

The Impact of the COVID-19 Pandemic Situation on Oral Health Management of the Frail Elderly: Focus Group Interview Applied*

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ABSTRACT

The present study aimed to investigate the oral health of the elderly since the beginning of the COVID-19 pandemic and to examine the associated problems in depth. The actual condition of the oral hygiene management of the elderly was investigated by interviewing care workers who have been caring for the elderly for more than three years in nursing homes, nursing hospitals, and home-based care service centers in the Seoul and Gyeonggi areas. Three categories were identified based on the results of in-depth interviews: oral health of the elderly, education of care workers for oral health care of the elderly, and changes following the COVID-19 pandemic. The main topics included the oral condition of the elderly, oral healthcare for the elderly, differences based on facilities and guardians, need for support, current status of education for oral healthcare for the elderly, willingness to participate in education for oral healthcare for the elderly, desired type of education, depression and atrophy in the elderly, anxiety of care workers, and difficulties associated with oral health problems in the elderly. Based on the above results, there was no significant difference in the oral health care methods of the elderly since the COVID-19 pandemic, but situations in which it is difficult to receive treatment smoothly when a health or oral health problem occurred were having a negative effect on the health of the elderly.

1. Introduction

On December 31, 2019, the People's Republic of China reported on the outbreak of a new virus to the WHO, and on January 7, 2020, the virus was known to demonstrate similarity with the bat coronavirus and type 1 severe acute respiratory syndrome coronavirus-1, or SARS-CoV-1 (Singhal, 2020). Ever since, this infectious disease has caused over 163 million patients and 3.38 million

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deaths across the globe as of May 2021, yielding a mortality rate of approximately 2.1% or more, demonstrating a very serious risk. As of 00:00 on June 21, 2021, Korea has 141,938 confirmed cases with a mortality rate of 1.4% (Korea Disease Control and Prevention Agency, 2021).

The coronavirus infection-19 (COVID-19, or hereinafter, “COVID-19 virus”) tends to demonstrate a much higher rate of fatality with the increasing age (Lee & Byun., 2021). In 2017, Korea already entered an aging society, and the elderly population is rapidly growing. According to a 2013 survey, 9.4% of the elderly population have dementia (Ministry of Health and Welfare, 2019), and a lot of the frail elderly are cared for by the careworkers. In order to prevent the spread of the COVID-19 virus, the government is prohibiting any outsiders from visiting the nursing homes for the elderly.

The elderly who receive help from the careworkers at the nursing homes or at home often need the other people’s help for their oral health management because they are highly dependent for their daily lives (Kim et al., 2010). However, it is reported that oral health is not as important as other systemic health since it is not directly related to survival, or that oral care is not performed properly due to a lack of information on the oral health management for the elderly (Park et al., 2016). Furthermore, in the work of careworkers, the elderly’s oral health management is recognized as a very small area of cleaning the body part, and most of them have not received professional education, and hence, it is difficult to perform them properly even if they have a will to do so (Kim & Kwon, 2016). It is also predicted that even in the case of the dependents who care for the elderly at home, they are likely to face many difficulties in managing the elderly’s oral health.

Accordingly, in this study, to help prepare a plan for the oral health management of the elderly in the facilities after the spread of COVID-19, the current situation of the elderly’s oral health after the COVID-19 pandemic is examined for the careworkers, while the problems were explored in depth. Furthermore, by using the results derived from this study as the basic data, it is sought to develop an oral health intervention program for the elderly’s oral health management.

2. Materials and Methods

2.1 Research design

This study is a qualitative study conducted through the Focus Group Interview with a view to examine the impact of the COVID-19 pandemic on the oral health management of the frail elderly.

2.2 Research subjects

First, to help protect the subjects ethically, the study was conducted after securing an approval from the Bioethics Review Committee (IRB Approval No.: SHIRB-202103-HR-123-02) of ○○University. To recruit the study subjects, convenience samples were collected from the careworkers providing care for the elderly for 3 years or longer at the nursing homes, nursing hospitals, and home facilities in Seoul and Gyeonggi region. Furthermore, those who understood the purposes of this study and voluntarily agreed to participate in the study were selected as the final study subjects Table 1.

Table 1. Characteristics of subjects

No	Gender	Age	Type	Careers
1	Female	61	Skilled Nursing Facility	8 yrs
2	Female	57	Skilled Nursing Facility	10 yrs
3	Female	54	Skilled Nursing Facility	12 yrs
4	Female	56	Skilled Nursing Facility	10 yrs
5	Female	53	Home Care Arrangement	10 yrs
6	Female	61	Home Care Arrangement	12 yrs
7	Female	56	Nursing hospital	10 yrs
8	Female	59	Nursing hospital	9 yrs

2.3 Data collection period and method

Prior to the collection and analysis of these research data, attempts were made to enhance the understanding of qualitative research by participating in the education related to the qualitative research prepared by the Teaching and Learning Center of the university of affiliation, and by participating in the “Qualitative Data Collection and Analysis” training hosted by the Korean Council for University Education.

The Focus Group Interview was conducted twice for each individual, and before the Interview commenced, the purposes of the study and the research method were fully explained, and their consent was secured for the recording of the Interview. The Focus Group Interview took approximately 30 minutes per person, and was conducted through online video conference or phone interview to prevent the spread of COVID-19. All interviews were recorded, and during the interviewing process, their emotions were recorded by focusing on their expressions and dictions, among others. After the first interview was completed, the recorded contents were organized, and the data were analyzed. Based on the results of the first interview, the contents of the second interview were organized and conducted with a focus on the contents which need to be added or corrected.

2.4 Research tool

To examine and understand the actual conditions and issues of the oral health management for the dementia patients, the research tool of Jung et al. (Jung et al., 2019) was referred to, and the questionnaire was formed. Furthermore, the contents were revised and supplemented with the advices of a dental hygiene professor and a dentist who have had experiences in the qualitative research to increase the validity of the contents.

The interview was conducted as a semi-structured, open-ended question in the form of “What is your experience like, working as a careworker?,” and it was conducted in the manner of presenting necessary questions on top of the questions which the research subjects could express naturally. During the Focus Group Interview, the questions were consisted of the introductory questions, transition questions, main questions, and the closing questions, among others, and a summary of the questions is as illustrated in Table 2.

Table 2. Divisions and Contents of the questions

Division	Question content
Introduction question	<ul style="list-style-type: none"> - Experience working as a caregiver - difficulties in caring for the elderly
Conversion question	<ul style="list-style-type: none"> - Differences in activities of daily living by care level of the elderly
Main question	<ul style="list-style-type: none"> - Oral condition of the elderly in care - Oral hygiene methods that are currently taking care of the elderly - Difficulty in oral hygiene management for the elderly - How to deal with rejection in the oral hygiene management of the elderly - How to deal with oral health problems in the elderly - Oral hygiene management time for the elderly - The need to support oral health personnel - Oral hygiene management education experience for the elderly in nursing care provider education - Oral hygiene management education experience for the elderly in the nursing care worker's maintenance training - What you want to be educated about on oral care for the elderly - Whether oral hygiene guidelines are provided for senior oral health management - Whether or not to participate in the oral care method education for the elderly - Desired educational place - Manual delivery route on oral care methods for the elderly - Oral hygiene management of the elderly after the spread of COVID-19 virus - Difficulties in managing oral health of the elderly after the spread of the COVID-19 virus - Whether to support the oral health care of the elderly after the spread of the COVID-19 virus - Hopes for support regarding oral health care for the elderly after the spread of COVID-19 virus - Coping with problems in the health or oral health of the elderly after the spread of the COVID-19 virus - Differences in health care methods for the elderly before and after the spread of COVID-19 virus
Closing question	<ul style="list-style-type: none"> - Questions or needs further clarification - Expression of gratitude

2.5 Analytical method

Based on the standards of Guba and Lincoln (Guba & Lincoln, 1981), a content analysis of the qualitative research data was performed. To secure the credibility, the recorded interview contents were repeatedly heard and compared with the notes recorded by the researcher in the field. Second, through the second interview, the research subjects were asked to verify as to whether the contents of the interview were arranged by the researcher, and their consent was secured from a dental hygiene professor experienced in the qualitative research. Third, when describing the research results, the dependability was secured by quoting the expressions and dictions of the research subjects, so that the reader could verify them. Furthermore, themes were derived for each sentence and paragraph based on the meaningful statements, and they were further classified into the sub-categories by common themes. As for the key categories, reference was made to the research method of Giorgi (Giorgi, 1997), and a derivation was made, consisted of the 4 steps of “total recognition,” “semantic unit classification,” “conversion of everyday expressions terminology,” and “integration of all transformed semantic unit structures.” Furthermore, the categorized data were supplemented with the advices of a dental hygiene professor and a dentist experienced in the qualitative research.

3. Results and Discussion

3.1 Derivation of a topic on the impact of the COVID-19 pandemic on the oral health management of the frail elderly

The results of deriving a topic on the impact of the COVID-19 pandemic on the oral health management of the frail elderly are as illustrated in Table 3.

A total of 51 semantic structures were extracted based on the original data, based on which, 27 themes were derived, and 10 central themes were derived again, and 3 categories were derived through a systematic conceptualization.

Through the in-depth interviews, the 3 categories of the oral health for the elderly, education for careworkers to manage the elderly's oral health, and the changes after the COVID-19 pandemic were derived.

As for the key themes, the oral conditions of the elderly, the elderly's oral health management, differences between the facilities and caregivers, need for support, status of education for the elderly for oral health management, the elderly's will to participate in education for the oral health management, type of the desired education, depression and atrophy of the elderly, the status of careworkers, and the difficulties in caring for the elderly, among others, were derived.

Table 3. The topics derived in relation to the impact of the COVID-19 pandemic situation on the oral health management of the frail elderly

Category	Central Theme	Topic
Oral health of the elderly	Oral condition of the elderly	Oral condition of the elderly
		Whether brushing themselves available
	Oral health care for the elderly	Eating status of the elderly
		Oral hygiene management by level of care
		How to cope when rejection of the elderly
		Difficulties in oral hygiene management
		Time for oral health care in the elderly
		Current status of denture management in the elderly
		Lack of expertise in oral hygiene management
		Differences between facilities and guardians
Differences exist according to the will of the guardian		
Need for support	The need for oral health personnel	
	The need for support for oral hygiene care products	
Education for oral health care of the elderly by careworkers	Current status of education for oral health management of the elderly	Lack of oral hygiene management education
		Education on oral health management during maintenance education
	Willingness to participate in education for oral health management of the elderly	Provision of oral hygiene guidelines for senior oral health management
		Contents of education on oral health management for the elderly
	Desired education type	Willingness to participate in programs related to oral health management of the elderly
		Manual delivery route on oral health management methods
Changes after the COVID-19 Pandemic	Depression and atrophy in the elderly	Desired oral health education method and place
		Lack of face-to-face contact with parents
	Careworker's status	Depression and atrophy in the elderly
		Careworker's anxiety
	Difficulties in caring for the elderly	Careworker's professional awareness
		Differences in health care methods for the elderly
		How to deal with oral problems in the elderly
		The need for support for senior oral health care

3.2 The impact of the COVID-19 pandemic situation on the oral health management of the frail elderly

3.2.1 Topic 1. Oral health of the elderly

The oral health conditions of the elderly who receive help from the careworkers at nursing homes or at home are often very poor, and as for the elderly who receive help from the careworkers at home, many differences were found for each individual in terms of their oral health management according to the care and effort of their caregivers. This was similar to the results of the previous studies conducted (Martande et al., 2014; Wu et al., 2008), which demonstrated a poor oral health for the elderly with low cognitive skills. Therefore, it seems that it is necessary to prepare the instructions and guidelines to be observed at the facilities or home institutions, so that all of the frail elderly can be provided with their oral health management at an appropriate level or higher. The need for the professional management of the oral health for the frail elderly has emerged, and towards this end, a system is needed to professionally check on the oral health of the elderly, while the oral health management services are provided. Furthermore, it is considered that it is necessary for the careworkers and their dependents caring for the elderly to understand and acquire the oral health management methods of the elderly.

“Most of the elderly at the facility have very bad teeth conditions. Most of them have only a few teeth left, and dentures won’t fit them well, so they can even hear a rattling sound when eating something. Sometimes, they can’t even use them at all. Their guardians also can’t even dare to replace their dentures.”

“For the elderly at home, careworkers do not provide as far as oral health management. They mostly just help the elderly with what they need, and stay some time with them, and that’s it. So, if the guardians carefully take care of the elderly, their conditions would be better, and otherwise, they will smell a lot, which is really bad. The guardians seem to forget to brush their teeth for the elderly.”

“The biggest problem is when they brush their teeth and they just swallow it without spitting it out. In particular, the elderly with dementia tend to swallow it most of the time.”

“When the elderly react, the guardians pretend to take it out right away, but most of the time, they brush their teeth lightly, so they just brush them even at their refusal. What happens then is, there are many cases where the elderly just stay as they are. Often, some of them just bite on them. I’m used to them now, so I don’t care so much about that.”

“Their guardians don’t take good care of them. The elderly are happy to eat, but if their teeth are not strong enough, they won’t be able to eat. So, it would be nice if we have people who specialize in the oral hygiene management for the elderly.”

3.2.2 Topic 2. Education for the careworkers's education on the elderly's oral health management

Most of the careworkers were not properly educated on the oral hygiene management for the elderly, and hence, it was also observed that they took care of the elderly in wrong ways. There were also no guidelines or manuals for the oral hygiene management for the elderly, and it turned out to be a very difficult situation. When the mouthwash is used for a long time, side effects such as alcohol contents in the mouthwash kills not only harmful bacteria but also normal bacteria in the mouth, thereby causing the dry mouth (Gianluca et al., 2019). Notwithstanding which, the careworkers lacked the professional knowledge, and hence, depended heavily on the commercially available mouthwashes, and the need to deliver correct information on this situation has emerged. Furthermore, all of the study subjects demonstrated that they desired to have education concerning the elderly for their oral health, which was similar to the study of Lee et al. (Lee et al., 2019), and plans towards this end will need to be prepared as well.

“The elderly have a really bad breath. They need to address this issue, but I haven't learned anything properly, and having done it myself, it's nice to wipe them off with something like mouthwash or rinsing them many times to help reduce the smell. So that's what I do mostly.”

“I learned about the elderly's oral care in books and elsewhere, but I don't think I have learned anything about the careworkers' education at all. That's all I have learned while studying little by little while caring for the elderly.”

“During the refresher education, I mainly learned the CPR and the abuse related to the elderly, but I have never received any education in the field of oral hygiene.”

“Even if I receive education, I don't think I would be able to concentrate at a nursing home because there is no environment where I can receive education. So I think it would be good if I could receive it at a separate training center. For me, I think it would also be good to send me what I can watch on my smartphone.”

3.2.3 Topic 3. Changes following the COVID-19 pandemic situation

A study conducted by Choi (Choi, 2021) targeting the elderly women living alone and the elderly in the community demonstrated that elderly who are admitted at the facilities following the COVID-19 pandemic situation were unable to meet their guardians for a long period of time, and their depression increased along with their loneliness, demonstrating similar results as with the study of Seo and Kwon (Seo & Kwon, 2021). Furthermore, the careworkers providing care for them also felt a lot of fear in caring for the elderly, which was also similar to the results of Kim and Han (Kim & Han, 2021). In particular, the elderly responded that it was difficult to receive proper treatment even if they had health issues, and hence, it is necessary to prepare the national measures or systems to address these issues.

“Not so much has changed ever since. Of course, at the beginning, the elderly would be careful about opening their mouth, but that’s our job. I think we just go used to it, and we do it all the same over and over again.”

“It is only now possible to see the guardians face-to-face, but it is true that the contact with the guardians has decreased since the COVID-19, and the elderly seem anxious and depressed because they are not able to meet their children in person. So, whatever we try to do for them, we’re being extra careful.”

“Most guardians do not come in person, so it is difficult to bring patients to the hospital. Also, if they have a fever, they don’t want to be taken to the hospital either.”

“Sometimes I ask the doctors, but I don’t think they know much about the mouth either because they aren’t specialists either.”

“I think it would be good if you provide mouthwash, mouth sanitizer, or such non-perishable candies or gums the elderly can have.”

“After the COVID-19, if there are any issues with the health or oral health of the elderly, we contact their guardians and proceed with it accordingly, and we are trying to help address mild symptoms at the nursing home.”

“If a problem arises, I talk to the guardian, but I don’t think they can go to the hospital. Hospitals don’t like them either. I don’t think it’s getting any better.”

“Initially, they seemed to hate it when they went home wearing a mask, but since we kept telling them about it. So now, they don’t say anything at all.”

4. Conclusion

This study examined the impact of the COVID-19 pandemic situation on oral health management of the frail elderly by using a qualitative research method through the Focus Group Interview. The data collection was conducted for approximately a month from April until May 2021, and the study subjects were the careworkers providing care for the frail elderly at the nursing homes, nursing hospitals, and home facilities. A total of 8 research subjects participated in the study, and the results derived are as follows.

- 1) Through the in-depth interviews, the 3 categories of the oral health for the elderly, education for elderly oral health management for careworkers, and the changes after the COVID-19 pandemic situation, among others, were derived.

- 2) The main topics were the oral conditions of the elderly, the elderly's oral health management, differences between facilities and guardians, need for support, the current status of education for the elderly for oral health management, the elderly's will to participate in education for oral health management, type of desired education, depression and atrophy of the elderly, anxiety of careworkers, and the difficulties with oral problems in the elderly, among others, were derived.
- 3) The oral health conditions of the elderly who receive help from the careworkers at the nursing homes or at home were very poor, and many of them had difficulties. Most of the careworkers were not properly educated on the oral hygiene management for the elderly. As a result, the cases of oral care for the elderly conducted in wrong manners were also observed.
- 4) Since the COVID-19 pandemic situation, the elderly who were admitted at the facilities were unable to meet their guardians for a long period of time, and hence, their depression increased, and the careworkers who provide care for them also have felt a lot of fear in doing so. They also responded that it was difficult to receive proper treatment even when health issues arise for the elderly. Furthermore, it turned out that there were many individual differences in the oral health management for the elderly people who were cared for by the careworkers while at home, depending on the guardians' interest and effort, among others.

As a result of this study, there was no significant difference demonstrated in the oral hygiene management methods for the elderly since the COVID-19 pandemic situation. Yet, it turned out that when issues arise in the health or oral health of the elderly, it is difficult for them to receive treatment in an amicable manner, thereby adversely affecting the health of the elderly. Therefore, it is considered that it is necessary to prepare the national measures or systems to address such issues.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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