

Contents lists available at [ScienceDirect](#)

Japanese Dental Science Review

journal homepage: www.elsevier.com/locate/jdsr



Review Article

Implant treatment in ultra-aged society

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Received 26 May 2017; received in revised form 23 October 2017; accepted 9 December 2017

KEYWORDS

Geriatric dentistry;
Dental implant;
Oral frailty syndrome;
Minimum invasion;
Implant Card

Summary Implant therapy is gaining presence as a prosthodontic treatment option. However, the graying of the population has led to an increase in the number of older adults requiring special consideration in implant treatment because of their systemic health problems. Additionally, with the growth of the elderly population in need of long-term care, a greater number of older adults who have received implant treatment are receiving long-term care, raising various issues that need to be addressed. In the present review article, we describe the significance of implant treatment in older adults, issues when performing implant treatment in geriatric patients, and measures to be taken when implant patients have lapsed into a state of requiring long-term care. In addition, in view of population aging, we propose an approach for applying implant treatment to older adults. This approach includes using an appropriate type of implant system depending on the remaining life expectancy and the patient's general condition, performing less invasive surgery, providing treatment using prosthetic appliances that are easy to manage and can be modified, and ensuring oral health management by providing an Implant Card to patients when the treatment is completed.

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<https://doi.org/10.1016/j.jdsr.2017.12.002>

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Please cite this article in press as: Sato Y, et al. Implant treatment in ultra-aged society. Japanese Dental Science Review (2018), <https://doi.org/10.1016/j.jdsr.2017.12.002>

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1. Introduction

Implant therapy is gaining presence as a prosthodontic treatment option. Meanwhile, dramatic population aging is a global phenomenon, and Japan is at the forefront (Fig. 1) [1]. As a result, the number of older adults who have general health problems and require special consideration in implant treatment is increasing. Additionally, with the growth of the elderly population in need of long-term care, a greater number of older adults who have received implant treatment are receiving long-term care (though the details are unknown), raising issues that need to be addressed. Accordingly, in the present article, we review the status of population aging and the situation of dental implant placement in Japan and the world, and describe the significance of implant treatment in older adults, issues when performing implant treatment in geriatric patients, and measures to be taken when implant patients have lapsed into a state of requiring long-term care.

2. Dental implants in an era of population aging in Japan and the world

Only limited data are available both domestically and internationally regarding the proportion of implant patients in the elderly population. Overseas, there was a sharp increase in the proportion of implant patients aged over 70 from 2002 to 2014 (from 7.7% to 21.0%) [2–4]. In Japan, the *Survey of Dental Diseases* (2011) [5] showed that approximately 3% of older adults had dental implants (Fig. 2), 49% of whom were the elderly aged 65 years or over. The forthcoming results of the 2016 survey are likely to show a further increase in the proportion of this cohort of implant patients. The results of

the 2011 survey showed that, of the 1510 participants who were 65 years or over, 47 individuals (3%) had implants. However, the situation of older adults requiring long-term care is unknown.

In another survey of older adults in need of long-term care [6], 360 (3%) of 12,356 people were found to have implants. However, this survey was administered not directly to patients, but to dentists who were providing home-visit dental care at long-term care facilities.

While there have been various reports on troubles with implants, there is insufficient data on the situation with older adults, particularly those who require long-term care. The present authors and their colleagues are compiling the results of an investigation carried out by the Research Development Committee of the Japanese Society of Oral Implantology, which will soon be published.

Today, the number of natural teeth in older adults is increasing (Fig. 3) [5], resulting in a decrease in the proportion of patients needing prostheses to replace missing teeth (Fig. 4). However, because of the rise in the absolute number of older adults, the number of patients with partial removable dental prostheses has barely decreased (Fig. 6) [7], despite a decline in the number of patients with complete dentures (Fig. 5). In old-olds, conversely, the number of patients with partial removable dental prostheses has increased. In this cohort of older adults, treatment with dentures is more difficult owing to resorption of alveolar ridge, thinning of mucosa [8], diminished keratinization [9], decreased pressure-pain threshold [10], salivary hypofunction caused by use of medication [11], decreased tongue pressure [12], decreased finger dexterity, deterioration of general condition, etc. Such factors are likely to increase the number of difficult clinical cases, and so the number of cases treated with implants will also increase.

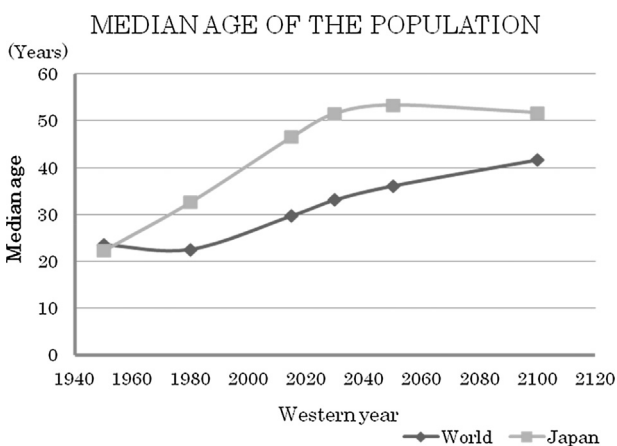


Figure 1 Japan and world aging (MEDIAN AGE OF THE POPULATION).

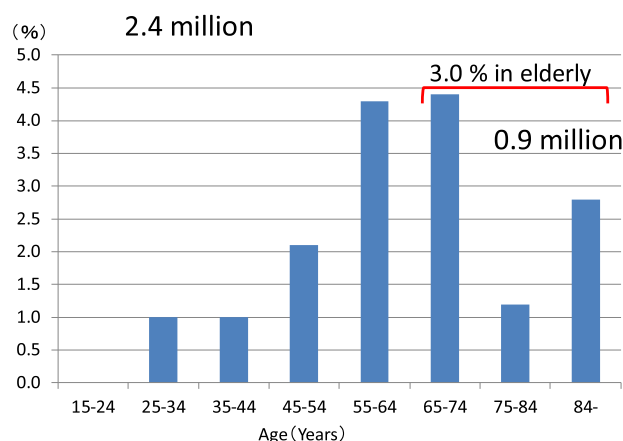


Figure 2 Proportion of people with implants.

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