattern has been changing over the years [1], including a significant increase in out-of-home eating during the last few decades [2,3]. In Brazil, this growth is also evident, as 40.2% of food consumption has been done outside home [4]. As a result, there has been an increase in the number of food service companies [5] and, consequently, of job opportunities for nutritionists.

The most important responsibility of nutritionists who work in food service is to manage the food establishment in order to provide quality and nutritionally adequate food to the population [6-8]. In this challenging segment, the role of the nutritionist as a technical manager has become essential, leading them to take on professional and legal commitments in the execution of mandatory and complementary activities in Food Service Systems [8,9].

Despite the high professional demand in the food service industry, some nutritionists are not satisfied and motivated to practice their profession in this area, and are migrating to other segments after some time of experience [10,11]. These facts may be related, above all, to the accumulation of routine activities; to the predominance of administrative activities; to conflicts of interest between

the company and the nutritionist; to excessive working hours and low pay; and to poor technical knowledge about what constitutes adequate food and health promotion [10,11].

The nutritionists' dissatisfaction in their work may adversely affect productivity, services, employees, and customers of the company, in addition to favoring the hire of unqualified people [12]. Therefore, understanding the variables related to the satisfaction of these professionals in food service is important to promote a balance between job offer and demand [13].

Fifty years after the regulation of the nutritionist profession in Brazil – guaranteed by the enactment of Law No.5276/1967 and later by Law No.8234/1991 [14,15] – and development of several career opportunities in food service, there has been little evidence on the job satisfaction of these professionals in this area in the last years, both in Brazil [11] and in other countries [12,16-18].

In Brazil, there is still little research on job satisfaction amongst nutritionists working with food service. Clear understanding of the factors that influence nutritionists' job satisfaction may lead to greater professional valorization. Considering that job satisfaction surveys are of fundamental importance to the area of organizational behavior, this study aims at evaluating the satisfaction of nutritionists who work in the food service industry in the state of *Paraná* (Brazil).

METHODS

This research is a cross-sectional design that follows an exploratory and quantitative approach, which was conducted with nutritionists who work with food service in the state of *Paraná*. Ethical aspects were respected and the research was approved by the Research Ethics Committee of the *Universidade Federal do Paraná* (UFPR, Federal University of *Paraná*), document No.1.670.435.

Sample

The sample included professionals who worked in one or more areas of food service during the research period: restaurants, school feeding programs, and/or Worker's Food Programs [6]. The sample size was determined considering the total number of nutritionists enrolled in the 8th Regional Councils of Nutrition (RCN-8) (n=6,791) in the first half of 2016. Considering that the RCN-8 was not able to provide specific data on the number of nutritionists who worked with food service, the percentage used was based on a study by Vasconcelos & Calado [19], which identified that 32.3% of nutritionists were working in this area.

Nutritionists who worked in the public health area in that period (8.8%) [19] were also included in the sample because some professionals might work in the Workers' Food Program or the National School Feeding Program, but were not classified within the food service area. The Workers' Food Program and the National School Feeding Program are national programs designed by the Brazilian Federal Government to promote better nutrition for workers and schoolchildren.

Therefore, the number of nutritionists working in food service in the state of *Paraná* during the research period was estimated as 41.1% (n=2,805). Based on this value, a prevalence of 50.0% with a 5.0% margin of error and 95.0% confidence level were used. The study sample resulted in 338 nutritionists. The sample size was calculated using the open access program OpenEpi online, version 3.01 [20].

The inclusion criteria for participating in the research were: being a nutritionist; working in the food service industry in *Paraná* during the research period; being registered in the RCN-8; being at least 18 years-old; and having fully answered the questionnaire.

Research instrument

For data collection, a semi-structured survey questionnaire was developed online in the software Survey Monkey based on literature review. The questionnaire was divided into three blocks: (1) Identification of the participant [12,16,21,22]; (2) Professional activity [6,12,16,21,22]; and (3) Job satisfaction level [12,16,23,24]. The participants were enquired about their sociodemographic and professional profile, including gender, age, characteristics of training, weekly workload, workdays in the week, shifts, number of work sites, work location, income, among others.

Job satisfaction was evaluated through a list of 19 items, which was elaborated by the authors. Each item was assessed using the five-points Likert scale, where 1 represents 'Extremely dissatisfied' and 5, 'Extremely satisfied' [23,25].

Face validity was conducted with seven nutritionists with experience in food service in order to assess the satisfaction scale [25]. Following evaluation, a pre-test was carried out with seven nutritionists to assess the ease of access to the questionnaires, the participants' understanding of the information and questions presented, and the time required to complete the survey. Then, some changes were performed in order to render the questions clearer.

Data collection

The data was collected between October 2016 and January 2017. Nutritionists were informed of the survey by an e-mail sent by the RCN-8 to those who were registered in the council and additionally by e-mails circulated in city halls in the State of *Paraná*, catering companies, restaurants, bakeries, event suppliers, nutrition consultants, hospitals, colleges and universities, and elementary and middle school administration offices. The professionals were also invited to disseminate the research. Prior to accessing the online questionnaire, the participants were referred to the Free and Informed Consent Form.

The time to complete the questionnaire was approximately 25 minutes. It was not possible to estimate the exact average response time as the participants were able to pause and restart the online questionnaire at any time. Additionally, the participants could give up on the research after signing the consent form.

Statistical Analysis

Only fully completed questionnaires were considered in the data analysis. The data was analyzed in the statistics software Statistical Package for the Social Sciences version 21.0 (SPSS, Chicago, Illinois, United States) [26] by descriptive statistical analysis. Job satisfaction was evaluated according to satisfaction scores, as recommended by Lopes [27].

Satisfaction scores were determined through the standardization of the scores obtained from the Likert scale. The resulting standardized scale ranged from 0 to 100. Individuals who obtained a score from 0 to 39.9 were classified as dissatisfied; a score from 40.0 to 59.9 was classified as

indifferent; a score from 60.0 to 79.9 was classified as satisfied; and a score of 80.0 to 100 classified the individual as highly satisfied. In order to evaluate the relationship between job satisfaction and independent variables, an ordinal logistic regression analysis was performed. The variables were selected through Stepwise.

Mann-Whitney and Kruskal-Wallis tests were used to compare job satisfaction with sociodemographic and professional factors. In addition, the reliability of the satisfaction scale was evaluated in terms of internal consistency using the Cronbach's alpha coefficient. The level of significance set in all analyzes was 95% ($p < 0.05$).

RESULTS

In total, 358 individuals accessed the online survey, but only 249 (69.5%) nutritionists completed the questionnaire. Most respondents were female (95.58%), with an average age of 31.9 ± 6.4 years, who graduated college between 2000 and 2016 (90.36%) in private institutions (70.68%). Most of them completed a postgraduate course (75.90%), and their first employment started up to six months after graduation (71.08%) (Table 1). Although 43.78% of the nutritionists evaluated the knowledge on food service acquired during their undergraduate course as good, 26.51% considered such knowledge regular.

Most nutritionists (38.96%) had a 31 to 40 hour-working week, and 27.31% worked more than 40 hours per week. Furthermore, 73.49% of them worked five days per week; 89.96% worked in morning and afternoon shifts; 77.11% worked as nutritionists in food service in only one location; and 67.74% were paid between two and five minimum wages (Table 1).

In addition, 65.86% of the nutritionists considered that there was a need for specific training in food service. More than half of the nutritionists (59.04%) reported an interest in another area of nutrition (Table 1). The main reasons to change area were: affinity with another area (42.86%); future objectives/new experiences (14.29%); and low current wage (10.88%). Finally, the areas of greatest interest were: Clinical (46.9%); Teaching (37.4%); and Public Health (32.0%) (Table 2).

Amongst the attributes evaluated, there was statistical difference in relation to job satisfaction according to age ($p = 0.0389$), year of graduation ($p = 0.0379$), knowledge on food service ($p = 0.0350$), conclusion of postgraduate courses ($p = 0.0082$), interest in acting in an area of nutrition other than food service ($p < 0.0001$), and income in the food service industry ($p = 0.0193$) (Table 1).

Table 3 shows the distribution of nutritionists in the state of *Paraná* during the research period according to the job satisfaction level and attributes assessed. The results were: (a) 6.86% of the nutritionists were highly satisfied; (b) 55.41% were satisfied; (c) 33.68% were indifferent; and (d) 4.04% were dissatisfied. There was statistical difference between the mean percentage of satisfied and dissatisfied individuals ($p < 0.001$).

The items that corresponded to a higher satisfaction level (highly satisfied and satisfied) were: ergonomic conditions (62.75%), communication with subordinates (62.50%), time limit for decision-making (62.50%), conduction of administrative functions (62.50%), noise at work (62.50%), and temperature and humidity in the work environment (62.50%).

The ordinal logistic regression was performed initially with the variables age, training time, salary, time to obtain the first job as a nutritionist, number of work sites, time spent in the food service industry, workdays in the week, and weekly workload. The final model showed that only

Table 1. Distribution of nutritionists who work in the state of *Paraná* according to sociodemographic characteristics and job satisfaction. *Curitiba* (PR), Brazil, 2017.

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Variables	Participants		Job Satisfaction		p-value
	n	%	Mean score**		
			M	SD	
<i>Gender</i> ¹					0.1651
Female	238	95.58	63.55	± 12.75	
Male	11	4.42	59.57	± 14.21	
<i>Age</i> ²					0.0389*
Up to 29 years	100	40.16	64.86	± 11.98 ^a	
30 to 39 years	115	46.18	60.95	± 12.93 ^b	
40 to 49 years	29	11.65	66.87	± 13.81 ^a	
More than 50 years	5	2.01	69.15	± 13.18 ^a	
<i>Year of graduation</i> ²					0.0379*
Up to 1989	5	2.01	69.36	± 22.66 ^a	
1990 to 1999	19	7.63	70.16	± 11.05 ^a	
2000 to 2009	133	53.41	62.82	± 12.64 ^b	
2010 to 2016	92	36.95	62.46	± 12.49 ^b	
<i>Type of University/College where the undergraduation in Nutrition was completed</i> ¹					0.4942
Public	73	29.32	62.92	± 12.79	
Private	176	70.68	64.48	± 12.87	
<i>Knowledge on food service acquired during undergraduation</i> ²					0.0350*
Bad	14	5.62	59.58	± 15.76 ^b	
Regular	66	26.51	60.27	± 10.37 ^b	
Good	109	43.78	64.01	± 13.67 ^a	
Very good	47	18.88	66.09	± 12.22 ^a	
Excellent	13	5.22	68.08	± 12.60 ^a	
<i>Need for specific training in order to work in food service</i> ¹					0.3261
Yes	164	65.86	62.90	± 12.91	
No	85	34.14	64.29	± 12.64	
<i>Completion of postgraduate course</i> ¹					0.0082*
Yes	189	75.90	64.70	± 12.40 ^a	
No	60	24.10	59.22	± 13.36 ^b	
<i>Interest in working in an area of nutrition other than food service</i> ¹					<0.0001*
Yes	147	59.04	60.42	± 13.06 ^b	
No	102	40.96	67.64	± 11.20 ^a	
<i>Weekly working hours in food service</i> ²					0.3817
<10 hours	10	4.02	58.19	± 16.43	
10 to 15 hours	6	2.41	67.20	± 11.66	
16 to 20 hours	46	18.47	64.01	± 12.77	
21 to 30 hours	22	8.84	68.23	± 9.78	
31 to 40 hours	97	38.96	63.13	± 12.14	
>40 hours	68	27.31	62.16	± 13.98	

Table 1. Distribution of nutritionists who work in the state of *Paraná* according to sociodemographic characteristics and job satisfaction. *Curitiba* (PR), Brazil, 2017.

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Variables	Participants		Job Satisfaction		
	n	%	Mean score**		p-value
			M	SD	
<i>Workdays in the week in food service</i> ²					0.4603
1	2	0.80	58.51	± 9.02	
2	12	4.82	66.22	± 5.67	
3	23	9.24	65.22	± 13.42	
4	14	5.62	66.64	± 8.26	
5	183	73.49	62.82	± 13.55	
6	13	5.22	64.65	± 9.57	
7	2	0.80	50.00	± 10.54	
<i>Work shift in food service</i> ²					0.3064
Morning	16	6.43	61.44	± 11.91	
Afternoon	3	1.20	70.92	± 5.25	
Evening	2	0.80	53.72	± 11.28	
Morning and afternoon	224	89.96	63.32	± 12.92	
Afternoon and evening	1	0.40	71.28	± 00.00	
Morning, afternoon, and evening	3	1.20	74.47	± 12.94	
<i>Number of jobs in food service</i> ²					0.8843
1	192	77.11	63.66	± 13.07	
2	34	13.65	62.02	± 12.30	
3	9	3.61	63.12	± 13.31	
4	14	5.62	62.92	± 11.07	
<i>First job as nutritionist (time in months after completing undergraduation)</i> ²					0.5740
Up to 6 months	177	71.08	64.09	± 13.10	
7 to 11 months	14	5.62	62.39	± 12.42	
12 to 23 months	32	12.85	61.07	± 10.34	
24 to 35 months	14	5.62	63.07	± 14.85	
More than 36 months	12	4.82	60.55	± 13.26	
<i>Income in food service</i> ²					0.0193*
Up to 1 minimum wage	6	2.42	59.04	± 8.20 ^a	
More than 1 to 2 minimum wages	49	19.76	59.75	± 12.25 ^a	
More than 2 to 3 minimum wages	84	33.87	61.56	± 13.33 ^a	
More than 3 to 5 minimum wages	84	33.87	66.65	± 11.23 ^b	
More than 5 to 10 minimum wages	21	8.47	66.72	± 13.38 ^b	
More than 10 to 20 minimum wages	4	1.61	67.82	± 26.24 ^b	

Note: ¹Mann-Whitney Test; ²Kruskal-Wallis Test (Dunn test: same letters do not differ statistically, **p*>0.05). **Minimum value is 0 and maximum value is 100. Score from 0 to 39.9 was classified as dissatisfied; 40.0 to 59.9 was classified as indifferent; 60.0 to 79.9 was classified as satisfied; and 80.0 to 100 was classified as highly satisfied.

Minimum wage=R\$880.00.

Table 2. Information on the interest of nutritionists who work in food service in changing to a different area. Curitiba (PR), Brazil, 2017.

Characteristics of the shift to a different area	People who wanted to change area (n=147)		People who did not want to change area (n=102)	
	n	%	n	%
<i>Reasons for being interested in changing to a different area^a</i>				
Affinity with another area	63	42.86	27	26.47
Future goals/new experiences	21	14.29		
Low current wage	16	10.88		
Work simultaneously in another area	14	9.52		
Not satisfied in the current area	13	8.84		
Low level of perceived importance	11	7.48		
Experience in the area/Technical improvement			2	1.96
Public service stability			1	0.98
No answer	22	14.97	73	71.57
<i>Areas of interest^b (n=147)</i>				
Clinical	69	46.90		
Teaching	55	37.40		
Public Health	47	32.00		
Food Industry	21	14.30		
Sports Nutrition	34	23.10		
Marketing in food and nutrition	24	16.30		
Other ^c	5	3.40		

Note: ^aParticipants were able to choose more than one answer; ^bOnly those interested in changing to a different area answered this question; ^cOther areas the participants would like to work in: entrepreneurship (n=2); supply chain (n=1); sanitary control (n=3); nutrition focused on gastronomy (n=2); aesthetic nutrition (n=1); nutritional education (n=1).

Table 3. Scale of job satisfaction presented to nutritionists who work in food service in the state of Paraná, Brazil – internal reliability of the scale and distribution of nutritionists. Curitiba (PR), Brazil, 2017.

Scale of satisfaction	Highly satisfied		Satisfied		Indifferent		Dissatisfied	
	n	(%)	n	(%)	n	(%)	n	(%)
Professional motivation	17	7.00	133	54.73	83	34.16	10	4.12
Perceived professional importance	17	6.83	138	55.42	84	33.73	10	4.02
Income	17	6.85	137	55.24	84	33.87	10	4.03
Job stability	17	6.88	137	55.47	83	33.60	10	4.05
Opportunities for growth in the company	17	6.85	137	55.24	84	33.87	10	4.03
Relationship with superiors	17	6.83	138	55.42	84	33.73	10	4.02
Relationship with subordinates	17	6.83	138	55.42	84	33.73	10	4.02
Communication with superiors	17	6.88	136	55.06	84	34.01	10	4.05
Communication with subordinates	17	6.85	138	55.65	83	33.47	10	4.03
Time limit for decision-making	17	6.85	138	55.65	83	33.47	10	4.03
Menu planning budget	17	6.83	138	55.42	84	33.73	10	4.02
Conduct administrative functions	17	6.85	138	55.65	83	33.47	10	4.03
Division of tasks	17	6.83	138	55.42	84	33.73	10	4.02
Working hours	17	6.83	138	55.42	84	33.73	10	4.02
Workload	17	6.88	136	55.06	84	34.01	10	4.05
Noise in the work environment	17	6.85	138	55.65	83	33.47	10	4.03
Ergonomic conditions	17	6.88	138	55.87	82	33.20	10	4.05
Temperature and humidity in the work environment	17	6.85	138	55.65	83	33.47	10	4.03
Physical structure of the work site	17	6.83	138	55.42	84	33.47	10	4.02
Level of overall satisfaction		6.86		55.41		33.68		4.04
Cronbach's alpha					0.975			

age, training time, income, and workdays in the week influenced job satisfaction (CI95%) (Table 4). However, income was the only variable that explained satisfaction positively, while age, years of training, and days worked in the week explained the results negatively.

Table 4. Ordinal logistic regression of variables associated with job satisfaction levels of nutritionists who work in food service in the state of *Paraná*. *Curitiba* (PR), Brazil, 2017

Variables	Satisfaction level			
	Regression			
	β^a adjusted ^b	p-value	CI (95%)	
Age	-0.091	0.020	-0.167	-0.015
Year ^c	-0.109	0.013	-0.195	-0.023
Income	0.436	0.002	0.157	0.715
Days ^d	-0.304	0.032	-0.580	-0.027

Note: ^aRegression coefficient; ^bAdjusted by: time to obtain the first job as a nutritionist, number of work sites, years of experience in the area, and weekly workload; ^cYears of graduation/training; ^dWorkdays in the week.

DISCUSSION

The results of this study enabled the assessment of the job satisfaction of nutritionists who work in food service in the State of *Paraná*, Southern Brazil. The online research made it possible to approach a greater number of professionals, even though a portion of them gave up on the survey after having accepted the invitation. However, it is difficult to state the reason for the withdrawal. According to Buchanan & Williams [28], the dropout in online surveys may be higher compared to face-to-face research because the participant simply closes the browser window to finish the process. The reasons for quitting may be diverse, but researchers have not yet agreed on how to reduce the dropout rates [28,29]. In any case, the results obtained in this research are of great relevance, even considering the dropout.

Nutritionists were satisfied with working in food service, including with exerting administrative functions. Sauer *et al.* [12] evaluated the job satisfaction of nutritionists registered in the American Dietetic Association (ADA) (n=1,200) using a questionnaire comprising 36 items. They found higher satisfaction levels among professionals who had greater administrative responsibilities, especially in the area of budget management. Nevertheless, nutritionists were mostly dissatisfied in other studies [11] – perhaps because they performed activities outside of their scope [30]. Additionally, professional motivation remains being the most dissatisfactory attribute among nutritionists in food service.

Although most professionals claimed to be satisfied at work, a high percentage of nutritionists was indifferent to the items in the scale (33.68%). This result is similar to the ones observed in others studies [11,12]. Sauer *et al.* [12] verified that 31.8% of the professionals were neither satisfied nor dissatisfied, whereas Souza *et al.* [11] reported that 22.0% of the 129 nutritionists graduated in a Northeast Brazilian university were indifferent to job satisfaction and satisfaction with their professional knowledge.

Using a central (neutral) category on the scale can make respondents feel more comfortable when answering a survey. However, the neutral category can generate ambivalence and indifference, shading the respondents' true opinion [31]. In addition, job satisfaction is related to feeling joy during work. This outcome becomes a serious concern since there is no concrete opinion on the subject. Additionally, this may reflect a lack of perspective on the nutritionist's current work, as well as poor overall wellbeing and life satisfaction levels. Conclusions on life satisfaction are reported by Grace-Farfaglia *et al.* [18], who evaluated personal life satisfaction levels amongst nutritionists in the US. Work-life balance showed to be the main factor influencing life satisfaction.

Another relevant factor to the job satisfaction of nutritionists was their interest in changing work area. Most participants were interested in changing area, especially the ones who reported low job satisfaction levels. This result is in accordance with another research, which showed that dissatisfied workers either contribute more significantly to labor turnover [32] or have higher intention to change jobs [12].

Individuals older than 40 years and those who graduated in the 90's showed higher job satisfaction levels. A similar result was found by Visser *et al.* [16] and Chin *et al.* [24], who reported that age and time of experience independently have a positive influence on job satisfaction. However, time of experience did not impact on life satisfaction among nutritionists [18].

However, younger professionals may evaluate as positive some aspects that middle-aged workers believe to be causes of dissatisfaction. This is a common scenario, as younger workers usually desire to learn and acquire new experiences. On the other hand, older professionals adapt better to new employments and have more objective views, as they usually have greater professional experience. Thus, older professionals may assign higher values to aspects that others consider dissatisfactory [33].

Proper training has also influence on job satisfaction. Nutritionists who were more satisfied at work were those who classified their knowledge in food service as excellent. For instance, Almeida *et al.* [34] conducted a systematic review and observed the importance of the relationship between theory and practice, the dimensions of teaching, research and extension, and practical activities and internships for the development of skills and competencies of nutritionists who work in the public health area.

Even though this study focuses on nutritionists who work with food service, their relationship with public health is important, since these professionals have to comply with public policies that are currently included in the activities of Food Service Systems (e.g.: Workers' Food Program; National School Feeding Program) [8].

These results reinforce the commitment that undergraduate courses of nutrition should have in the construction of pedagogical political projects. Such projects should be elaborated collectively and centered on the student as subject, while lecturers should be facilitators of the teaching-learning process, respecting both the Curriculum Guidelines of the National Nutrition Undergraduate Course [35] and the nutritionist's area of activity. Not only the nutritionists' attributions [7] influence their job satisfaction, but also the knowledge acquired during undergraduate and postgraduate courses.

Moreover, Grace-Farfaglia *et al.* [17] found that life satisfaction of US nutritionists were influenced directly and positively by a greater orientation towards wellness and a healthy lifestyle.

Thus, undergraduate courses should comprise modules on wellness and health self-management, which contribute to life satisfaction.

In addition, continued training should also be emphasized, since the professionals who completed postgraduate courses were more satisfied with their profession – similar results were found by Abad-Jorge & Butcher [36]. This fact shows that knowledge and constant update can provide better opportunities for professional advancement and value. It is noteworthy that only the knowledge obtained from undergraduate training may be insufficient to manage public health issues that keep increasing in complexity.

Moreover, job satisfaction was affected by income, which explained the results positively. A study by Chin *et al.* [24] with nutritionists in South Korea presented similar results. Other studies have also shown that low pay is the major cause of professional dissatisfaction [7,11,16]. Sauer *et al.* [12] also stress that the relationship between job satisfaction and income can often be related not only to the salary itself, but also to the position occupied by the professional.

Most nutritionists that participated in this research had a monthly income between R\$1,760.00 and R\$4,440.00, but not all of them worked 40 hours/week. Currently, the National Reference for a nutritionist's wage value (44 hours/week) is R\$2,389.36 per month [37], which corresponds to 2.5 minimum wages [38].

The results found in this research indicate the need for higher perceived professional importance through the action of labor unions in various Brazilian states, since the National Reference for nutritionists' wage does not follow the annual adjustment of the minimum wage. It is worth highlighting the absence of a labor union operating in the state of *Paraná*.

This study presents some limitations. The sample was non-probabilistic, thus the data may not represent the reality of all nutritionists in the state of *Paraná*. In addition, even though this research had been widely publicized, some professionals may have not managed to access it or have not received the invitation. Naturally, not all professionals who were invited to the survey accepted to participate. Even though the satisfaction scale presented excellent internal consistency and a face validity step was performed, further researches are needed to validate this satisfaction scale and assess its reproducibility. Despite some limitations, this research adds important data to the literature on job satisfaction levels of nutritionists who work with food service as it identifies aspects that might increase nutritionists' perceived professional importance.

CONCLUSION

Most nutritionists who participated in this research were satisfied with their work in the food service industry, and their income was strongly associated with job satisfaction. However, the considerable percentage of professionals who were indifferent to job satisfaction suggested that either some participants might not be aware of the issues mentioned, or they perform their activities without focusing on job satisfaction. They may also not be enough familiarized with the food service segment.

Further studies are required to understand the reasons why professionals who work with food service are willing to migrate to a different area. This may aid the development of effective actions aimed at improving professional valorization by councils, trade unions, and the professionals themselves.

CONTRIBUTORS

RL COSTA and CO MEDEIROS contribution to data acquisition and drafting the article. CO MEDEIROS, L STANGARLIN-FIORI and RL BERTIN contribution to conception and design and critically revising it for important intellectual content. The authors contributed to data analysis and interpretation and final approval of the article.

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