

Most dentists approve of oral health check-ups for local residents at community pharmacies and desire collaboration with community pharmacists

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SUMMARY Community pharmacies are required to play a role in maintaining the health of local residents. Since September 2015, a national policy in Japan has allowed saliva tests to be used for oral health check-ups at community pharmacies. In the present study, we aimed to reveal dentists' perceptions and expectations for oral health check-ups provided at community pharmacies. A questionnaire survey was administered to dentists at 1,000 randomly selected dental clinics in Tokyo, Japan; 257 responses (25.7%) were included in the analysis and 85.2% of respondents approved of oral health check-ups at community pharmacies. Most respondents who approved of oral health check-ups expected that community pharmacists would recommend that local residents visit a dental clinic (85.8%) and provide a report to dentists (60.3%) after the check-up. Furthermore, 79.0% of respondents desired collaboration with community pharmacies. These findings suggested the potential for oral health check-ups to facilitate collaboration between community pharmacies and dental clinics aimed at maintaining and improving oral health of local residents.

Keywords health support, oral disease, oral health promotion, questionnaire survey

It is known that periodontal disease, a serious oral disease, is related to systemic diseases such as diabetes mellitus (1) as well as medical conditions such as stroke (2,3). Therefore, maintaining oral health is important for preventing various health problems. However, in Japan, periodontal disease is the second most common major disease behind hypertension (4). Additionally, only 52.9% of adults have regular dental check-ups (5), which may delay the detection of oral diseases.

Community pharmacies have an important role to play in maintaining the health of local residents by providing advice about lifestyle choices and by recommending visits to healthcare facilities. A majority of pharmacists in Australia (6,7) and England (8) stated that it was part of their role to deliver oral health advice to the community and to provide oral healthcare service to local residents. In contrast, most Japanese community pharmacists are not proactive in providing consultations or giving advice about oral health problems to local residents. Since September 2015, a Japanese national policy has allowed saliva tests to be used to conduct oral health check-ups at community pharmacies. The results of these tests can indicate the risk of dental

caries and periodontal disease. In our previous study, we reported that local residents were very satisfied with the oral health check-ups and information about oral self-care provided by community pharmacies in addition to showing their potential to improve oral self-care and dental care-seeking behavior (9). Our findings suggested that community pharmacies can contribute to the maintenance and promotion of oral health by providing oral health check-ups to local residents. However, that study did not investigate what dentists thought of oral health check-ups at community pharmacies. Therefore, in the present study, we conducted a questionnaire survey of Japanese dentists in order to understand their views on oral health check-ups at community pharmacies.

The questionnaire survey was conducted from July 11 to August 9, 2019. The survey targeted dentists at 1,000 randomly selected dental clinics in Tokyo, which has the largest number of community pharmacies and dental clinics in Japan. The anonymous self-administered questionnaire covered the following contents: 1) the basic characteristics of the participants, 2) their views on oral health check-ups at community pharmacies, and 3) what they wanted community pharmacists to do after

oral health check-ups. An information sheet was attached to each questionnaire that outlined the aims of the study and explained the oral health check-ups provided at community pharmacies. The questionnaires were sent and returned by postal mail. Return of the completed questionnaire was considered to indicate consent to participate in the study. The study protocol was approved by the research ethics committee of the Faculty of Pharmacy, Keio University (approval number: 190613-2).

We received responses from 259 (25.9%) dentists, 2 of whom were excluded due to lack of responses to most of the questions; therefore, 257 responses (25.7%) were included in the analysis. Most of the respondents (72.4%) had over 20 years of experience practicing dentistry.

Only 5.1% of the respondents were aware that oral health check-ups could be provided at community pharmacies (Figure 1A), but 85.2% of respondents approved of this practice (Figure 1B). The primary reason was that oral health check-ups might improve oral health awareness among local residents (86.3%) (Figure 1C). Additionally, the respondents thought that the oral health check-ups would lead to early detection of oral diseases (70.3%), improve collaboration between dental clinics and community pharmacies (59.4%), and increase visits to dental clinics (58.0%).

Most of the respondents who approved of oral health check-ups wanted community pharmacists to recommend that local residents visit a dental clinic after the check-up (85.8%) (Figure 2A). In addition, 60.3% wanted the community pharmacy to provide a report to dentists about the results of the check-up as well as the medications that local residents are prescribed. Furthermore, 79.0% of the respondents desired collaboration with community pharmacies aimed at maintaining and improving the oral health of local residents (Figure 2B).

This is the first study to investigate the views of Japanese dentists regarding oral health check-ups performed at community pharmacies. The results revealed that very few of the dentists surveyed knew that oral health check-ups could be performed at community pharmacies. This might be because there are few community pharmacies or drugstores that actually provide oral health check-ups. However, 85% of the dentists surveyed approved of providing oral health check-ups at community pharmacies. The respondents agreed that the oral health check-ups might improve oral health awareness and lead to early detection of oral diseases, which suggests that the benefit of the check-ups for local residents may have led to the high level of approval among the dentists. This finding might encourage community pharmacists to provide the oral

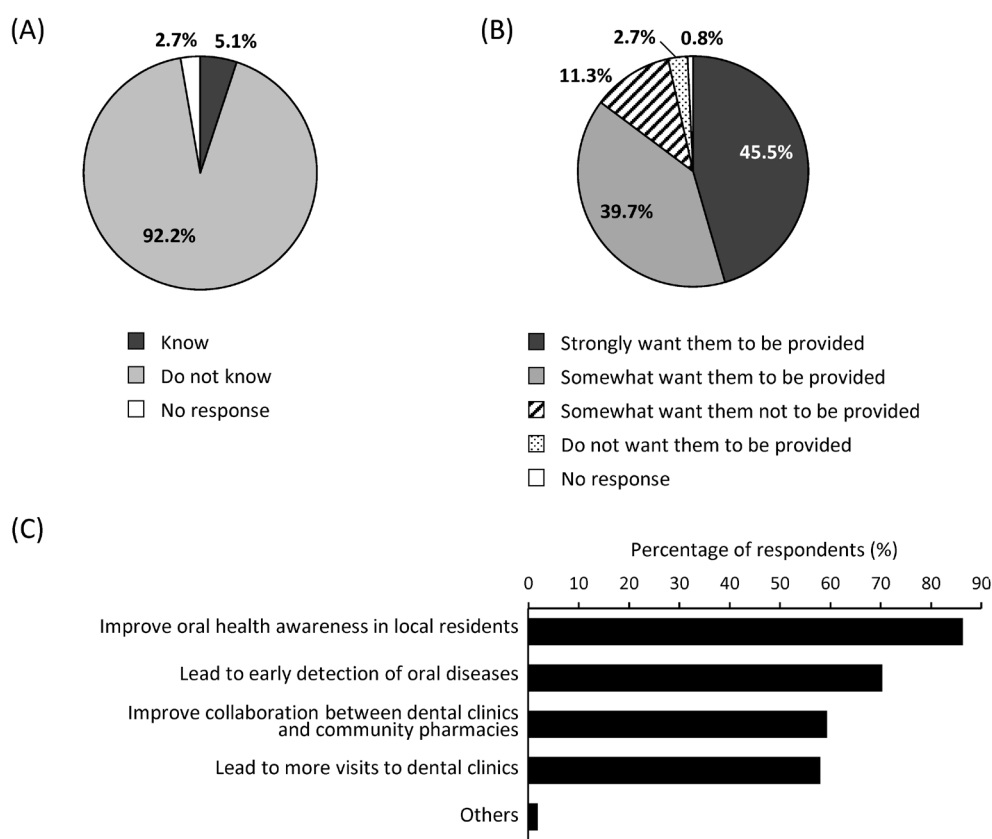


Figure 1. Views on oral health check-ups at community pharmacies. (A) Awareness of oral health check-ups at community pharmacies ($n = 257$). (B) Level of expectation for oral health check-ups at community pharmacies ($n = 257$). (C) Reasons for wanting oral health check-ups to be provided at community pharmacies. Only those who responded "strongly want them to be provided" or "somewhat want them to be provided" in Figure 1B answered this question ($n = 219$, multiple answers allowed).

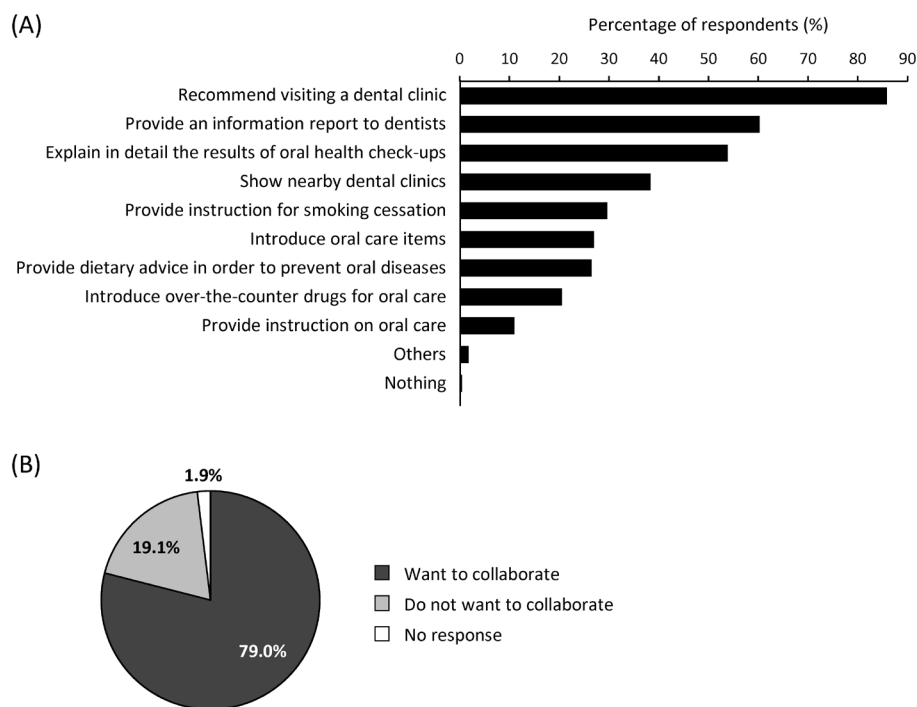


Figure 2. Expectation for community pharmacists aimed at oral health promotion. (A) What dentists want community pharmacists to do after oral health check-ups. Only those who responded "strongly want them to be provided" or "somewhat want them to be provided" in Figure 1B answered this question ($n = 219$, multiple answers allowed). **(B)** Views on collaboration with community pharmacies aimed at maintaining and improving the oral health of local residents ($n = 257$).

health check-up service in the future.

Most of the respondents wanted community pharmacists to recommend that local residents visit a dental clinic after the check-up. This suggests that dentists expect community pharmacists to detect local residents at high risk of oral diseases and advise them to visit a dental clinic for a more thorough examination by an expert. In an opinion piece, Wilson and Soni highlighted the potential of pharmacies to encourage hard-to-reach individuals to become dental attenders (10). Meanwhile Sturrock *et al.* suggested that community pharmacies can connect with patients who are not currently dental attenders by promoting pharmacy-based oral health services (11). We previously showed that oral health check-ups at community pharmacies had the potential to improve the dental consultation behavior of local residents (9). The expectations of the dentists surveyed are consistent with the above perceptions. Furthermore, the present study indicated that reports provided to dentists about the results of the check-ups and the medications that local residents are prescribed were useful. This may be because some medications can affect oral health; for example, xerostomia and gingival hyperplasia are due to anticholinergic agents and calcium channel blockers, respectively. However, at present, collaboration between community pharmacists and dentists in Japan is poor. Consequently, community pharmacists are required to proactively coordinate with dentists. Given that most of the dentists surveyed desired collaboration with community pharmacies

aimed at maintaining and promoting the oral health of local residents, further study is needed to determine how best to facilitate collaboration between community pharmacists and dentists.

A limitation of this study is that it focused only on dentists working in Tokyo. It is possible that dentists working in other areas, particularly outside of major metropolitan areas, will have different opinions, so further study is needed over a broader area.

In conclusion, the majority of dentists surveyed approved of oral health check-ups performed at community pharmacies. They wanted community pharmacies to recommend that local residents visit a dental clinic as well as to share medical information about local residents after the oral health check-up. These findings suggest the potential for oral health check-ups to facilitate greater collaboration between community pharmacies and dental clinics aimed at maintaining and improving the oral health of local residents.

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