

Utilization of dental sessions at APAN conferences for education and community development

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Abstract

The dental profession always expands its capabilities and contributes to advances in the quality of health services through scientific advancements and knowledge dissemination. Since 2016, the Faculty of Dental Medicine at Airlangga University has collaborated with the Telemedicine Development Center of Asia (TEMDEC) at Kyushu University Hospital to organize a webinar at a session on the Asia-Pacific Advanced Network (APAN). The session was a dental session, which was originally designed to promote remote medical education. This program aims to improve the quality of dental education and is conducted regularly, twice a year.

After the COVID-19 pandemic ended in 2021, we innovated to expand this program from online to hybrid-based, so that audiences could also attend in person. With adequate promotion, the number of audiences increases rapidly. We are also expanding the benefits of this program beyond improving the quality of dental education; it also provides knowledge dissemination and empowers Indonesian dentists. Thus, this program also delivers community development as an additional essential output.

This paper summarizes all activities of dental sessions at APAN conferences and shows how they also produce other outputs in accordance with institutional performance targets, including strengthening collaboration between connected institutions and the resultant outcome in terms of inbound staff, outbound staff, and outbound students.

Keywords: Telemedicine; Dental Education; Community Development; Knowledge Dissemination; Conference

1. Introduction

Dentistry dissemination is a crucial prerequisite for Indonesian dentists to stay current and advance their scientific knowledge. An improvement in dental care quality is directly proportional to this improved capacity. In general, attending scientific gatherings, which take time and money, results in the dissemination of knowledge. In every area of life, innovative technological advancements have brought about significant changes. Information technology has advanced both medical science and the ways in which health services are delivered, and the field of medicine is no

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exception [1,2]. As a result, a new trend in health services has emerged in which doctors, hospitals, clinics, and medical insurance companies collaborate online to provide higher-quality medical care. The application of information technology to the medical and healthcare industries has enormous potential to raise the calibre and efficiency of work done by stakeholders. Telemedicine was developed as a means of transferring specialized medical knowledge from medical facilities to isolated areas where it was required, but there were financial, logistical, and expert shortage issues [3,4].

Telemedicine has been extensively employed in a broader context for online lectures, medical education, and even remote surgery. In this paper, we would like to specifically discuss the role of telemedicine in our outreach to the Indonesian dental community, not only in the aspect of knowledge dissemination but also in its utilization in international community service.

2. Methods

This is a descriptive study to report the elaborated advantages of dental sessions at the APAN (Asia-Pacific Advanced Network) conferences. In the beginning, the dental sessions were organized in APAN conference to disseminate dental science updates among dentists in Asia Pacific region. With several innovations, this program can be expanded to become a part of the formal education, international community development, and student/staff mobilities.

The methods and workflow of this program are explained in the following figure.

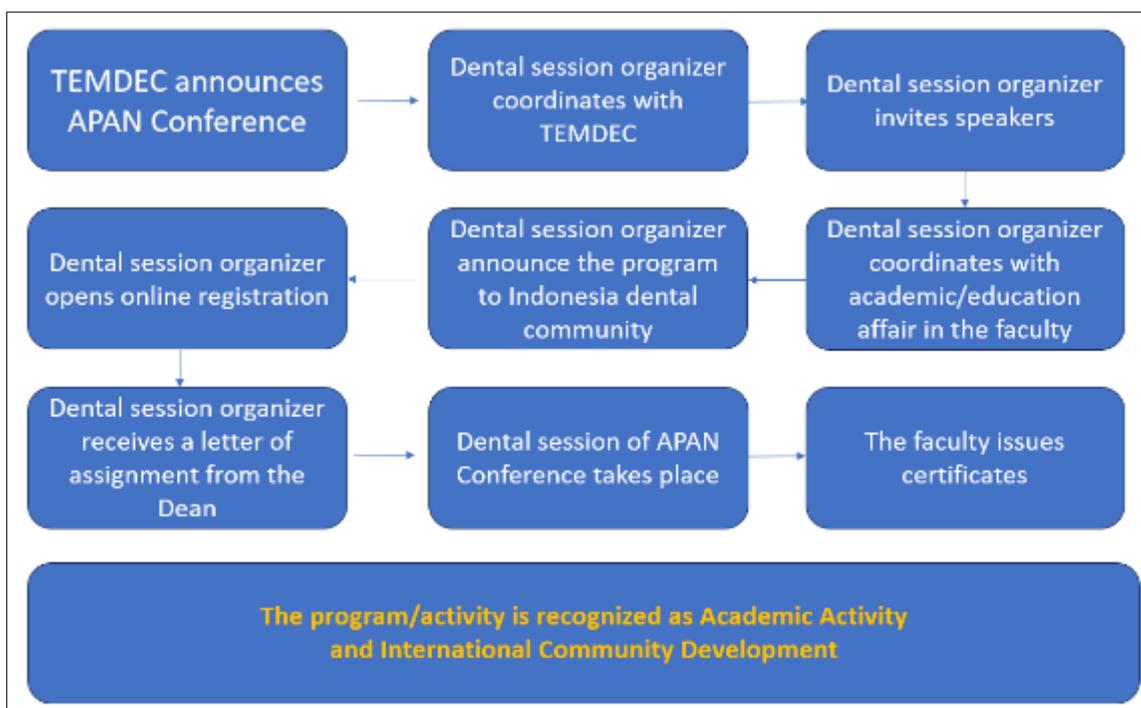


Figure 1 The method of improving quality to expand the benefits of dental sessions at the APAN conferences

3. Results and Discussion

3.1. APAN Conferences

The term "APAN" (Asia Pacific Advanced Network) is used to refer to both the organization that represents its members and the main network that links the research and educational networks of its member economies to one another and to other research networks throughout the world. The activities are carried out by APAN Ltd. on behalf of the APAN members. Members of APAN are institutions that represent the interests of research and education networks throughout the economies and nations of Asia and Oceania. APAN works with peer international organizations to coordinate activities involving network technologies, services, and applications among its members.

APAN also plays a significant role in fostering and supporting network-enabled research and educational initiatives. These include tele-health, natural catastrophe mitigation, knowledge exchange, and discovery in research. Each year, APAN hosts two conferences where its members and other interested parties take part in working groups, business meetings, committees, plenary sessions, and other events to assess progress, present new developments in technology and applications, and plan upcoming initiatives. The APAN members alternate hosting the meetings [5].

A community at the APAN conference that operates dental telemedicine sessions is the Medical Working Group, which is regularly organized by the Telemedicine Development Center of Asia (TEMDEC), Kyushu University Hospital. Furthermore, TEMDEC collaborated with the Faculty of Dental Medicine at Universitas Airlangga to execute it on a regular basis [6].

3.2. Dental sessions

In 2016, a program to promote information dissemination for Indonesian dental communities was launched by the Faculty of Dental Medicine at Universitas Airlangga in partnership with the TEMDEC of Kyushu University Hospital. On a regular basis, twice a year, dental knowledge dissemination events are held. These events serve as dental telemedicine sessions during the APAN conference [6].

TEMDEC, as part of the International Medical Department at Kyushu University, Japan, provides technical assistance for these operations. The program organizer chooses the teleconference method and meeting subjects, which were then negotiated in advance with TEMDEC. The program organizer also chose speakers who can address the chosen themes in a scientifically sound manner. Speakers from prestigious universities in Japan and Indonesia shared the findings of their recent research and clinical experience in relation to the issues. The program organizer coordinates with the academic department of the faculty so that the topics and materials for the webinar are in accordance with the needs of student lectures. Promotional activities are also carried out and shared with the Indonesian dental communities to gain more audiences [7].

The meeting lasts 90 minutes and is comprised of an introduction, presentations, discussions, comments, and a closing statement, all of which are given in English. The timetable for each session is as follows.

- 10 minutes for introduction. The moderator starts the session, briefly explain the meeting topic, and introduces the speakers to the audience.
- 50 minutes for presentations from the invited speakers
- 25 minutes for Q and A sessions.
- 5 minutes for closing remarks.

We use Zoom platform for the online meetings and share the live video through YouTube streaming. Doctors and engineers are the two cornerstones of a high-quality telemedicine system. They both have significant roles to play in telemedicine. The physicians choose the discussion subject, prepare the presentation, and take part in the debate. A few days before the meeting, engineers choose the video conferencing solution, do connection tests, and solve a variety of potential technical issues. All role-to-role exchanges (Table 1) were conducted through the mailing list. The roles and job descriptions of the participants in our telemedicine sessions are listed in Table 1 [6].

Table 1 List of job descriptions in a dental session of APAN conference

No	Roles	Job descriptions
1	Program organizer	Determine topics Choose speakers Invite the speakers Evaluate programs
2	Chair person	Conduct and moderate the session Conduct and moderate the Q and A sections
3	Venue moderator	- Officially open and close the sessions from the venues (if the chair person does not present at the venue)
4	Speaker	Make lecture presentations and answer questions from the audience.

5	Chief engineer	Decide video conference system Arrange connection tests Control the video streaming systems Assist local engineers to solve technical problems
6	Local engineer	Prepare equipment and connections Resolve technical problems may occur

For a dental session to be effective, time management is a key factor. In order to make sure that everyone is prepared to participate in this activity, the program organizer must plan and coordinate preceding meetings. The design, execution, or outcomes of the sessions should be carefully evaluated at an assessment meeting in order to guide future quality improvement. Following each meeting, the program organizer provides Google Form surveys to all participants [8].

After the end of the COVID-19 pandemic, we initiated a hybrid dental session of APAN conference. Dental sessions, which were previously always held online based on video conferencing, begun to be held online and offline starting in 2021. We provide a representative conference room to accommodate audiences who wish to attend in person, so that the dental session of the APAN conference can be attended in three ways:

- Present in person on the campus of the Faculty of Dental Medicine at Airlangga University
- Present online through the Zoom platform.
- Present online via YouTube streaming.

The hybrid setup and our extensive promotion have managed to significantly increase the number of audiences since 2021. This increase can be found in the following chart.

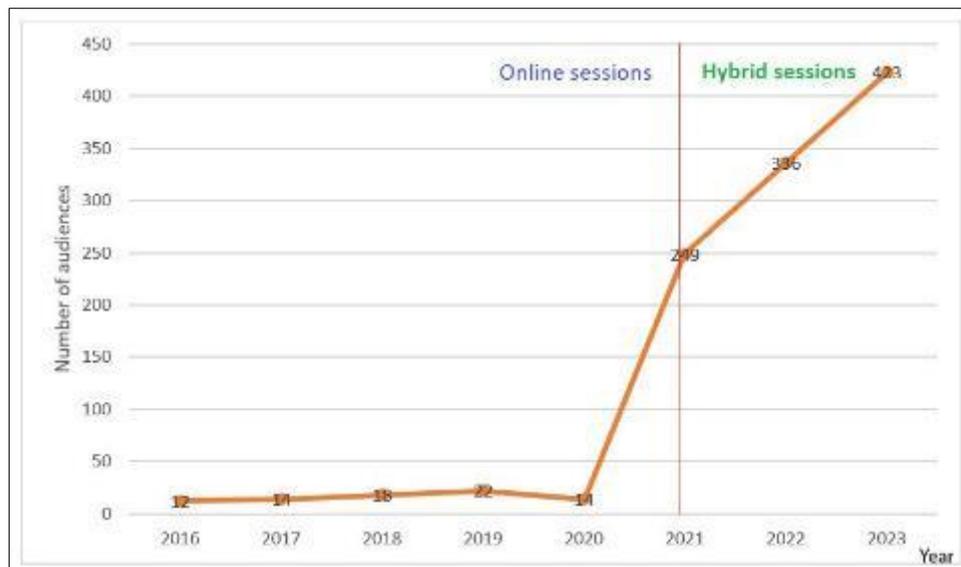


Figure 2 The increase in the number of audiences after implementing hybrid meetings at the dental sessions of APAN conferences since 2021

We promote the program through WhatsApp groups and social media to reach more audiences both offline and online. Audiences should register their participation in Google Forms. After the conference is over, the committee checks their presence in the meeting, and finally we issue certificates of participation [8].

3.3. Education and community development purposes

From the beginning, the dental session of the APAN conference was designed to support distance learning (remote education). This is the principal value and main objective of the program. Students have the advantage of receiving lectures from experts from Japan that are appropriate to their topic of study. Improving the quality of education can be

carried out easily and inexpensively. Academics and experts from Japan share their clinical experience and the latest research, which makes the students learning experience enjoyable [2,5,9].



Figure 3 The hybrid meetings implemented in dental sessions of APAN conferences

After our expansion of the program to be hybrid in 2021, the audience number dramatically increased, as seen in Fig. 1. Since the audience comes not only from the students but also from Indonesian dental communities, the objective of the program can be expanded as well. Since then, the program has been beneficial not only for educational purposes but also for community development. The program empowers Indonesian dentists as a community by transferring knowledge and experience. It can be seen as an innovative program since the activities can gain multiple benefits in terms of academics and community development aspects.



Figure 4 A case was presented to discuss in a dental session of the APAN conference

However, we still needed feedback from the audiences on how much the programs deliver in terms of education and community development. The audiences were requested to fill out an online form to confirm. From sessions held in 2021-2023, 92% of the audiences think that this program improves dental education quality, and 73% of the audiences think that it is beneficial for community development. The data from the survey can be found in Figs.4 and 5 [8,10].

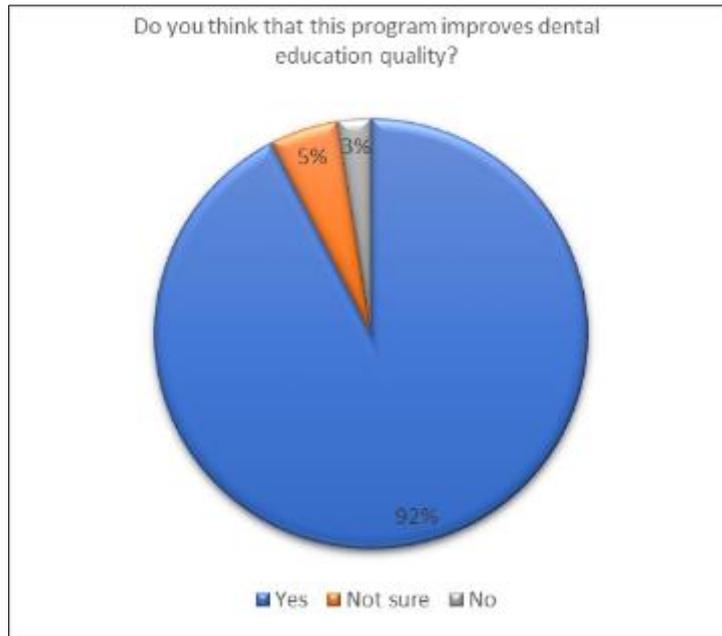


Figure 5 The impact of dental sessions of APAN conferences on improving dental education quality

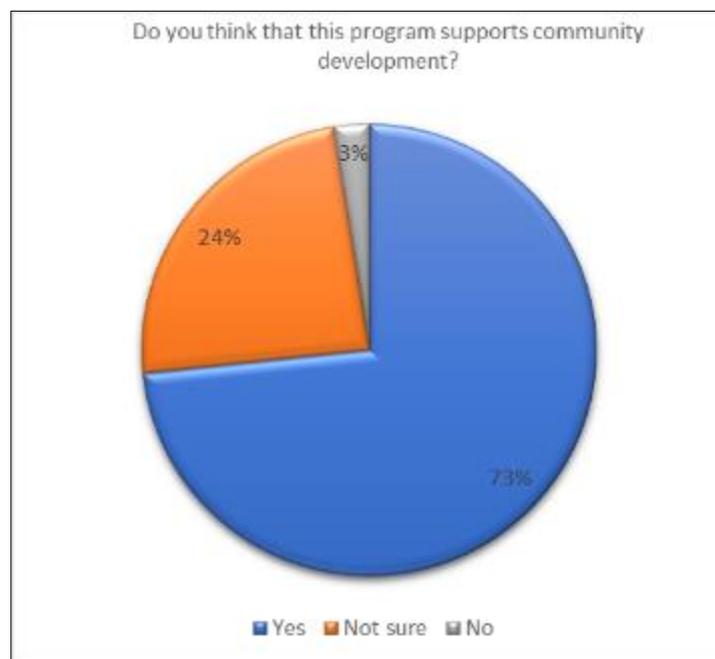


Figure 6 The benefit of dental sessions of APAN conferences to support community development

4. Conclusion

The dental sessions of the APAN conferences, which are regularly organized by the collaboration of the Faculty of Dental Medicine at Universitas Airlangga and TEMDEC, result in some benefits:

- Improving dental education quality for the involved institution as the students gain wonderful learning experiences.
- Support community development as the program disseminates knowledge for Indonesian dentists and empowers the community.

- Build collaborations between connected institutions at the conference.
- Result outcome in terms of staff inbound, staff outbound, and student outbound.

Compliance with ethical standard

Acknowledgments

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Disclosure of conflict of interest

No conflict of interest to be disclosed.

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Authors Short Biography



Dr Aqsa Sjuhada Oki is an Associate Professor, and the head of Oral Biology Department at Universitas Airlangga. He has been teaching Medical Physiology and Oral Biology for over 25 years. Aqsa has great interests to explore the relationship of systemic disease and oral health, as well as teaching innovations and telemedicine. In his philosophy, elearning and telemedicine should come to bring more value for the institution in the aspects of education, research, and community development.