


別紙資料 9 関連学会における発表内容

- (1) The 8th Asian Congress of Dietetics 第8回 アジア栄養士会議
令和4年8月19日～21日(横浜市) 3演題



ACD 2022

The 8th
Asian Congress of Dietetics

Poster 2-2

Do Skill Improvement and What to Aim for in 10 Years as Dietitians Working in Municipalities Differ Depending on their Aimed Position?

Tatsuya Koyama¹, Yusuke Arai,² Ayaka Iida³, Sumie Isobe⁴, Rie Okamoto⁵, Osamu Kushida⁶, Izumi Shibuya⁷, Kazumi Tanaka³, Ayumi Morooka⁸, Katsushi Yoshita⁹

¹Aomori University of Health and Welfare, ²Chiba Prefectural University of Health Science, ³Kanagawa University of Human Services, ⁴Niigata Prefecture Government, ⁵Kanazawa University, ⁶University of Shizuoka, ⁷Aichi Prefectural Government, ⁸Hyogo Prefectural Government, ⁹Osaka City University

The authors have no financial conflicts of interest to disclose concerning the study.

Objective: To describe the association of their aimed positions with skill improvement and what they should aim for in 10 years.

Methods: From January to March 2021, we conducted a web survey for dietitians working in Japanese local governments.

Results: Categories for skill improvement and what to aim for 10 years as dietitians working in local governments are as shown in the Table (below).

Aimed position	Organization where participants worked		
	Prefectures (n=451)	Cities with public health centers (n=323)	Municipalities (n=1031)
Staff	<ul style="list-style-type: none"> ✓ Resident support ✓ Multidisciplinary collaboration ✓ Demonstrate expertise ✓ Responding to current needs ✓ Human resource development 	<ul style="list-style-type: none"> ✓ Understanding of public health center dietitians ✓ Responding to current needs ✓ Non-specialized knowledge ✓ Multidisciplinary collaboration 	<ul style="list-style-type: none"> ✓ #Resident support ✓ Promoting business and producing results ✓ Multidisciplinary collaboration ✓ Participation in training
Supervisors	<ul style="list-style-type: none"> ✓ Broad overview ✓ Business evaluation ✓ Activities of dietitians ✓ Visualization of results 	<ul style="list-style-type: none"> ✓ Multidisciplinary collaboration ✓ Experience in various departments ✓ Acquisition of knowledge ✓ Visualization of results 	<ul style="list-style-type: none"> ✓ Participation in training ✓ Resident support ✓ Diverse experience ✓ Business development Multidisciplinary collaboration
Managers	<ul style="list-style-type: none"> ✓ Wide field of view ✓ Business evaluation ✓ Success of dietitians ✓ Visualization of results 	<ul style="list-style-type: none"> ✓ Support from other organizations ✓ Non-specialized knowledge ✓ Experience in various departments ✓ Training of juniors 	<ul style="list-style-type: none"> ✓ Wide perspective ✓ Collaboration with other occupations ✓ Planning and implementation of budgets and measures ✓ Efforts for the future ✓ A reliable and valuable resource for residents ✓ Understanding from other occupations

Conclusion: Based on the direction of skill improvements and what to aim for in 10 years, dietitians could be broadly divided into nutrition specialists and public health generalists. While business evaluation and collaborative work were described regardless of the desired position, some differences were found in their direction of skill improvements and human resource developments depending on the position they aimed for. Therefore, we suggested that it is desirable to develop a human resources development program for administrative dietitians according to the position they desire to achieve (nutrition specialist or public health generalist).



ACD2022

The 8th
Asian Congress of Dietetics

Poster 2-3

Learning Needs of Public Health Dietitians by Years of Experience in Health Promotion in Japan

Osamu Kushida¹, Tatsuya Koyama², Yusuke Arai³, Kazumi Tanaka⁴, Ayaka Iida⁴,
Ayumi Morooka⁵, Sumie Isobe⁶, Rie Okamoto⁷, Izumi Shibuya⁸, Katsushi Yoshita⁹

- 1 School of Food and Nutritional Sciences, University of Shizuoka, Japan
- 2 Faculty of Health Science, Aomori University of Health and Welfare, Japan
- 3 Department of Nutrition, Chiba Prefectural University of Health Science, Japan
- 4 Faculty of Health and Social Services, Kanagawa University of Human Services, Japan
- 5 Health Service Division, Hyogo Prefecture, Japan
- 6 Niitsu Health Center, Niigata Prefecture, Japan
- 7 Faculty of Health Sciences, Kanazawa University, Japan
- 8 Seto Health Center, Aichi Prefecture, Japan
- 9 Department of Human Life Science, Osaka City University, Japan

No conflicts of interest to be declared.

Objectives: The aim of this study was to assess the learning needs of public health dietitians by years of experience in health promotion.

Materials & Methods: A web-based survey was conducted in 2021 among public health dietitians for health promotion in prefectures, cities of cabinet order (cities), and municipalities throughout Japan.

Results: Of the 1,806 respondents, 1,649 were included in the analysis.

	All n (%)	New (<10 y)	Mid-career (10-19 y)	Leadership (≥20 y)
			OR (95%CI)*	
Current position				
Supervisory positions	53 (12.0)	1 (ref.)	38.3 (5.07-289)	78.4 (10.5-584)
	54 (17.5)	1 (ref.)	3.69 (1.75-7.75)	6.93 (3.18-15.1)
	135 (15.0)	1 (ref.)	7.26 (4.40-12.0)	21.1 (12.5-35.8)
Final desired position				
Supervisory positions	235 (53.3)	1 (ref.)	0.98 (0.63-1.53)	1.16 (0.73-1.84)
	150 (48.5)	1 (ref.)	1.09 (0.65-1.85)	1.39 (0.75-2.57)
	448 (49.8)	1 (ref.)	1.63 (1.17-2.27)	2.81 (1.84-4.30)
Future direction				
I want to continue to work as a nutrition specialist.	192 (43.5)	1 (ref.)	0.64 (0.40-1.00)	0.64 (0.40-1.02)
	185 (59.3)	1 (ref.)	1.03 (0.60-1.77)	0.85 (0.35-1.21)
	608 (67.6)	1 (ref.)	1.22 (0.85-1.75)	1.23 (0.80-1.90)
	95 (21.5)	1 (ref.)	0.90 (0.52-1.56)	1.06 (0.61-1.84)
I want to be promoted and work as a nutrition specialist.	57 (18.4)	1 (ref.)	0.85 (0.43-1.68)	0.84 (0.38-1.89)
	159 (17.7)	1 (ref.)	0.78 (0.50-1.21)	0.52 (0.28-0.96)
I want to continue to work as a public health generalist.	116 (26.3)	1 (ref.)	1.68 (0.99-2.84)	2.61 (1.56-4.39)
	54 (17.5)	1 (ref.)	1.42 (0.73-2.79)	1.27 (0.57-2.82)
	156 (17.4)	1 (ref.)	1.31 (0.85-2.04)	2.80 (1.78-4.40)
	99 (22.4)	1 (ref.)	1.30 (0.76-2.25)	1.68 (0.98-2.89)
I want to be promoted and work as a public health generalist.	34 (11.0)	1 (ref.)	2.35 (1.06-5.20)	1.46 (0.53-0.41)
	77 (8.6)	1 (ref.)	1.82 (1.08-3.07)	0.77 (0.34-1.76)
Skills that need to be improved in the future				
Professional competence (knowledge in specialized areas, nutritional guidance techniques, etc.)	169 (38.3)	1 (ref.)	0.24 (0.15-0.40)	0.22 (0.13-0.37)
	175 (56.6)	1 (ref.)	0.25 (0.14-0.44)	0.27 (0.14-0.52)
	642 (71.4)	1 (ref.)	0.34 (0.24-0.48)	0.32 (0.21-0.49)
	99 (22.4)	1 (ref.)	3.94 (2.22-6.97)	3.31 (1.83-5.97)
Organizational management capacity (appropriate acquisition of "people, goods, and budget")	62 (20.1)	1 (ref.)	1.83 (0.98-3.44)	1.31 (0.60-2.84)
	144 (16.0)	1 (ref.)	1.93 (1.25-2.96)	2.59 (1.61-4.18)

Prefectures (n=441), Cities (n=309), Municipalities (n=899)

OR: odds ratio, CI: confidence interval

* Binary logistic regression analysis

Conclusion: It was suggested that public health dietitians in the mid-career and leadership periods have learning needs to be both specialists and generalists.

Keywords: dietitians, local governments, public health nutrition, training program, learning needs



ACD2022

The 8th
Asian Congress of Dietetics

Poster 10-21

Results of Organizational an Organizational Survey for the Development of Human Resources Training Program for Dietitians Working in local Governments

Ayumi Morooka¹, Yusuke Arai², Ayaka Iida³, Sumie Isobe⁴, Osamu Kushida⁵, Tatsuya Koyama⁶, Kazumi Tanaka³, Rie Okamoto⁷, Izumi Shibuya⁸, Katsushi Yoshita⁹

- 1 Health Service Division, Hyogo Prefecture, Japan
- 2 Department of Nutrition, Chiba Prefectural University of Health Science, Japan
- 3 Faculty of Health and Social Services, Kanagawa University of Human Services, Japan
- 4 Niitsu Health Center, Niigata Prefecture, Japan
- 5 School of Food and Nutritional Sciences, University of Shizuoka, Japan
- 6 Faculty of Health Science, Aomori University of Health and Welfare, Japan
- 7 Faculty of Health Sciences, Kanazawa University, Japan
- 8 Seto Health Center, Aichi Prefecture, Japan
- 9 Department of Human Life Science, Osaka City University, Japan

The authors have no financial conflicts of interest to disclose concerning the study

Objective: Develop a human resources development program according to the desired position based on the actual situation of human resources development of local governments.

Methods: In November 2021, a survey was conducted on the human resources training program for dietitians working in local governments for the departments in charge of hygiene in 47 prefectures and 108 cities (including special wards) with public health centers.

Results: The current status of human resource development in local governments is as shown in the table (below).

local governments	Number of collections	Manuals and guidelines for human resource development				
		Formulated or in progress	Utilization operation system has been established	There are operational issues	Conforms to local dietitian business guidelines	Set evaluation method
47 prefectures	40	18(45%)	13(33%)	17(43%)	16(40%)	10(25%)
108 cities (including special wards) with public health centers	75	23(31%)	14(19%)	15(20%)	19(25%)	18(24%)

local governments	Number of collections	Implementation of human resource development training	Organizational efforts for human resource development				
			Dispatch training	Job rotation within the municipality	Graduate school admission support system	Promotion examination system	Personnel exchange system
47 prefectures	40	30(75%) (New term 26 Mid-level 14 Management 3)	32(80%)	8(20%)	16(40%)	4(10%)	11(28%)
108 cities (including special wards) with public health centers	75	31(41%) (New term 22 Mid-level 8 Management 3)	32(43%)	18(24%)	18(24%)	31(41%)	21(28%)

Conclusion: There are few local governments that are making systematic efforts to secure human resources and develop human resources, and the actual situation is also quite different among local governments.

It was found that in order for local dietitians to organize the abilities required for job titles and years of work according to individual goals, and to acquire those abilities, it is necessary to develop related systems and environments such as training systems.

Keywords: dietitians working in local governments, human resources training program, difference between local governments

(2) 第81回 日本公衆衛生学会総会

令和4年10月7日～9日 (甲府市) 2演題

P-15-7 市町村の行政栄養士がスキルアップするために必要な研修及び環境・体制整備

飯田綾香¹、小山達也²、串田修³、田中和美¹、荒井裕介⁴、諸岡歩⁵、磯部澄枝⁶、岡本理恵⁷、澁谷いづみ⁸、由田克士⁹

¹神奈川県立保健福祉大学 ²青森県立保健大学 ³静岡県立大学 ⁴千葉県立保健医療大学 ⁵兵庫県保健医療部健康増進課 ⁶新潟県南魚沼地域振興局健康福祉環境部 ⁷金沢大学 ⁸愛知県瀬戸保健所 ⁹大阪公立大学

背景・目的

公衆衛生領域を中心に勤務する自治体栄養士養成プログラムの開発にあたっては、行政栄養士の実態や取り巻く状況等を考慮する必要がある。本研究では、行政栄養士がスキルアップのために役立った研修及び必要と考える環境・体制整備について検討することを目的とした。

方法

【対象】
市町村行政栄養士 n=899
〔保健所設置市・特別区(政令市等)除外〕

【調査方法・調査期間】
WEB調査 2021年1月～3月

【解析項目】
・現在勤務している自治体及び都道府県が実施した研修で特に役立ったと思う内容
・スキルアップを開始しようとする際に必要なこと

【倫理的配慮】
本研究は、大阪府立大学の研究倫理会の承認を得て実施した。

演題発表に関連し、発表者らに開示すべきCOI関係にある企業などはありません。

結果

あなた自身のスキルアップのため、現在勤務している自治体及び都道府県が実施した研修で特に役立ったと思う内容を5つ以内を選んでください。

	全体 n=899		医員 n=764		監督職・管理職 n=135		p
	n	%	n	%	n	%	
栄養・食生活・食育・給食経営管理に関する研修	610	67.9	528	69.1%	82	60.7%	0.055
保健活動業務に関する研修	483	53.7	424	55.5%	59	43.7%	0.011
医学的な知識に関する研修	322	35.8	271	35.5%	51	37.8%	0.348
行動科学に関する研修	205	22.8	170	22.3%	35	25.9%	0.001
PDCAサイクルに基づく政策形成・評価に関する研修	173	19.2	133	17.4%	40	29.6%	0.001
健康危機管理(感染症対策・災害時対応)に関する研修	171	19.0	124	16.2%	47	34.8%	0.001
コミュニケーションに関する研修	168	18.7	149	19.5%	19	14.1%	0.136
勤務年数や職位に応じた研修	158	17.6	128	16.8%	30	22.2%	0.124
各種データの分析(統計学)に関する研修	133	14.8	91	11.9%	42	31.1%	0.001
情報発信・プレゼンテーション・仕事の見える化に関する研修	86	9.6	68	8.9%	18	13.3%	0.106
企画能力に関する研修	81	9.0	60	7.9%	21	15.6%	0.004
疫学に関する研修	56	6.2	50	6.5%	6	4.4%	0.352
行政指導に関する研修	49	5.5	44	5.8%	5	3.7%	0.332
住民との協働に関する研修	45	5.0	37	4.8%	8	5.9%	0.595
情報収集に関する研修	42	4.7	26	3.4%	16	11.9%	0.000
リーディングアップに関する研修	25	2.8	20	2.6%	5	3.7%	0.407
報告書や論文作成に関する研修	22	2.4	17	2.2%	5	3.7%	0.358
組織経営能力(「人・もの・予算」の適切な獲得)に関する研修	7	0.8	3	0.4%	4	3.0%	0.012
ジョブローテーション	6	0.7	5	0.7%	1	0.7%	1.000
論文執筆や論文活用に関する研修	29	3.2	22	2.9%	7	5.2%	0.182
その他							

χ²検定 * Fisherの正確確率検定

理論が整備され、自身がスキルアップを開始しようとする際、必要なことは何ですか、理由として最も当てはまるものを、3つ以内で選んでください。

	全体 n=899		医員 n=764		監督職・管理職 n=135		p
	n	%	n	%	n	%	
時間が確保できること	493	54.8	411	53.8%	82	60.7%	0.135
上司や同僚からの理解や協力が得られること	318	35.4	276	36.1%	42	31.1%	0.261
金銭面の支援や確保ができること	289	32.1	263	34.4%	26	19.3%	0.001
スキルアップしようとする意欲の向上	265	29.5	223	29.2%	42	31.1%	0.652
業務の効率化	260	28.9	229	30.0%	31	23.0%	0.098
進学・参加のしやすさの向上	230	25.6	198	25.9%	32	23.7%	0.587
業務負担の軽減	200	22.2	154	20.2%	46	34.1%	0.001
家族からの理解や協力が得られること	159	17.7	132	17.3%	27	20.0%	0.445
職種の人員増	191	21.2	155	20.3%	36	26.7%	0.095
一緒に学ぶ仲間ができること	92	10.2	77	10.1%	15	11.1%	0.715

結論

市町村の行政栄養士では、職位によって役立つ研修や必要な環境・体制整備が異なる部分があることが確認された。今後、これらを踏まえた自治体栄養士養成プログラムを作成する必要がある。

P15-29 10年後を見据えた新しい自治体管理栄養士養成プログラムのアウトライン

由田克士^{1,11}、荒井裕介^{2,11}、岡本理恵^{3,11}、串田修^{4,11}、小山達也^{5,11}、澁谷いづみ^{6,11}、田中和美^{7,11}、飯田綾香^{7,11}、赤坂肇^{8,11}、磯部澄枝^{9,11}、諸岡歩^{10,11}

¹大阪公立大学大学院生活学専攻科、²千葉県立保健医療大学健康科学部栄養学科、³金沢大学医薬保健研究域保健学系看護科学領域、⁴静岡県立大学食品栄養科学部栄養生命科学科、⁵青森県立保健大学健康科学部栄養学科、⁶愛知県瀬戸保健所、⁷神奈川県立保健福祉大学栄養学科、⁸静岡県健康福祉部健康局、⁹新潟県南魚沼保健所、¹⁰兵庫県保健医療部健康増進課、¹¹公衆衛生領域を中心とした自治体栄養士養成プログラムの開発のための研究班

目的: 10年後を見据えた新しい自治体管理栄養士養成プログラムのアウトラインを構築する。

方法: 本研究班がこれまでに実施した自治体管理栄養士に対する調査結果の要点は次のとおりである。

- 1) 自治体栄養士の多くは、常に自身の業務に自信が持てず、疑問や問題点等を誰かに相談し、解決すれば良いのかが分からず、将来に不安を持って勤務している(自己効力感が低い)。
- 2) 現状の自治体管理栄養士養成プログラムは、自治体間において相応の違いが認められる。
- 3) 中堅期以降のプログラムは明確な目的や方向性を持って系統的に実施している自治体が限られる。これらの結果を踏まえ、ブレインストーミング、意見交換、先行で実施されている事例、他職種の状況等を踏まえ、整理・検討を行った。

自己効力感を上げるために(環境整備)

- ① 自己効力感を下げる方向に働いている要因を確認し、除去・改善する。
- ② 1人職種・1人配置であっても、悩まずに相談できる同職種を複数人確保する。

従来から実施されている研修プログラム

- ① 勤務年数・職位・自身の方向性によって、必要な研修プログラムを選択できるようにする。
- ② ①に応じ、特に中堅期以降の者が学ぶべきプログラムの内容を系統的に整理し、提案する。

新しく追加することが求められるプログラム

- ① 「人材(ヒト)」「資源(モノ)」「予算(カネ)」+「情報(ネタ)」の把握と活用
- ② 積極的な施策立案と展開 → 受け身だけの業務展開とならないための「打ち込み論」
- ③ 交渉力を高める → 理詰めを進める、人脈を最大限活用する、業務の見せ方、成果の見せ方、ある種の取り引き能力

結果・結論: 従来から実施されている研修プログラムと、この度本研究班が提案する新たなプログラムを有機的に組み合わせた内容の具体化とその試行が必要である。また、個々の自治体管理栄養士が努力し研鑽を積んだことが、誰からも客観的に評価される仕組みの構築も行わなくてはならない。さらに、関連の職能団体、学術団体、自治体、大学、行政機関等との役割分担を調整し、継続的な取り組みとなるようにしなければならない。

発表に関連し、発表者らに開示すべきCOI関係にある企業などはありません。

(3) The 22nd International Congress of Nutrition (ICN)

第 22 回国際栄養会議 令和 4 年 12 月 6 日～11 日 (東京)

1 演題

Poster Abstract Presentation | [Track 6] Public Health Nutrition and Environment | Poster Abstract Presentation

[PAB(T6)]Poster Abstract Presentation

[PAB(T6)-93]A survey of the most memorable tasks or turning points performed by dietitians working in Japanese local governments

*Tatsuya Koyama¹, Yusuke Arai², Ayaka Iida³, Sumie Isobe⁴, Rie Okamoto⁵, Osamu Kushida⁶, Idumi Shibuya⁷, Kazumi Tanaka⁸, Ayumi Morooka⁹, Katsushi Yoshita¹⁰ (1.Aomori University of Health and Welfare (Japan), 2.Chiba Prefectural University of Health Science (Japan), 3.Kanagawa University of Human Services (Japan), 4.Niigata Prefecture (Japan), 5.Kanazawa University (Japan), 6.University of Shizuoka (Japan), 7.Aichi Prefecture (Japan), 8.Kanagawa University of Human Services (Japan), 9.Hyogo Prefecture (Japan), 10.Osaka City University (Japan))

Keywords:dietitians working in local governments, dietary projects, self-efficacy, successful experience

Background and objectives: The number of dietitians implementing dietary projects per local government is limited. Therefore, dietitians should strive to increase their self-efficacy. Self-efficacy is based on four major sources of information: performance accomplishment, vicarious experience, verbal persuasion, and emotional arousal. In this study, we aimed to identify tasks that improved the self-efficacy of municipal dietitians by assessing their routine dietary projects.

Methods: We conducted a web survey of dietitians working in Japanese local governments from January to March 2021. We asked them to describe their most memorable tasks or turning points. The tasks were defined as a successful experience and were categorized based on the basic guidelines for health promotion and improvement of nutrition and dietary habits by the administrative dietitians in the community.

Results: We received responses from 452, 323, and 1031 dietitians working in prefectures, cities with public health centers or special wards, and municipalities, respectively. The top five tasks that impressed dietitians in prefectures were establishing systems with related departments and securing human resources; establishing joint systems with municipalities; collecting and organizing municipal health checkups; collecting, organizing, and analyzing various surveys; and planning, goal setting, and evaluating. Most of the top five tasks were similar for dietitians in municipalities and cities with public health centers and special wards, including establishing nutrition education promotion network; implementing, evaluating, and improving nutritional education leading to behavior change; analyzing and clarifying challenges, planning, goal setting, and implementing nutritional education based on specific health checkups and guidance; and health promotion activity for children. However, dietitians from municipalities worked on the health promotion activity for older adults, and dietitians from the cities worked on guiding, supporting, and evaluating specific foodservice facilities. Approximately 17%-20% of the dietitians had no memorable tasks.

Conclusion: The most impressive tasks for dietitians working in Japanese local governments, regardless of their working site, were multidisciplinary cooperation and implementation of projects planned by themselves. being involved in these tasks could improve the self-efficacy of dietitians working in Japanese local governments.

別紙資料 10 関連学術雑誌における発表論文

Impressions and Turning Points of Japanese Public Health Dietitians: a Web-Based Cross-Sectional Study. Tatsuya Koyama, Yusuke Arai, Ayaka Iida, Sumie Isobe, Rie Okamoto, Osamu Kushida, Idumi Shibuya, Kazumi Tanaka, Ayumi Morooka, Katsushi Yoshita. Asian Journal of Dietetics. 4: 83-89.2022

Asian Journal of Dietetics 2022

Impressions and Turning points of Japanese public health dietitians: a web-based cross-sectional study

Tatsuya Koyama^{1*}, Yusuke Arai², Ayaka Iida³, Sumie Isobe⁴, Rie Okamoto⁵, Osamu Kushida⁶, Idumi Shibuya⁷, Kazumi Tanaka⁸, Ayumi Morooka⁹, Katsushi Yoshita⁹

¹Aomori University of Health and Welfare
²Chiba Prefectural University of Health Science
³Kanagawa University of Human Services
⁴Niigata Prefecture Government
⁵Kanazawa University
⁶University of Shizuoka
⁷Aichi Prefectural Government
⁸Hyogo Prefectural Government
⁹Osaka Metropolitan University

ABSTRACT: *Background/Purpose:* The purpose of this study was to clarify the impressions and turning points (hereinafter referred to as "impressions") of each organization where public health dietitians work in Japan. *Method:* In 2021, we conducted a complete Web-survey of Japanese public health dietitians working in prefectures, special wards and cities with public health centers, and municipalities. The impressions and turning points of the participants were classified based on the basic guidelines for improving health promotion and nutrition and dietary habits by public health dietitians in the community. *Results:* The sample of responses included 425, 323, and 914 public health dietitians working in prefectures, special wards and cities with public health centers, and municipalities, respectively. The most impressionable factors for prefectural dietitians were collaborative work, work experience other than health and sanitation departments, health crisis management, self-operated and planned projects, work at the headquarter, and research activities. Public health dietitians in special wards and cities with public health centers were most impressed by work experience other than health and sanitation departments, resident support, health guidance, collaborative work, self-planned and managed projects, and maternal and child health. Municipal public health dietitians were most impressed by maternal and child health, adult health, welfare for older adults, collaborative work, changing jobs to administrative positions, and general interpersonal work. *Conclusion:* We found regardless of the organization where Japanese public health dietitians work meaningful experiences were similar. Support of these experiences may improve self-efficacy of public health dietitians.

Key Words: public health dietitians, self-efficacy, impression, turning point, duty, Japan

INTRODUCTION

Public health nutrition is the art and science of promoting population health status via sustainable improvements in the food and nutrition system. Based on public health principles, it is a set of comprehensive and collaborative activities, ecological in perspective, and intersectoral in scope; it includes environmental, educational, economic, technical, and legislative measures (1). For example, public health dietitians implement salt reduction in communities through assessing community, informing to people, and collaboration with stakeholders (2). Dietitians are specialists responsible for public health nutrition activities. The number of public health dietitians working at public health centers and health centers is smaller than that of public health nurses in Japan (3). To promote businesses with a small number of people, increasing self-efficacy is essential (4).

Self-efficacy, as proposed by Bandura, is an individual's belief in how well they can perform the actions required to produce a certain result (4). Individuals with high self-efficacy exhibit behavioral characteristics such as willingness to make a great deal of effort, willingness to tackle challenges, and a high

degree of expectation for eventual success (4).

Extant literature has reported that professionalism and self-efficacy are associated with length of service, personal development, skill improvement, meaningful clinical experience, and participation in social and external activities (5). The Ministry of Health, Labour and Welfare presents the work of public health dietitians in prefectures, special wards and cities with health centers, and municipalities (6). Little is known about what working activities are meaningful experiences for public health dietitians.

The duties of public health dietitians working in prefectures, special wards and cities with public health centers, and municipalities vary (6). Therefore, this study aims to clarify public health dietitians' meaningful experiences, through investigating the impressions and turning points in each type of organization where public health dietitians work. The results of this study may help improve the work of public health dietitians.

MATERIALS AND METHODS

1. Participants

We conducted a cross-sectional survey among dietitians working in prefectures, special wards and cities with public health centers, and municipalities. The inclusion criteria for the study participants were:

*To whom correspondence should be addressed.
t_koyama@auhw.ac.jp

Impressions and turning points of Japanese public health dietitians: a web-based cross-sectional study.

Running head: Public health dietitians' turning points and impressions

Tatsuya Koyama^{1*}, Yusuke Arai², Ayaka Iida³, Sumie Isobe⁴, Rie Okamoto⁵, Osamu Kushida⁶, Izumi Shibuya⁷, Kazumi Tanaka³, Ayumi Morooka⁸, Katsushi Yoshita⁹

1 Aomori University of Health and Welfare

2 Chiba Prefectural University of Health Science

3 Kanagawa University of Human Services

4 Niigata Prefecture Government

5 Kanazawa University

6 University of Shizuoka

7 Aichi Prefectural Government

8 Hyogo Prefectural Government

9 Osaka Metropolitan University

Summary

Background/Purpose: The purpose of this study was to clarify the impressions and turning points (hereinafter referred to as “impressions”) of each organization where public health dietitians work in Japan. **Method:** In 2021, we conducted a complete Web-survey of Japanese public health dietitians working in prefectures, special wards and cities with public health centers, and municipalities. The impressions and turning points of the participants were classified based on the basic guidelines for improving health promotion and nutrition and dietary habits by public health dietitians in the community. **Results:** The sample of responses included 425, 323, and 914 public health dietitians working in prefectures, special wards and cities with public health centers, and municipalities, respectively. The most impressionable factors for prefectural dietitians were collaborative work, work experience other than health and sanitation departments, health crisis management, self-operated and planned projects, work at the headquarter, and research activities. Public health dietitians in special wards and cities with public health centers were most impressed by work experience other than health and sanitation departments, resident support, health guidance, collaborative work, self-planned and managed projects, and maternal and child health. Municipal public health dietitians were most impressed by maternal and child health, adult health, welfare for older adults, collaborative work, changing jobs to administrative positions, and general interpersonal work. **Conclusion:** We found regardless of the organization where Japanese public health dietitians work meaningful experiences were similar. Support of these experiences

may improve self-efficacy of public health dietitians.

Keywords: public health dietitians, self-efficacy, impression, turning point, duty, Japan

INTRODUCTION

Public health nutrition is the art and science of promoting population health status via sustainable improvements in the food and nutrition system. Based on public health principles, it is a set of comprehensive and collaborative activities, ecological in perspective, and intersectoral in scope; it includes environmental, educational, economic, technical, and legislative measures [1]. For example, public health dietitians implement salt reduction in communities through assessing community, informing to people, and collaboration with stakeholders [2]. Dietitians are specialists responsible for public health nutrition activities. The number of public health dietitians working at public health centers and health centers is smaller than that of public health nurses in Japan [3]. To promote businesses with a small number of people, increasing self-efficacy is essential [4]. Self-efficacy, as proposed by Bandura, is an individual's belief in how well they can perform the actions required to produce a certain result [4]. Individuals with high self-efficacy exhibit behavioral characteristics such as willingness to make a great deal of effort, willingness to tackle challenges, and a high degree of expectation for eventual success [4].

Extant literature has reported that professionalism and self-efficacy are associated with length of service, personal development, skill improvement, meaningful clinical experience, and participation in social and external activities [5]. The Ministry of Health, Labour and Welfare presents the work of public health dietitians in prefectures, special wards and cities with health centers, and municipalities [6]. Little is known about what working activities are meaningful experiences for public health dietitians.

The duties of public health dietitians working in prefectures, special wards and cities with public health centers, and municipalities vary [6]. Therefore, this study aims to clarify public health dietitians' meaningful experiences, through investigating the impressions and turning points in each type of organization where public health dietitians work. The results of this study may help improve the work of public health dietitians.

MATERIALS AND METHODS

Participants

We conducted a cross-sectional survey among dietitians working in prefectures, special wards and cities with public health centers, and municipalities. The inclusion criteria for the study participants were: (1) those who responded as public health dietitians in a survey by the Ministry of Health, Labour and Welfare; and (2) those with a full-time or part-time (at least four days a week and at least six hours a day) employment status. However, those currently working full-time

in fields such as childcare, welfare for older adults, boards of education, and medical care were excluded.

Request letters were sent in January 2021 to dietitians at supervise bureaus who met the inclusion criteria. In the request letters, we specified the purpose of the survey and the URL and QR code linked to the online questionnaire. The web-survey was conducted from January 29, 2021, to March 2, 2021 (Survey Research Center Co., Ltd.). A request for cooperation was presented at the beginning of the questionnaire form. The request clearly stated the purpose of the survey and outlined that all responses and participation would be anonymous, cooperation in the survey was voluntary, responses would be regarded as consent, and that there would be no disadvantage for non-responses. Additionally, since there was a possibility that personally identifiable information may be transmitted to us when returning responses, we asked the commissioning company to create screens related to the questionnaire responses and receive all replies. This meant that the researchers would only receive simply entered databases obtained by the consignment company, and no identifiable respondent information, such as email addresses. All information was destroyed after the survey was completed and secondary use of the data for other purposes was prohibited.

Due to the wide inclusion criteria, the survey request was sent to an unknown number of public health dietitians in Japan, however the final sample of responses included 425, 323, and 914 public health dietitians working in prefectures, special wards and cities with public health centers, and municipalities, respectively.

Public awareness and cooperation regarding the survey was obtained from the public health department of the Japan Dietetic Association and the Japan association of public health center registered dietitians.

Procedures for this study were followed in accordance with the ethical standards of the Helsinki Declaration and were approved by the Ethical committee of Osaka City University (Institutional Review Board protocol 20-27, approval date: August 14, 2020).

Survey items

The survey included items regarding age, sex, and length of service for each main type of work. Additionally, dietitians working in prefectures and special wards and cities with public health centers were asked about the length of duties mainly responsible for community health promotion and improving nutrition and dietary habits at the health department (the headquarter), public health centers, and health centers, food hygiene-related departments, welfare for older adults, and boards of education. We asked dietitians working in municipalities about the length of their main duties, such as community health promotion and improving nutrition and dietary habits at health centers, welfare for older adults, child welfare, and boards of education.

Regarding impressions and turning points, participants were asked, “What was the work that left

the most impression on you, or what was the turning point for you?” The responses were categorized based on the Ministry of Health, Labour and Welfare’s “basic guidelines for health promotion and improvement of nutrition and dietary habits by public health dietitians in the community” [6]. The impressions and turning points of dietitians working in prefectures and special wards and cities with public health centers extracted from the survey responses included: maternal and child health projects, projects with older adults, specific health guidance, guidance to specific food service facilities, collaboration with health mates, community assessments, work experience other than health and sanitation departments, work at the headquarters, work at public health centers, changing jobs to administrative positions, planning, food environment improvements, health crisis management, research activities, self-planned and managed projects, presentations at academic conferences, people in the same workplace, general collaborative work, municipal support, duties and initiative as supervisors, human resource development, off-duty activities, participation in workshops, and food labeling work. The extracted impressions and turning points of dietitians working in municipalities included: maternal and child health projects, adult health projects, health guidance, welfare for older adults, general collaborative work, changing jobs to administrative positions, general interpersonal work, collaboration with health mates, health crisis management, work experience other than health and sanitation departments, participation in training sessions, community assessment, self-planned and managed projects, presentations at academic conferences, human resource development, off-duty activities, and people in the same workplace.

RESULTS

Table 1 shows the basic characteristics of the participants. Few dietitians working in prefectures, special wards and cities with public health centers, or municipalities had work experience outside of promoting community health and improving nutrition and dietary habits at the headquarters, public health centers, or health centers. Community health promotion and improvement of nutrition and dietary habits refer to working with food hygiene related departments, welfare for older adults, and boards of education.

The highly ranked impressions and turning points for dietitians working in prefectures included: general collaborative work, work experience other than health and sanitation departments, health crisis management, self-planned and operated projects, work at the headquarters, and research activities (Table 2). The highly ranked impression and turning points for dietitians working in special wards and cities with public health centers included: work experience other than health and sanitation departments, resident support, health guidance, general collaborative work, self-planned and operated projects, and maternal and child health. Finally, the highly ranked impressions and turning points for dietitians working in municipalities included: maternal and

child health, adult health, welfare for older adults, general collaborative work, changing jobs to administrative positions, and general interpersonal work.

The impressions and turning points of dietitians are categorized into (1) relationships with people, (2) collaboration and cooperation with other organizations, and (3) overview of the community (Figure 1). However, the three categories are not independent of each other and all have something in common. Put differently, what left an impression or was a turning point for dietitians may be only one category, but it may be related to two or more categories. Additionally, the particulars of the impression and turning points in each category differ from person to person, as identified in their responses. For example, regarding the impression of the “research activities,” one participant described them as “a tough job, but I felt a great sense of accomplishment when I got their cooperation”; therefore, this response was categorized as (1) relationships with people, and (2) collaboration and cooperation with other organizations. Another participant described this impression as “through being involved in a large-scale nutritional survey, the reality of the community has come into view before my eyes,” and this response was categorized as (3) overview of the community. Categories (1) to (3) in Figure 1 are only classified according to the descriptions of the participants of this study, and the content of the duties were not necessarily limited to those categories.

Regarding category (1) relationships with people, some participants described experiences of providing health guidance to individuals and seeing their improved health checkup results in the following year. Additionally, the gratitude expressed by the people involved was described as one that left a lasting impression on dietitians. Residents, health mates, and dietitians working for other organizations and institutions were described as cooperative organizations. Participants categorized into (2) collaboration and cooperation in other organizations described the difficulty of conveying their thoughts as a public health dietitian to other organizations, being able to carry out projects in collaboration with other organizations, and broadening their perspectives in their responses. The region to be overlooked differs depending on the participants’ organization and may be a prefecture, a municipality under the jurisdiction of the public health center to which the dietitian belongs, or a municipality to which the dietitian belongs. While formulating plans, such as health promotion plans and shokuiku (food and nutrition education) promotion plans, and conducting community assessments, project planning, budget acquisition, and surveys, the respondents described being able to grasp the region from a bird’s-eye view, which left an impression on them. This was also described as having led to a turning point for some respondents.

DISCUSSION

In a previous survey of public health dietitians working in municipalities, project management, establishing a cooperative system, and general education and support were extracted as factors

that constituted confidence in duties [7]. These three factors correspond, respectively, to the categories used in this study: overview of the community, cooperation and collaboration with other organizations, and relationships with people. The previous survey has also reported the positive experience of the educational effect, as the experience of independent project management was associated with project management self-efficacy [7]. This further corresponds with factors described as leaving an impression or being a turning point in the present study.

Bandura states that self-efficacy is acquired through four sources: performance achievement, vicarious experience, verbal persuasion, and emotional arousal [8]. In this study, the best impression or turning point tended to be the achievement of executive behavior and verbal persuasion. The few descriptions of vicarious experiences may be explained by the fact that few public health dietitians share the same workplace.

Public health dietitians' interactions with people depend on their duties. In general, the health statuses of patients in hospitals are more variable than that of community-dwelling residents. Therefore, it is thought that work experience other than health and sanitation departments are more frequently described as leaving an impression or being a turning point.

Nutrition is the foundation for people to live well throughout their lives and is an essential element for realizing a vibrant and sustainable society. Nutrition is relevant at all life stages: pregnancy, infancy, childhood, adolescence, adulthood, and old age. Shokuiku (food and nutrition education) initiatives are developed through collaboration and cooperation among a variety of stakeholders, including nursery schools, schools, governments, food-related groups and organizations, and so on [9]. For public health dietitians to respond to such wide-ranging and challenging issues, they must not only work with other occupations within the organization to which they belong but also with various relationships, including dietitians of organizations that they do not belong to and local residents. It is, therefore, necessary to steadily promote measures and obtain results while cooperating with other parties.

Furthermore, it is important for public health nutrition activities to follow the plan-do-check-act cycle based on community assessments [10]. Moreover, it is necessary to consider the entire community when formulating budgets and various plans. In the course of community assessments, whose aims are to understand the actual and potential health issues of individuals, families, and the entire community, and consider solutions while clarifying the causes and backgrounds, evaluation and improvement of implemented measures was described as the event that led to obtaining an overview of the community. Additionally, it was noted that people working at the headquarters tended to work at the prefectural level rather than those working at the public health centers, which left a fresh impression on them.

The three categories in this study are included in the career note of lifelong education system for career advancement shown by the Japanese Dietetic Association [11]. Katz has shown that

effective administration depends on three basic personal skills, which have been called technical, human, and conceptual [12]. The three skills correspond to the categories in this study. By developing the three skills through helping experience and train the three categories it may prove useful in improving self-efficacy of Japanese public health dietitians.

The impressions and turning points are divided into three categories in this study, however, as mentioned in the results, there are many overlapping factors. Furthermore, classifications were made based on the descriptions provided by the participants of this study. Therefore, there is a possibility that certain work contents are related to categories that were not shown in the results of this study.

In this study, more than 10% of public health dietitians described not experiencing any impressions or turning points in their careers. Successful experiences are important factors in enhancing self-efficacy as they tend to leave an impression or become a turning point. Therefore, there is a need for a support program that allows public health dietitians to experience success and increase their self-efficacy.

This study has two limitations. First, to increase the response rate of this survey, we obtained the cooperation of the Japan Dietetic Association and the Japanese association of public health center registered dietitians. The recovery rate was not high; however, the exact recovery rate was unknown because the exact number of public health dietitians in Japan is unknown. There is a possibility that the proportion of respondents in this study does not represent the actual administrative dietitians in Japan. Second, because this survey was conducted during the COVID-19 pandemic, there was a high percentage of respondents who said that health crisis management such as infectious disease countermeasures left an impression on them or served as a turning point.

CONCLUSION

We conducted a survey of public health dietitians working in prefectures, special wards and cities with public health centers, and municipalities. Regardless of the organization they worked for, the factors found to have left an impression on or be considered as turning points for public health dietitians were classified into (1) relationships with people, (2) collaboration with other organizations, and (3) overview of the community. These results suggest that it is important to support these experiences to raise the self-efficacy of public health dietitians.

ACKNOWLEDGMENTS

The authors thank all of the survey participants.

REFERENCES

- 1) Hughes R, Somerset S. Definitions and conceptual frameworks for public health and

- community nutrition: A discussion paper. *Aust J Nutr Diet* 54: 40–45. 1997.
- 2) Kojima M, Ogawa Y, Nakagawa K, Kusano A, Seki Y, Hatano C, Isobe S, Tochikura E, Ishida E, Yamazaki O, Hori J, Inoue Y, Suzuki K, Yanabe N, Murakami N. Positive outcomes of salt reduction measures in Niigata prefecture: examining ten years of the “Niigata Gen-en (Salt Reduction) Renaissance Movement” and its results. *Jpn J Nutr Diet.*, 78: 232-242. 2020.
 - 3) Ministry of Health, Labour and Welfare. Overview of regional health and health promotion project reports in 2019. <https://www.mhlw.go.jp/toukei/saikin/hw/c-hoken/19/dl/R01gaikyo.pdf>
 - 4) Bandura A. Self-efficacy: Toward a unifying theory of behavioral change. *Psychol Rev* 84: 191–215. 1977.
 - 5) Koyano Y. The characteristics and related factors of self-efficacy in nurses. *J St Lukes Soc Nurs Res* 3: 78–84. 1999.
 - 6) Ministry of Health, Labour and Welfare. Basic guideline for health promotion and improvements of nutrition and dietary habits by public health dietitians in the community. <https://www.mhlw.go.jp/content/10900000/000637215.pdf>
 - 7) Igarashi M, Yoshida T. Project management self-efficacy and related factors in municipal dietitian. *Jpn J Nutr Diet* 69: 148–159. 2011.
 - 8) Bandura A. *Self-efficacy: The exercise of control*. 1997. W H Freeman and Company, New York.
 - 9) Ministry of Agriculture, Forestry, and Fisheries. The fourth basic plan for the promotion of shokuiku. https://www.maff.go.jp/e/policies/tech_res/attach/pdf/shokuiku-18.pdf
 - 10) El-Kour TY, Kelley K, Bruening M, Robson S, Vogelzang J, Yang J, Jimenez EY. Dietetic workforce capacity assessment for public health nutrition and community nutrition. *J Acad Nutr Diet* 121: 1379–1391. 2021.
 - 11) The Japan Dietetic Association. Career note third version. <https://www.dietitian.or.jp/career/note/documents/>
 - 12) Katz, Robert L. *Skills of an effective administrator*. 2009. Harvard Business Review Press.

Table 1. Basic characteristics of participants

		Prefecture (n=452)		Special wards and cities with public health centers (n=323)		Municipalities (n=914)		
		n	(%)	n	(%)	n	(%)	
Age	20s	110	(24.3)	69	(21.4)	227	(24.8)	
	30s	79	(17.5)	87	(26.9)	284	(31.1)	
	40s	120	(26.5)	84	(26.0)	262	(28.7)	
	Over 50s	143	(31.6)	83	(25.7)	141	(15.4)	
Sex	Female	430	(95.1)	311	(96.3)	890	(97.4)	
	Male	22	(4.9)	12	(3.7)	24	(2.6)	
Work history	Local health promotion and improvement of nutrition and eating habits at the hygiene administration department (main government office)	No work experience	249	(55.1)	187	(57.9)	-	-
		<3 years	80	(17.7)	53	(16.4)	-	-
		3-5 years	73	(16.2)	31	(9.6)	-	-
		5-10 years	31	(6.9)	34	(10.5)	-	-
		10-20 years	15	(3.3)	14	(4.3)	-	-
		20-30 years	3	(0.7)	3	(0.9)	-	-
		>30 years	1	(0.2)	1	(0.3)	-	-
	Community health promotion and improvement of nutrition and dietary habits at public health centers and health centers	No work experience	11	(2.4)	13	(4.0)	11	(1.2)
		<3 years	93	(20.6)	81	(25.1)	281	(30.7)
		3-5 years	54	(11.9)	44	(13.6)	133	(14.6)
		5-10 years	75	(16.6)	76	(23.5)	189	(20.7)
		10-20 years	132	(29.2)	69	(21.4)	183	(20.0)
		20-30 years	73	(16.2)	32	(9.9)	107	(11.7)
		>30 years	14	(3.1)	8	(2.5)	10	(1.1)
	Departments related to food hygiene	No work experience	406	(89.8)	293	(90.7)	-	-
		<3 years	22	(4.9)	15	(4.6)	-	-
		3-5 years	10	(2.2)	4	(1.2)	-	-
		5-10 years	11	(2.4)	9	(2.8)	-	-
		10-20 years	3	(0.7)	2	(0.6)	-	-
		20-30 years	0	(0.0)	0	(0.0)	-	-
>30 years		0	(0.0)	0	(0.0)	-	-	
Departments related to older adults/Welfare for older adults	No work experience	435	(96.2)	291	(90.1)	706	(77.2)	
	<3 years	8	(1.8)	18	(5.6)	98	(10.7)	
	3-5 years	6	(1.3)	7	(2.2)	37	(4.0)	
	5-10 years	2	(0.4)	4	(1.2)	36	(3.9)	
	10-20 years	1	(0.2)	3	(0.9)	23	(2.5)	
	20-30 years	0	(0.0)	0	(0.0)	12	(1.3)	
	>30 years	0	(0.0)	0	(0.0)	2	(0.2)	
Child welfare	No work experience	-	-	-	-	730	(79.9)	
	<3 years	-	-	-	-	49	(5.4)	
	3-5 years	-	-	-	-	47	(5.1)	
	5-10 years	-	-	-	-	51	(5.6)	
	10-20 years	-	-	-	-	28	(3.1)	
	20-30 years	-	-	-	-	8	(0.9)	
	>30 years	-	-	-	-	1	(0.1)	
Board of education	No work experience	421	(93.1)	258	(79.9)	796	(87.0)	
	<3 years	8	(1.8)	17	(5.3)	47	(5.1)	
	3-5 years	15	(3.3)	15	(4.6)	22	(2.4)	
	5-10 years	5	(1.1)	19	(5.9)	32	(3.5)	
	10-20 years	3	(0.7)	11	(3.4)	12	(1.3)	
	20-30 years	0	(0.0)	3	(0.9)	4	(0.4)	
	>30 years	0	(0.0)	0	(0.0)	1	(0.1)	

Table 2. Factors that left an impression on or were a turning point for administrative dietitians

	Prefecture (n=452)		Special wards and cities with public health centers (n=323)		Municipalities (n=914)	
	n	(%)	n	(%)	n	(%)
Maternal and child health	2	(0.4)	16	(5.0)	109	(12.1)
Adult health	0	(0.0)	0	(0.0)	40	(4.4)
Welfare for older adults	12	(2.7)	2	(0.6)	35	(3.9)
Health guidance	12	(2.7)	28	(8.8)	121	(13.4)
Resident support	21	(4.7)	36	(11.3)	0	(0.0)
General interpersonal work	0	(0.0)	0	(0.0)	129	(14.3)
Guidance to specific food service facilities	16	(3.6)	14	(4.4)	0	(0.0)
Collaboration with health mates	7	(1.6)	8	(2.5)	34	(3.8)
General collaborative work	59	(13.1)	26	(8.1)	61	(6.8)
Community assessments	15	(3.3)	4	(1.3)	14	(1.6)
Work experience other than health and sanitation departments	46	(10.2)	39	(12.2)	106	(11.7)
Working at the headquarter	30	(6.7)	8	(2.5)	0	(0.0)
Working at the public health center	3	(0.7)	6	(1.9)	0	(0.0)
Changing jobs to administrative position	13	(2.9)	14	(4.4)	27	(3.0)
Planning	15	(3.3)	15	(4.7)	50	(5.5)
Food environment improvements	11	(2.4)	0	(0.0)	0	(0.0)
Health crisis management	46	(10.2)	11	(3.4)	11	(1.2)
Research activities	27	(6.0)	10	(3.1)	0	(0.0)
Self-planned and managed projects	36	(8.0)	21	(6.6)	17	(1.9)
Presentation at academic conferences	6	(1.3)	4	(1.3)	5	(0.6)
Work behavior of people in the same workplace	13	(2.9)	6	(1.9)	16	(1.8)
Municipal support	6	(1.3)	0	(0.0)	0	(0.0)
Duties and initiative as supervisors	1	(0.2)	0	(0.0)	2	(0.2)
Human resource development	9	(2.0)	0	(0.0)	4	(0.4)
Off-duty activities	4	(0.9)	1	(0.3)	4	(0.4)
Participation in training sessions	6	(1.3)	1	(0.3)	0	(0.0)
Business on food labeling	12	(2.7)	6	(1.9)	0	(0.0)
None	75	(16.7)	55	(17.2)	191	(21.2)

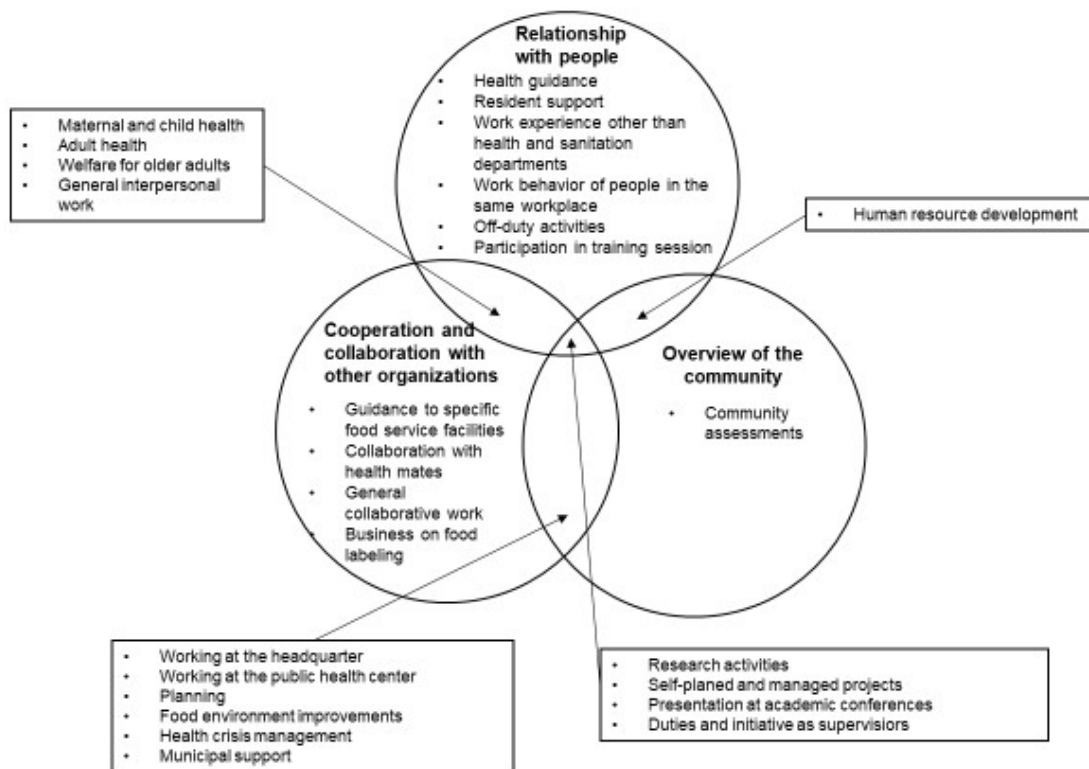


Figure. 1 Three elements that left an impression on or were turning point for public health dietitians.