Factors complicating the diabetes management of visitors to Japan: advices from a Japanese National Center for overseas medical staff

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Abstract: Linguistic, cultural, and geographical differences might challenge the management of diabetes patients travelling in a culturally and linguistically homogeneous country. This article presents an instructive case and identifies various factors that can help in effective diabetes management of such cases. A Russian female patient aged 23 came to Japan and visited our hospital for a second opinion regarding glycemic control. She was diagnosed with type 1 diabetes at age three and started insulin injections and diet therapy with carbohydrate counting methods. Her HbA1c level was 11.0\% with multiple daily insulin injections. She showed neuropathy, nephropathy, and blindness due to her progressed retinopathy. Because of the language barrier, suggestions for lifestyle modification were not effectively conveyed to the patient. We analyzed possible barriers to effective diabetes management in such foreign patients. In addition to language barriers and difficulties in diet therapy, dissimilar diabetes treatment guidelines, inadequate healthcare insurance, and stress-inducing conditions can be barriers to effective diabetes management. Foreign diabetes patients might face several barriers in effective management while travelling in Japan. Use of medical interpreters, adequate medical insurance, and trained medical staff will help in overcoming these barriers. J. Med. Invest. 63 : 15-18, February, 2016

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INTRODUCTION

The number of patients with diabetes has been increasing drastically worldwide and the number of visitors from foreign countries to Japan has also increased. In 2014, the total number of foreign residents in Japan was over 2 million (1), and the yearly number of visitors exceeded 10 million (2). Japan may expect more visitors, especially at the 2020 Tokyo Olympic Games. Therefore, Japanese medical staff is increasingly likely to encounter foreign patients with diabetes. However, as Japan is a linguistically and culturally homogeneous nation, Japanese medical staff is not accustomed to managing foreign patients as multiracial countries have been doing throughout their long history of multicultural coexistence (3-6). Diet therapy and exercise therapy are important to diabetes management, and if insufficient, pharmacotherapy will be used to achieve optimal glycemic control. However, diet therapy may be especially difficult to manage because eating habits are unique to each culture and ethnicity (7, 8). Language barriers, differences in cultural habits, healthcare insurance, and medications are also problems. Our hospital, the National Center for Global Health and Medicine (NCGM) is a pivotal medical institute that promotes the distribution of standardized high quality diabetes treatment and care across the nation. Therefore, not only domestic patients but also many foreign patients with diabetes who are temporarily visiting Japan visit our hospital. Here, we describe an instructive case of a foreign patient with diabetes who visited the NCGM. We analyzed possible cultural, financial, and linguistic barriers in managing foreign patients in Japan and provided recommendations for effectively managing foreign patients with diabetes in real clinical settings. Although this article primarily focuses on Japan, the findings of the article can also be applied to the diabetes management of a foreign patient in any culturally and linguistically homogeneous country and provide the basis for advice for the medical staff of the patient’s native country regarding education and suggestions for the patient prior to travelling.

CASE REPORT

A Russian female patient aged 23 came to Japan and visited our hospital with her elder sister and the patient’s Japanese friend to receive a second opinion for her glycemic control. She had been diagnosed with type 1 diabetes in Russia at the age of three and had started insulin injections and diet therapy with carbohydrate counting methods. Her HbA1c level was 11.0\% with multiple daily insulin injections. She showed neuropathy and nephropathy and was already blind due to her progressed retinopathy. Because the patient could speak only Russian but we could not, we mainly talked with her sister who spoke both Russian and English and asked her to translate to the patient. When medical staff members were not able to speak English, they asked the patient’s Japanese friend to translate in English, and then the patient’s sister translated to the patient in Russian. Therefore, we could not converse with the patient directly in any way. As the patient’s sister was neither trained interpreter nor professional medical staff, we had to explain in detail a range of issues ranging from the very basic pathophysiological
issues of diabetes to practical ones such as life-style modification using simple and comprehensible words. This situation always took time and left us concerned that what we explained may not have been precisely conveyed to the patient. The patient’s sister cooked for the blind patient in Russia and while she was staying in Japan. Since we were not familiar with Russian food, we asked the patient’s sister to take photos of dishes and bring them every time the patient and her sister visited us. The doctors and the dietician checked the photos together and found that the patient had excessive meat (protein), salty soup, and carbohydrate intake. With the information provided by the photos, we could provide concrete and practical recommendations to the patient’s sister to reduce salt intake and total calories. Therefore, the photos they brought us were actually quite useful to explain points to be improved and led the patient to ameliorate her edema and lose 3 kg weight within 2 weeks. As for medication, because we already knew that the patient and her sister would stay in Japan for only a few weeks, we tried not to change her treatment drastically but proposed slight modifications of the times and dosages of insulin injections. Because her eating habits were irregular in time and amount, and her carbohydrate counting was somewhat vague, she had often experienced hypoglycemia with inappropriate insulin injection dosages. In addition to diet modification, we should have radically changed the timing and dosage of insulin injections or even changed the insulin itself. However, considering the patient’s uncertain lifestyle and medical support in Russia, we could only modify her treatment at a minimal level. Because the patient did not have any medical insurance available to cover her medical expenses, she needed to self-pay, and her treatment was actually not have any medical insurance available to cover her medical expenses, she needed to self-pay, and her treatment was actually not have any medical insurance available to cover her medical expenses, she needed to self-pay, and her treatment was actually not have any medical insurance available to cover her medical expenses, she needed to self-pay, and her treatment was actually not have any medical insurance available to cover her medical expenses, she needed to self-pay, and her treatment was actually not have any medical insurance available to cover her medical expenses, she needed to self-pay, and her treatment was actually not have any medical insurance available to cover her medical expenses, she needed to self-pay, and her treatment was actually not have any medical insurance available to cover her medical expenses, she needed to self-pay, and her treatment was actually not have any medical insurance available to cover her medical expenses, she needed to self-pay, and her treatment was actually not have any medical insurance available to cover her medical expenses, she needed to self-pay, and her treatment was actually not have any medical insurance available to cover her medical expenses, she needed to self-pay, and her treatment was actually not have any medical insurance available to cover her medical expenses, she needed to self-pay, and her treatment was actually not have any medical insurance available to cover her medical expenses, she needed to self-pay, and her treatment was actually.
health education (7, 8) and medical staff should be aware of and respect their cultural and spiritual backgrounds.

In Japan, the Food Exchange Lists, edited by the Japan Diabetes Society, are commonly used for diet instruction by registered dietitians. If it is difficult for patients to understand the Food Exchange Lists, actual food products or food models may be used to give instruction (31). However, these materials are developed mainly on the basis of standard Japanese ingredients and cooking and are not practical for foreign patients who continue eating their native meals. If dietitians are not familiar with foreign cuisines and feel that they cannot provide appropriate instruction, they sometimes ask patients to bring photos of their daily meals. Photos of cooked food are often quite helpful in giving a dietician a rough image of the calories and nutritional balance of each meal. However, this method is dependent on patient cooperation (32-34). In our case, the patient’s sister was quite cooperative with us and the photos gave us significant information about the patient’s dietary habits.

**Differences in health care insurance**

In 1961, almost everyone became insured in Japan, and since then, the enforcement of the same fee schedule for all plans and almost all providers has maintained equity and contained costs. The co-payment rate has become the same for all, except for elderly people and children (35). However, Japanese health insurance is, of course, not extended to foreign visitors. Foreign patients with diabetes are encouraged to apply for medical insurance prior to travel. Foreign patients whose medical fees were covered, at least partially, by travel insurance, insurance taken in their own countries, or eligibility for Japanese medical insurance may have relatively small burdens. However, patients without insurance available in Japan have to pay their own expenses and that could be very expensive. This may cause delay in visiting hospitals and may lead to fatal results. Even if patients have medical insurance, the potential financial burden of diabetes management may result in non-adherence to medication schedules and consequently with poorly controlled diabetes, as indicated by higher HbA1c levels (36). Therefore, medical staff should be aware of the financial pressure on individual foreign patients, including insurance status, and should explain to patients the approximate medical cost before conducting any examination or treatment. In addition, medical staff should make every effort to reduce medical cost for these patients.

**Stress-inducing conditions**

Some foreign patients temporarily visiting Japan may enjoy experiencing quite different life style from that of their native countries, but some may feel it stressful especially if they consider it difficult to adjust themselves to Japanese lifestyles; this could cause depression. Previous findings suggest that a bidirectional association between depression and type 2 diabetes exists; depression increases the risk of type 2 diabetes (37-39) and may worsen glycemic control. Therefore, in addition to care in diabetes management, special care regarding mental stress will be necessary for certain patients suffering from mental problems such as depression.

**CONCLUSION**

This article identifies the role of cultural, linguistic, and financial barriers in the effective management of foreign diabetes patients in Japan. To provide better diabetes care to foreign patients, efforts should be made to understand their cultural backgrounds, food habits, and the diabetes treatment guidelines used in their native countries. Only then, the adjustment in medication, food, and life style can be effectively made to achieve desired glycemic control. Increased availability of professional medical interpreters and instructing the medical staff how to effectively handle foreign patients will significantly help overcome communication barriers. Patients with diabetes should also be educated before traveling by medical staff in their native country about the importance of travel-related stress, medical insurance, and language barriers while traveling in another country, especially if it is linguistically and culturally homogeneous.

**AUTHOR DISCLOSURES**

There are no conflicts of interest to declare.

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