Research Note

Roles and Requirements of Japanese Dieticians in International Cooperation Initiatives

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(received November 30, 2018)

ABSTRACT *Background and purpose*: Nutrition-related health problems in developing countries have been discussed for decades, but the problem is increasing owing to many factors and there is yet no solution. Many efforts have been made in this regard, from community to governmental levels, by numerous countries, including Japan. The knowledge that Japanese dietitians who have had experience as Japan Overseas Cooperation Volunteers (JOCV) working in developing countries would have useful skills in developing education programs for not only Japanese dietitians but also dietitians of other nationalities who are interested in working internationally or working for developing countries as well. Therefore, in this study we would like to determine how Japanese dietitians can fulfil requests for assistance from developing countries; and to consider both the nature of the requests and the skills and knowledge required of dietitians to fulfil requests. *Methods*: The study design was a cross-sectional study. Requests (n=94) made by developing countries for nutrition-related assistance from Japanese volunteer dietitians during a 5-year period (2009-2013) were compiled and analysed by geographic region (Asia, Africa, Oceania, Central/South America). *Results*: A breakdown of the requested number of nutrition-related activities for a five-year period by country area was 21 in Asia, 22 in Africa, 11 in Oceania and 40 in South and Central America. Activities of volunteers were requested for 7 fields, such as community health and nutrition, mother and child care, hospital meal service and administration, and others. The most commonly requested activities involved community health and nutrition, mother and child care, and hospital meal service and administration. For instance, school nutrition was requested most often in Asia (11%), hospital meal service and administration in Africa (32%), and research in Oceania (14%); Central/South America had a variety of requests. *Conclusion*: In conclusion, to fulfil requests, dieticians need to combine total nutrition management with specialised knowledge based on knowledge of nutrition education.

Keywords: Nutrition, dieticians, community health, developing countries, Japan.

INTRODUCTION

The State of Food Security and Nutrition in the world, 2017 stated 'in 2016, the number of undernourished people in the world increased to an estimated 815 million, up from 777 million in 2015 but still down from about 900 million in the year 2000'(1). However, health issues relating to excess energy consumption, such as obesity and non-communicable diseases, have also recently increased in developing countries. It also mentioned that 'the worrisome trend in undernourishment indicators is, however, not reflected in nutritional outcomes. Evidence on various forms of malnutrition points to continued decreases in the prevalence of child stunting etc. At the same time, overweight among children under five is becoming more of a problem in most regions, and adult obesity continues to rise in all regions. Multiple forms of malnutrition therefore coexist, with countries experiencing simultaneously high rates of child undernutrition and adult obesity (1).

For instance, from 1980 to 2008, the number of people affected by health issues of excess energy consumption has more than tripled, from 250 to 904 million. Currently, over one third of all adults worldwide (1.46 billion) are obese or overweight (2).

These nutrition-related health problems in developing countries have been discussed for decades, but the problem is increasing owing to many factors and there is yet no solution. To address this issue, the Second International Conference on Nutrition (ICN2) was held in Rome at the headquarters of the Food and Agriculture Organization of the United Nations (FAO) (3). The conference held discussions on how to develop national policies that address issues like malnutrition and obesity. Following these discussions, the ICN2 developed and issued "The Rome Declaration on Nutrition and the Framework for Action" which concluded that developed and developing countries must work together more effectively to address these nutrition issues. To this end, the Academy of Nutrition and Dietetics recognises the importance of working with other organisations to promote sustainable agriculture and improve global health outcomes (4). This strategy promotes nutritional security by building a healthy food system, reducing the prevalence of malnutrition and nutrition-related chronic diseases.

Many efforts have been made in this regard, from community to governmental levels, by numerous countries, including Japan (5). Japanese dietitians and the National Society of Dietitians have valuable experience that is useful for addressing international nutrition issues. However, at present, most Japanese dietitians work only for domestic agencies and rarely engage internationally, so their expertise remains unavailable to developing countries (6). Japanese dietitians who act as volunteers in an international context are members of the Japan International Cooperation Agency (JICA) and are known as Japan Overseas Cooperation Volunteers (JOCVs). Since this initiative began in 1965, there has been constant demand for Japanese dietitians in developing countries (7). Despite this long history of volunteerism, there is little accessible information concerning the dietitians' activities in the host countries (7, 8). Studies have been published on support requirements during in-country service and self-efficacy among returning JOCV dieticians (9-11), but reports using historical data on the activities requested of volunteer dietitians are scarce. The typical JOCV contract/working term in the field is 2 years. The system of sending volunteers from Japan to a host country is first to draw up a contract between the host country and Japan, then the host country/local government requests what kind of volunteers they need. That request(s) can also be classified as "new" or "continuing". A "new" means that a volunteer is newly requested. On the other hand, a "continuing" means that the activity has already started and it is necessary for a new volunteer to continue the work of a previous volunteer. Both "new" and "continuing" requests are decided between the staff in each host organization/institute or working place and the in-country office of JOCV/JICA. If a project/activity related to a volunteer is highly rated, the in-country JICA office and local government may extend it by involving professionals/experts and increasing the budget and other resources. In such cases, the scope of the project can become regional or national. By analysing the countries' requests, we aim to clarify what activities are requested and the characteristics of the requests ("new"/"continuing") as a function of geographical region (12, 13).

This knowledge will be useful in developing education programs not only for Japanese dietitians but also for dietitians of other nationalities who are interested in working internationally or working for developing countries as well. Educational materials for these dietitians are being currently developed in Japan (14, 15) but suffer from an ineffective sharing of information within the professional community. Moreover, the educational material that does exist on Japanese nutrition-related international experiences is not widely consulted. We propose incorporating this material into an internationally accessible database to which dietitians of all nationalities can contribute and share knowledge. This could be used to track requests for assistance made by developing countries and serve as a useful resource for improving health and nutrition. It will also allow us to identify the knowledge and skills required to fulfil requests from developing countries and maximise the contribution of the Japanese (and other) dietitians. Here, we contribute to this initiative by compiling information on the nature of requests made by developing countries to JOCV over a recent 5-year period, and use this information to determine the knowledge and skills required by dietitians to fulfil these requests.

METHODS

Requests for assistance from JOCV dieticians during a 5-year period (2009–2013) were compiled and analysed by geographic region. Survey data were provided by JICA for countries where two-way technology agreements were in place between Japan and a recipient country. Countries requesting the assistance of Japanese dietitians were grouped into four regions as follows: Asia (Vietnam, Kyrgyzstan, the Kingdom of Bhutan, Nepal, Indonesia), Africa (Rwanda, Ghana, Morocco, Nigeria, Malawi, Mali, Zambia, Kenya, Botswana), Oceania (Solomon Islands, Fiji, the Marshall Islands, Samoa), and Central/South America (El Salvador, Brazil, Ecuador, Panama, Honduras, Guatemala, Bolivia). The activities included in the requests were classified into one the following seven categories (some requests included multiple activities):

1) Community health and nutrition: targeting local residents and/or health center staff in the area. Volunteer dietitians

assist local residents with nutrition improvement initiatives, personal/group nutrition education, nutrition project management (plan and implementation), and nutrition workshops. Workshops are structured to empower medical/co-medical staff in a health center to improve their nutrition skills and knowledge.

2) Mother and child care: targeting expectant and nursing mothers, mothers with infants, and malnourished children. Conducted with local dietitians and/or medical/co-medical staff, involving personal/group nutrition education and management workshops and occasionally empowerment and education for medical/co-medical workers.

3) School nutrition: mostly targeting pupils in elementary and junior high schools. Involving nutrition education, nutrition improvement activities, follow-up activities for continuing projects, and improvement of schoolteacher knowledge of nutrition.

4) Hospital meal service and administration: involving nutrition education/counselling for inpatients and outpatients, hospital meal services, nutrition and hygiene administration, hospital meal service management support, and advice for local dietitians. If nutrition education was involved, the activity was classified as community health and nutrition.

5) Research: involving advice on nutrition research and conducting nutrition research.

6) Product development: involving development of products such as local agriculture products.

7) Other: including, but not limited to, instruction on nutrition counselling for medical/co-medical workers, providing nutrition information to locals, education on cooking using locally available foods, and school curriculum reviews.

Activities were analysed in terms of the frequency of requests and by geographic region. Each request was also classified as 'new' or 'continuing', and connected to a JICA project or not. If connected to JICA, the project content was also analysed. It was also recorded whether the activity was conducted by a single JOCV dietitian, or whether other JOCVs or local health workers were also involved.

RESULTS

A total of 94 requests were made to JOCV by developing countries from 2009 to 2013. A breakdown of requested number of nutrition-related activities for a five-year period by country area was 21 in Asia, 22 in Africa, 11 in Oceania and 40 in South and Central America.

The overall frequencies of activities requested are given in Figure 1 (requests often involved multiple activities; hence, the number of activities exceeds the number of requests).

The most commonly requested activities involved community health and nutrition, mother and child care, and hospital meal service and administration. A breakdown of the frequency of activities by country area is given in Figure 2.

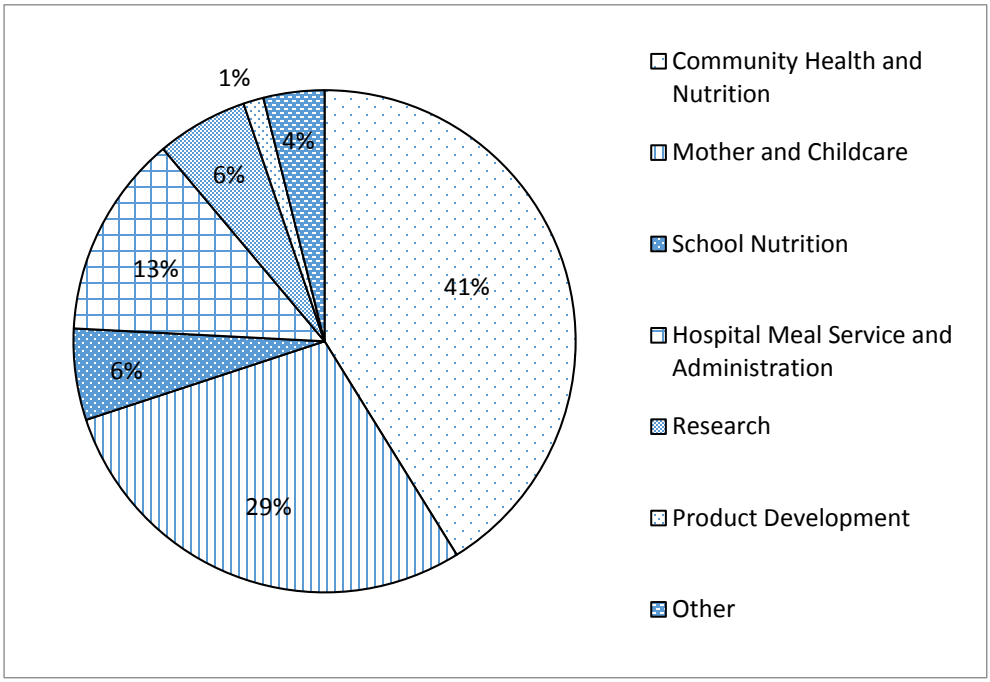

Figure 1. Activity ratio for five-year period (2009–2013) by activity category.

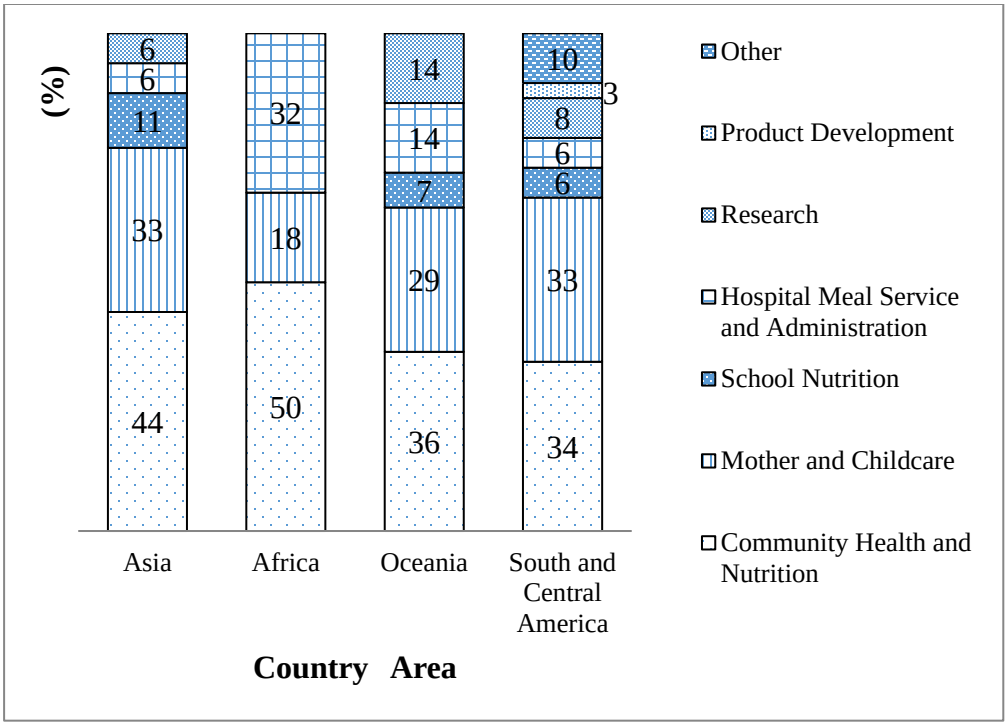

Figure 2. Ratio of nutrition-related activity requests by activity category and country area.

Aside from the 2 most commonly requested activities, "community health and nutrition" and "mother and child care", results revealed that there were area-specific requests for particular activities. For instance, school nutrition was requested most often in Asia (11%), hospital meal service and administration in Africa (32%), research in Oceania (14%), and Central/South America had a variety of requests. In general, however, most requests were for activities in community health and nutrition (Figure 1 and 2).

Of the 94 requests, 62 requests (66%) were "new" and 32 (34%) were "continuing" requests from previous activities.

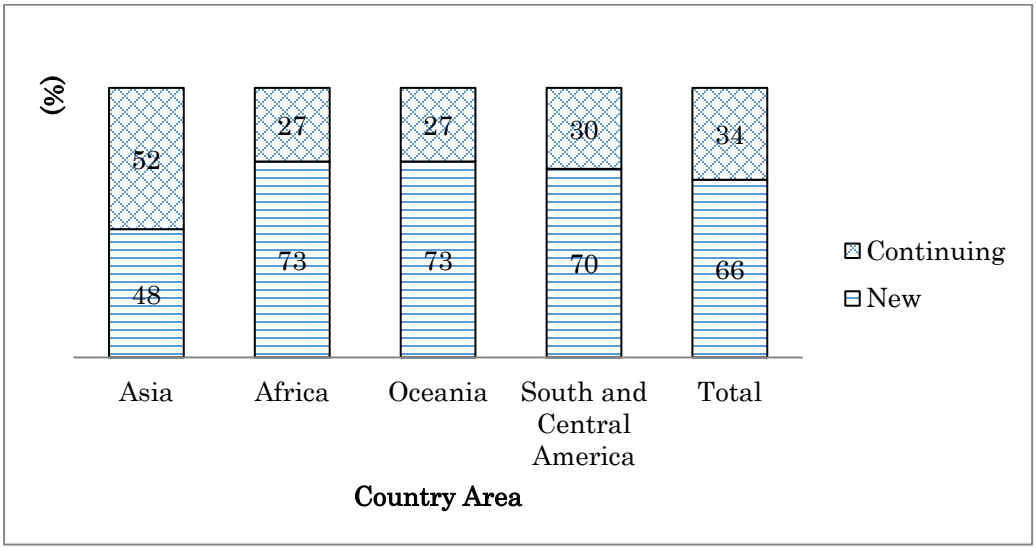

Figure 3. Ratio of new and continuing requests for nutrition-related activities by country area.

There were 79 out of the 94 requests (84%) required one dietitian only (individual), with the remaining 15 requests (16%) involving cooperation between dietitian(s) and local personnel on "cooperative projects". Cooperative projects involved a JOCV dietitian working together with one or more local workers with different occupations. There was seen no case of cooperative work or projects in Africa.

DISCUSSION

The requirements of Japanese dietitians volunteering in developing countries included contributions to community health and nutrition activities together with more specialised nutrition activities, such as clinical nutrition. These results suggest that to meet the requirements, dietitians need to combine total nutrition management for the promotion of community health with specialist knowledge. They must also incorporate local communities' requests and perspectives on nutritional issues in their area.

The most common request from developing countries was for input from Japanese dietitians in community health and nutrition activities. One reason for this is that requests for community health and nutrition activities typically included other activities. For example, a request from Malawi (Africa) required the dietitian to work in a hospital and carry out general hospital duties (i.e., planning meals tailored for patients with different ailments and caring for these patients) in addition to providing mothers with nutrition education on balanced meal for children, and visiting communities with local health workers to conduct nutrition improvement activities. Likewise, a request from the Kingdom of Bhutan (Asia) required the dietitian to work in a hospital and carry out routine hospital activities (meal service management) as well as provide the community with nutrition education and disease prevention advice **in their daily life**. Another reason why community health and nutrition activities are requested most often by developing countries is financial. Budget shortages lead to inadequate human resources and facilities (hospitals, community health centers) to meet demand. Existing resources must be used to their fullest extent and community nutrition improvement can be difficult to achieve.

In the past, requests and their accompanying activities were relatively straightforward. For instance, hospital-related requests typically involved managing hospital meal services and administration and private or group nutrition counselling (12). However, in recent years, requests have expanded to include nutrition improvement activities, implementation of awareness programs, and work in the community providing care and advice for both inpatients and outpatients.

Knowledge of community health and nutrition is also increasingly relevant to dieticians working in Japanese society. The population of elderly people in Japan is increasing. Elderly persons hospitalised for treatment and then discharged require transfer of their nutrition support service from hospital to community systems. Likewise, community health staff may encounter elderly persons requiring clinical nutrition support or transfer to a hospital. Here, the clinical dietitians and community health workers must work cooperatively to ensure the provision of necessary support.

Dietitians working in different fields (e.g., clinical nutrition, public nutrition) require both basic knowledge and field-specific knowledge developed through work experience. For instance, dietitians working in the community health field also need knowledge of clinical nutrition, which is difficult to acquire without work experience in clinical nutrition. The question of how to acquire knowledge and skills from different fields remains unanswered, although dietitians working internationally need to do so to fulfil international requests.

Health promotion occurs when there is definitive and effective community action toward setting priorities, making decisions, and planning and implementing strategies to achieve better population health. Health promotion can be defined as the process of enabling people to increase control over and improve their health (16). Community nutrition activities are a central aspect of health promotion, and good nutrition is one of the United Nations' Millennium Development Goals and Sustainable Development Goals (17). However, despite increasing evidence of community nutrition programs improving the nutritional status of communities and contributing to their development and self-sufficiency, the success of these programs is relatively limited, mainly because of inappropriate planning, implementation and evaluation (18). Accordingly, it is essential that we train dietitians willing to work in developing countries to promote better nutrition and food support. Dietitians from developed countries have discussions to identify considerations for new initiatives. For example, for effective public health nutrition practice, a consensus on essential competencies required (19) is needed to be developed and reviewed, and to assess and investigate a conceptual framework for the implementation and evaluation of strategies that enhance the practice of capacity building approaches (20). As dietitians, we need to be aware of and engaged with health issues affecting developing countries as well as those affecting developed countries.

Developing countries to which JOCV dietitians are dispatched frequently have no trained dietitians; therefore, the JOCV counterpart may not be educated as a dietitian. For

JOCV, operational experience is often required of dietitians wanting to join. There is also an age limit, where JOCV candidates must be younger than 39 years of age when they take the program entrance examination. As a result, dietitians with 3–5 years of operational experience are the primary JOCV applicants and participants (9), but this experience may be insufficient to fulfil international requests. There are always dietitians interested in becoming JOCVs (8), suggesting that some Japanese dietitians have an existing interest in international nutrition issues and want to contribute their expertise to the efforts of international cooperation. The 2006 World Health Organization world health report asserted the importance of "working together for health". In this report, development of human resources was identified as the most important factor for advancing health and medical activities. Accordingly, nutrition is included as a key Sustainable Development Goal, signifying the importance of human resource development in this field. Overall, this may contribute to nutrition and food support in developing countries (21, 22).

To contribute to international initiatives, it is important for Japanese dietitians to have practical experience in Japan. This will help to prepare them to participate in the fields of international cooperation and nutrition. Thus, it is necessary to incorporate the requests of developing countries in situations of international cooperation to build a system for human resource development that equips dietitians with the necessary knowledge and skills (11).

In this study, we classified requests as "new" or "continuing" and examined the content of the requests. Continuing requests arose when a JOCV, working with their local counterpart, identified nutrition-related problems in the community and reported them to the host organisation. If the problem warranted input from a higher/broader level, the JOCV, their local counterpart and other members of the host organisation devised a plan of action for the local community and government to implement. The local government requests the opinions of professionals who are experts in the field and may suggest embarking on projects of longer duration, beyond the capacity of JOCV, such as a JICA technical project. This course of action generally indicates that the local government is genuinely interested in solving the problem.

The majority of requests in our study were new (62 of 94 requests). "New" and "continuing" requests associated with JICA technical projects were only found in Central/South America. These projects were JOCV activities that occurred as part of a JICA technical project involving experts or after the completion of a JICA technical project, as JOCV-developed smaller scale activities. These activities were national or regional, and continued as community-based projects. However, this form of project development was not found in the other areas. There are two possible reasons why requests were not continued. First, the recipient country found the volunteer dietitians' activities ineffective and not worth continuation. Second, the dietitian found that the requested activity was not a good fit for the community's situation, the activity was unnecessary at the site, or that the community was not prepared to begin the activity and the dietitian's participation was premature. Since previous reports have indicated that the self-efficacy of returning JOCV dietitians was low (10), we suggest that these situations occurred frequently, and that there is a need to identify what problems dietitians are having and where. Appropriate knowledge and skills for dietitians as well as positive perceptions of their activities will contribute to the health of communities. Thus, it is essential to define the knowledge and skills required by volunteer dietitians. The causes of the problem of low self-efficacy of returning JOCV dietitians should be identified and addressed when planning their activities. In this way, JOCV will be involved in work that is satisfactory for both the volunteer and the host organisation. It is likely that dietitians would feel higher self-efficacy if their efforts are successful in making a positive contribution to the community, and they receive a positive response from the host organisation.

The dieticians and the countries requesting their services have recognised that their effectiveness in this regard requires that: 1) dietitians have sufficient applied skills and real experience in their field of specialisation, and 2) dietitians have advanced training to develop the skills and knowledge required of a public health dietitian (e.g. health promotion, nutrition epidemiology). Currently, there is a need for educational institutions to train dietitians not only for domestic careers but also for service abroad. They should also encourage students to study abroad during their training and actively recruit international students for study in Japan, so that Japanese dietitians could also be more outward-looking and work more effectively.

A limitation of this study was that, although the JOCV has a long history, only data from a recent 5-year period were analysed. Therefore, our findings may not be representative of previous periods. However, our analysis of recent requests is relevant to the development of the next generation of dietitians who want to contribute to the fields of international cooperation in nutrition and international nutrition. In addition, when activity plans are developed with the countries making the requests for assistance, it is necessary to consult recent activity-related feedback and establish criteria for evaluation. Our study results will contribute to this process.

In conclusions, Japanese dietitians volunteering in developing countries are requested to provide assistance with community health and nutrition activities as well as

activities within other specialised nutrition fields. To fulfil requests, dietitians need to combine total nutrition management for community health with nutrition-related field-specific knowledge. It is also essential that they take into account the local community's perspectives on the region-specific nutrition issues being addressed.

ACKNOWLEDGEMENTS

This study was based on data prepared for research projects supported by Grants-in-Aid for Scientific Research from the Japan Ministry of Health, Labour and Welfare (Dr. Hiroko Miura, principal investigator; H27 Global Scale/issue General 002), and Health and Labour Sciences Research Grant in 2018 for "Development of a food, nutrition and dietary guide for healthy development in early childhood" (H29 Sukoyaka ippan 003), and Prof. Andrew Durkin of Indiana University for careful proof-reading of the paper, are gratefully acknowledged.

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