

# Educators and caregivers' oral health knowledge, attitudes, and practices in special education schools in the eThekweni District, KwaZulu-Natal

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S Gumede, S Singh, M Radebe

## ABSTRACT

### Introduction

Disability often leaves individuals reliant on caregivers for care and oral hygiene, particularly the young, severely impaired and institutionalised. However, these caregivers may lack adequate knowledge on oral hygiene and proper diet, leading to unhealthy eating habits or cariogenic snacks and increasing the risk of oral diseases throughout their lifetime.

### Aims and objectives

To ascertain educators' and caregivers' oral health knowledge, attitudes and practices within the identified special schools, by means of a self-administered questionnaire.

### Design

A cross-sectional KAP survey design.

### Methods

This study was conducted in 22 out of 33 special schools located in eThekweni district which consented to participate in the study. On average, each of the 22 special schools had about 40 educators and caregivers combined. A self-administered questionnaire was used to collect the data. Twenty questionnaires – which is 50% of the targeted population – were sent out to each school, and

participation was voluntary. Ultimately, 440 questionnaires (20 questionnaires per school) were sent out.

### Results

Only 312 of the 440 questionnaires were completed, yielding a response rate of 70.90%. Just over half of the study participants (n=161; 51.6%) believed that brushing twice daily and rinsing with mouthwash is the most important dental self-care practice. Only 46.8% of participants believed that sugar consumption contributes to tooth decay due to bacteria turning sugar into acid. Most respondents (n=205; 65.7%) strongly agreed that brushing and flossing their teeth reduces tooth decay risk, with 221 participants (70.8%) believing they have a responsibility to prevent tooth loss. However, 51.3% of study participants disagreed with the statement that dentures are less troublesome than taking care of natural teeth. About 83.1% of participants brushed their teeth twice daily, with 61.54% brushing for 2-3 minutes. Furthermore, 71.8% of participants used medium bristles and 47.76% replaced their toothbrush every 1-3 months. Most participants agreed that visiting a dentist is necessary, with a small percentage (2.24%) having never visited before. The majority of participants (85.6%) stated that their oral health practices, attitudes and knowledge could influence how oral health education is given to school students.

### Conclusion

The results of the present study showed some inconsistencies in the knowledge, attitudes and practices of the educators and caregivers. Oral health awareness among these individuals is essential and should be done on a regular basis.

### Keywords

Oral health, caregivers, educators, attitudes, practices, knowledge

#### Authors' information

1. Sinenhlanhla Gumede, BDentTher, MMedSc, PGDip in Public Health, School of Health Sciences, Discipline of Dentistry, University of KwaZulu-Natal, South Africa.  
ORCID: 0009-0008-6171-9867
2. Shenuka Singh, PhD, School of Health Sciences, Discipline of Dentistry, University of KwaZulu-Natal, South Africa.  
ORCID: 0000-0003-4842-602X
3. Mbuyiselwa Radebe, PhD, Faculty of Health Sciences, Department of Dental Sciences, Durban University of Technology, South Africa.  
ORCID: 0000-0001-7201-1524

#### Corresponding author

Name: Sinenhlanhla Gumede  
Email: Sinenhlanhla.gumede41@gmail.com

#### Author's contribution

1. S Gumede – study conceptualisation, data analysis, manuscript preparation, writing and final editing (60%)
2. S Singh: – data analysis, manuscript preparation and editing (20%)
3. M Radebe – data analysis, manuscript preparation and editing (20%)

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#### Conflict of interest

The authors declare that there is no conflict of interest

## INTRODUCTION

Special schools are schools that offer education for students and individuals with special educational needs because of learning difficulties which may be physical or behavioural in nature.<sup>1</sup> These disorders may include dyslexia, attention deficit hyperactivity disorder (ADHD), Osteogenesis Imperfecta, cerebral palsy, muscular dystrophy, spina bifida, Friedreich's ataxia, Asperger syndrome, autism, intellectual disability, and many other disabilities.<sup>1</sup> Studies have shown that individuals with special health care needs exhibited higher caries rates, poor oral health, unhealthy periodontal

status and unmet dental needs than children in the same age general population.<sup>2</sup>

The disability makes most of them dependent on parents, siblings and caregivers for general care as well as oral hygiene, especially the young, severely impaired and institutionalised.<sup>4</sup> Most of these caregivers may not have the required knowledge to recognise the importance of oral hygiene and proper diet. This lack of knowledge may result in these individuals being pampered with unhealthy eating habits or cariogenic snacks.<sup>5</sup> People with disabilities deserve the same opportunities for oral health and hygiene as those who are healthy; these people may be at an increased risk for oral diseases throughout their lifetime. Therefore, its neglect gives rise to negative health consequences and unpleasant social lives of these individuals.<sup>6</sup> Unfortunately, oral health care is one of the greatest underserved health needs of disabled people. This may be because of inadequate dental care or poor dental public health measures that may have a negative influence on their oral health status.<sup>7</sup> Additionally, there is limited published information on strategies addressing the barriers to dental treatment in children with special needs in South Africa (SA). Although oral health education has shown improvements in attitudes and knowledge towards dental health care, especially among the caregivers of special needs patients,<sup>8</sup> this is still not evident in many special schools in SA, especially in KwaZulu-Natal (KZN).

Therefore, the need to conduct a study that would ascertain educators' and caregivers' oral health knowledge attitudes and practices within the setting of the 22 special schools, by means of self-administered questionnaires using a Knowledge, Attitude and Practices (KAP) study. This paper forms part of a larger study titled "Oral health care for children attending schools for special needs in eThekweni district, KwaZulu-Natal, South Africa". This study explored oral health needs for schoolgoing children with disabilities in eThekweni district, KZN through a systematic collection of commonly occurring oral health-related epidemiological data and by implementing and evaluating an oral health promotion intervention in selected schools so as to inform a framework for oral health care for children with special needs.

## METHODS AND MATERIALS

### Study settings

This study was conducted in 22 special schools located in eThekweni district in KwaZulu-Natal, South Africa.

### Study design

A cross-sectional KAP survey was used to conduct the study.

### Sample

This study was conducted in 22 out of 33 special schools located in eThekweni district which consented to participate in the study. The study population included service providers (educators) and caregivers who are health- and non-health related (healthcare workers and other school staff) who take care of the learners with special needs attending the 22 special schools in eThekweni district. On average, each of the 22 special schools had about 40 educators and caregivers combined. A self-administered questionnaire was used to collect data. Twenty questionnaires, which is 50% of the targeted population, were sent out to each

school and participation was voluntary. Ultimately, 440 (20 questionnaires x 22 schools) questionnaires were sent out.

### Ethical approval

The study was approved by the University of KwaZulu-Natal's Biomedical Research Ethics Committee (BREC00003814/2022), and ethical procedures were followed to protect participants' rights, interests and dignity. Thus participants' autonomy, confidentiality and privacy were upheld. Gatekeeper permission was obtained from the KZN Department of Education.

### Recruitment methods

Participation was voluntary. Those who were willing to participate were first given informed consent forms and, only when these were signed, the questionnaires were then given until the desired population was obtained in each school.

### Intervention details

Predefined questions organised in a standardised questionnaire were used to collect data. The questionnaire was adapted from previous studies titled "Oral health care for sentenced offenders in KwaZulu-Natal, South Africa"<sup>9</sup> and "Oral Health Knowledge, Attitudes, and Behaviors: Investigation of an Educational Intervention Strategy with At-Risk Females".<sup>10</sup> Multiple-choice questions were used in the questionnaire to evaluate oral health knowledge, attitudes and practices of the caregivers and educators. One of the questions in the questionnaire was an open-ended question and there were four sections with self-reported questions.

Section one comprised general demographic and professional background information. The first part of the questionnaire focused on demographic information (age, gender, experience, and oral health literacy).

The second part of the questionnaire focused on educators, and caregivers knowledge regarding the importance of oral health. Some of the questions included reported knowledge on the role of sugar in dental caries, dental plaque, gingivitis, the importance of flossing and the most important dental health habits, oral hygiene practices, cause of tooth decay, significance of fluoride, common oral problems and need for oral health education. The oral health knowledge questions also included the following questions: Does sugar contribute to tooth decay, and why? Does fluoride in toothpaste make any difference to the health of teeth? What is the truth about flossing? What is plaque? What is gingivitis? What are the two most important dental health habits?

The questions in section three were designed to evaluate participants' attitudes towards oral health care. Oral health attitudes were measured using statements, each of which had Likert scale responses. Likert-like responses involve a sequence of response statements that the respondent may choose from in order to rate their responses to the evaluative questions. It is commonly used to measure attitudes, knowledge, perceptions, values and behavioural changes.<sup>11</sup> The responses in this study included: (a) I agree completely, (b) I agree partially, (c) I disagree partially and (d) I disagree completely. The oral health attitudes statements included the following: I believe that only a dentist can prevent cavities; I believe that tooth loss is a normal part of

growing old; I believe that I am responsible for preventing the loss of my teeth; I believe dentures are less trouble than taking care of my natural teeth; If my gums bleed when I floss, this usually means that I am hurting my gums and I should stop flossing my teeth; and I believe visiting the dentist is only necessary when I am experiencing pain.

The questions in section four were designed to assess participants' oral healthcare practices. These include questions such as: How often do you brush your teeth on average? How long do you spend brushing your teeth? How often do you replace your toothbrush? What type of toothbrush do you use? If you fall short of your brushing, how do you feel? How long do you think you could go on without brushing your teeth? Do you think it is necessary to visit a dental practitioner? How often do you go to the dental practitioner? How frequently do you snack between normal meals? How often do you consume sugary drinks?

### Data analysis

The data acquired through the completed questionnaires was computed and analysed. The data gathered from the quantitative responses were analysed with using SPSS version 29. Variables of interest such as oral health practices, knowledge of basic dental hygiene and oral health attitudes were measured. Descriptive statistics were used to analyse all variables of interest, for example demographic details of participants (age, race and gender). The chi-square test was performed to determine whether there was a statistically significant relationship between variables from the quantitative data obtained. Statistical significance was noted only when the p-value was  $p < 0.05$ .

Thematic analysis was used to analyse the data responses from the open-ended question. These were read through and initial notes taken just to be familiar with the data. The initial set of codes representing the meaning and patterns were refined and coded. Links were formed between the codes and supporting data; codes were further grouped into themes and the themes were reviewed and revised. The conclusions drawn from the analysed data and the results were then presented as a narrative. The data analysis process was conducted in four stages: finding initial concepts, coding the data, sorting the data by theme and interpreting the data. Techniques such as paraphrasing and summarisation were used to clarify participants' answers.

## RESULTS

### Social demographic

Only 312 of the 440 questionnaires were returned, generating a response rate of 70.90%. Participants in this study were 102 (32.7%) males and 210 (67.3%) females. The average age of the study participants was 27.86 (SD  $\pm$  5.582). The majority of participants ( $n=85$ ; 27.2%) were between the ages of 30 and 39. There were 69 (22.1%) and 243 (77.9%) study participants from peri-urban and urban settings, respectively. Participants came from two educational subdistricts in the eThekwinini district: Umlazi (195%) and Pinetown (117%).

### Oral health knowledge

Just over half of the study participants ( $n=161$ ; 51.6%) believed that brushing twice daily and rinsing with mouthwash was the most important self-care practice. Most of the caregivers and educators ( $n=238$ ; 76.3%)

defined "dental plaque" as a germ-containing substance that collects on the surface of teeth. The majority of the participants (235; 75.3%) believed that fluoride in toothpaste has hugely improved oral health status by decreasing cavities. More than two-thirds of the survey participants (225; 72.1%) defined gingivitis or gum disease as inflammation of the gums that involves swelling and bleeding. Only 84 (26.9%) said that "regular flossing is an important part of your dental health routine and you shouldn't worry if your gums bleed a bit at first". Only 46.8% of participants believed that sugar consumption contributes to tooth decay due to bacteria turning sugar into acid.

### Oral health attitudes

Most respondents ( $n=205$ ; 65.7%) strongly agreed that brushing and flossing their teeth reduces the risk of tooth decay, with 221 participants (70.8%) believing they have a responsibility to prevent tooth loss. However,  $n=160$ ; 51.3% of participants disagreed with the statement that dentures are less troublesome than taking care of natural teeth. Just over 60% ( $n=209$ ; 67.0%) of participants acknowledged knowing how to brush their teeth. Just below half (137; 43.9%) of the study participants strongly agreed to the statement "If my gums bleed when I floss, this usually means that I am hurting my gums and should stop flossing my teeth." Only 100 (32.1%) of the participants completely disagreed with the statement "I believe that as long as I brush my teeth, I can eat anything."

### Oral health practices

About 83.1% ( $n=259$ ) of participants brushed their teeth twice daily, with 61.54% ( $n=192$ ) brushing for 2-3 minutes. Furthermore, 71.8% ( $n=224$ ) of participants used medium bristles and 47.76% ( $n=149$ ) replaced their toothbrush every 1-3 months. Most participants agreed that visiting a dentist is necessary, with a small percentage (2.24%) having never visited before. Just over half (54.8%;  $n=171$ ) of the respondents claimed that they snack at least once a day. Approximately 61.22% ( $n=191$ ) of participants reported consuming sweetened beverages at least once per day. Table 4 displays the complete results.

The majority of participants (85.6%) stated that their oral health practices, attitudes and knowledge could influence how oral health education is given to school learners. The data from the open-ended question had four key emergent themes.

One came from those who said "Yes (86.6%) their toothbrushing practices, attitudes and knowledge influence how oral health education is given to school learners which is oral health awareness".

**Oral health awareness.** Those who said "Yes" claimed they do so to promote good dental hygiene and to increase learners' oral health awareness. While others stated that they teach what they practice.

Does the same practices, attitudes and knowledge information form the bases of oral health education given to school learners that are under your watch? Please explain.

Yes, "Because I want to encourage them to take good care of their teeth"

Oral Health Knowledge Inventory (n=312)		
Questions	Responses	Frequency (%)
<b>What are the two most important dental health habits?</b>	Brushing twice daily and rinsing with mouthwash after each brushing	161 (51.6)
	Brushing after every meal and using a water-pick device daily	17 (5.4)
	Brushing twice daily and flossing once a day	121 (38.8)
	Flossing every day and rinsing with mouthwash after each flossing	13 (4.2)
<b>What is plaque?</b>	The protective coat that naturally occurs on teeth	29 (9.3)
	A harmless substance that can be removed completely with brushing	31 (9.9)
	A germ-containing substance that collects on the surface of teeth	238 (76.3)
	A whitening substance that makes your teeth shine	5 (1.6)
	I don't know	9 (2.9)
<b>Does fluoride in toothpaste make any difference to the health of your teeth?</b>	No, it makes no difference at all, and fluoride is now being phased out because it isn't safe	15 (4.8)
	Fluoride in toothpaste has hugely improved oral health by decreasing cavities	235 (75.3)
	It isn't dangerous, but toothpaste without fluoride is just as effective at preventing cavities	27 (8.7)
	Nobody really knows because there haven't been many studies in the area	24 (7.7)
	I don't know	11 (3.5)
<b>What is the truth about flossing?</b>	Flossing is bad for your teeth	9 (2.9)
	It is OK to floss, but you should stop immediately if your gums start bleeding	171 (54.8)
	Flossing is fine if it makes your mouth feel fresher but it doesn't improve the health of your mouth	44 (14.1)
	Regular flossing is an important part of your dental health routine and you shouldn't worry if your gums bleed a bit at first	84 (26.9)
	I don't know	4 (1.3)
<b>Sugar contributes to tooth decay because....?</b>	Sugar directly harms tooth enamel	115 (36.9)
	Sugar combines with proteins in saliva to create a hard layer on teeth.	28 (9.0)
	Sugar is changed by bacteria into acid that harms tooth surfaces	146 (46.8)
	I don't know	23 (7.3)
	Poor support of the bone that supports the teeth	16 (5.1)
	A condition where the teeth stain	19 (6.1)
<b>What is gingivitis?</b>	Inflammation of the gums that involves swelling and bleeding	225 (72.1)
	The name given to germs that inhabit the mouth	19 (6.1)
	A name made up by advertising agencies to scare consumers into buying their products	2 (0.6)
	Another name for having several cavities at the same time	7 (2.2)
	I don't know	24 (7.7)

Oral Health Attitudes (n=312)				
Questions	Frequency (%)			
	I agree completely	I agree partly	I disagree partly	I disagree completely
I believe that only the dentist can prevent cavities.	43 (13.8)	66 (21.2)	63 (20.2)	140 (44.9)
I believe that by brushing and flossing my teeth, I am less susceptible to tooth decay.	205 (65.7)	87 (27.9)	13 (4.2)	7 (2.2)
I believe that tooth loss is a normal part of growing old.	76 (24.4)	135 (43.3)	57 (18.3)	44 (14.1)
I believe that I am responsible for preventing the loss of my teeth.	221 (70.8)	81 (26.0)	8 (2.6)	2 (0.6)
I believe that by flossing my teeth I can prevent gingivitis.	127 (40.7)	146 (46.8)	19 (6.1)	20 (6.4)
I believe dentures are less trouble than taking care of my natural teeth.	46 (14.7)	66 (21.2)	40 (12.8)	160 (51.3)
I believe I know how to brush my teeth correctly.	209 (67.0)	94 (30.1)	7 (2.2)	2 (0.6)
If my gums bleed when I floss this usually means that I am hurting my gums and I should stop flossing my teeth.	137 (43.9)	91 (29.2)	39 (12.5)	45 (14.4)
I believe visiting the dentist is only necessary when I am experiencing pain.	42 (13.5)	60 (19.2)	41 (13.1)	169 (54.2)
I believe that as long as I brush my teeth, I can eat anything.	57 (18.3)	84 (26.9)	71 (22.8)	100 (32.1)
<b>Cronbach's alpha</b>	<b>0.715</b>			

Yes, "If I practice good dental hygiene, and respect the rules therefore I can input this knowledge to the learners under my watch"

Yes, "We allow surveys such as this to better inform as we are open to giving oral health knowledge to students"

Yes "What I practice is what I teach. But not in full details"

Three come from those who said "No" (14.4%) their toothbrushing practices, attitudes and knowledge does not influence how oral health education is given to school learners, which is school's curriculum, time and special needs".

**School's curriculum.** Those who said "No" said so because the school's life skills curriculum includes oral health. Others said oral health is not part of the school curriculum.

**Time.** Others said that there is no time set out for oral health education.

**Special needs.** Others stated that people with special needs differ and require independent and unique treatment, so each individual must be evaluated separately.

Does the same practices, attitudes and knowledge information form the basis for oral health education given to school learners that are under your care? Please explain.

No, "The life skills lesson incorporates oral health in its curriculum. We do have a life skills curriculum"

No, "Oral health education is not taught in this school, it not part of the curriculum"

No, "I don't have direct input but I just advise"

No, "There is no opportunity or allocated time to provide this kind of training in the timetable"

No, "Because individuals with special needs differ and every case is unique and needs to be considered separately"

Oral Health Practices (n=312)		
Questions	Responses	Frequency (%)
How often do you brush your teeth on average?	Once a day	29 (9.0)
	Twice a day	259(83.1)
	Three times a day	21 (6.7)
	More than 3 times a day	2(0.6)
	Don't brush at all	-
How long do you spend brushing your teeth?	60 seconds	66 (21.15)
	2-3 minutes	192(61.54)
	4-5 minutes	44 (14.10)
	More than 6 minutes	10 (3.21)
How often do you replace your toothbrush?	1-3 months	149(47.76)
	3-6 months	124(39.74)
	6-9 months	39 (12.50)
What type of toothbrush do you use?	Hard bristles	28 (9.0)
	Medium bristles	224 (71.8)
	Soft bristles	60 (19.2)
Do you think it is necessary to visit a dental practitioner?	Yes	305 (97.76)
	No	7 (2.24)
How often do you go to the dental practitioner?	Regularly every 6-12 months	119 (38.14)
	Occasionally	119 (38.14)
	When I have dental pain	67 (21.47)
	I've never visited a dental practitioner	7 (2.24)
How frequently do you snack between normal meals?	Snack once a day	171 (54.8)
	Snack twice a day	90 (28.8)
	Snack 3 times or more per day	38 (12.2)
	I do not snack at all	13 (4.2)
How often do you consume sugary drinks?	Once a day	191 (61.22)
	Twice a day	70 (22.44)
	Three times a day	36 (11.54)

## DISCUSSION

The purpose of this study was to ascertain educators' and caregivers' current oral health knowledge, attitudes and behavioural practices within the identified special schools in KZN. The majority of participants were female (n=210; 67.3%). Women are the primary caregivers for those with long-term medical illnesses or disabilities, providing both formal and informal care, accounting for up to 81% of caregivers and spending up to 50% more time on care than male counterparts.<sup>12</sup> This aligns with Stats SA data, which also indicates that women make up 63.8% of all educators in South Africa.<sup>13</sup> Evidence suggests that there are strong societal and cultural pressures on women to take on the role of caregiver.<sup>12</sup> According to UNESCO, teaching at lower levels of education is frequently regarded as a women's job due to cultural norms and gender biases surrounding educational and child care responsibilities.<sup>14</sup>

This study revealed that only 84 (26.9%) of the participants knew that "Regular flossing is an important part of your dental health routine and you shouldn't worry if your gums bleed a bit at first". This is consistent with the results of a previous study, where only 105 (37.4%) of the respondents gave the same answer.<sup>15</sup> On the other hand, 137 (43.9%) participants strongly agreed with the statement "If my gums bleed when I floss this usually means that I am hurting my gums and I should stop flossing my teeth", with only 45 (14.4%) of the participants disagreeing completely with the statement. This was similar to attitudes noted in another study where 199 (70.8%) of the participants were also in agreement with this statement.<sup>15</sup> Furthermore, results of the study conducted in Saudi Arabia reported that 46 (23%) of the participants strongly agreed with the statement and only 5 (2.5%) strongly disagreed with this statement.<sup>16</sup> This superficiality of the knowledge and attitude regarding flossing among the study participants highlights the need to offer adequate oral health education about the importance of dental flossing in maintaining oral hygiene and dental care among caregivers in this setting.<sup>17</sup>

The results of this study in the knowledge section revealed that most of the caregivers knew the definition of "dental plaque" and "gingivitis or gum disease" – (76.3%) and 225 (72.1%) respectively, which is similar to the results of a study conducted in the Western Cape where 208 (74.0%) and 238 (84.7%) of respondents knew the definition of "dental plaque".<sup>15</sup> However, a few participants didn't know these definitions, suggesting that there is still a need for continued oral health education within this population. This includes focusing on oral condition with the emphasis on prevention and treatment, which will help participants understand that good oral health practices lead to optimum oral health. Good oral health practice can be achieved primarily through self-initiated practices such as maintaining dental hygiene, limiting unhealthy diet, particularly sugar intake, using fluoridated products and taking advantage of available dental services such as regular dental check-ups and oral health education.<sup>18</sup>

In the current study, the analysis of oral health attitudes and practices on "maintenance of dental hygiene" revealed that a large proportion of participants reported brushing their teeth twice daily for 2-3 minutes. This is consistent with results of other studies.<sup>15,19,20</sup> Professional recommendations suggest brushing teeth for at least 2-3 minutes, twice daily.<sup>5</sup> More than 50% of the participants agreed that brushing twice

daily and rinsing with mouthwash after each brushing are the two most important self-care practices. This is similar to a study conducted in a hospital in Malaysia, although a much higher number was reported since the majority (96.3%) of the caregivers knew that brushing and rinsing their child's teeth after every meal is important in order to prevent dental decay.<sup>19</sup> Furthermore, most of the participants 235 (75.3%) in the current study agreed that fluoride in toothpaste has significantly improved oral health status by decreasing cavities. This is consistent with other studies, where 66.7% of the caregivers knew that fluoride helps in strengthening the enamel layer of the teeth,<sup>19</sup> more than two-thirds of the 181 respondents (64.4%) agreed that fluoride in toothpaste has greatly benefited oral health by reducing cavities,<sup>15</sup> and almost three in five acknowledged that fluoride prevents caries.<sup>5</sup> However, in Turkey, only 9.6% of participants had complete knowledge about fluoride's functions and only 15% believed fluoride made teeth strong in a study conducted in Dhulikhel Hospital.<sup>20,22</sup> Many individuals understand the necessity of toothbrushing; however, they may not know why fluoride toothpaste is recommended. The decline in dental caries incidence since the 1970s has been attributed to fluoride toothpaste, either alone or in conjunction with water fluoridation.<sup>24</sup> The FDI recommends using fluoride at an adequate concentration and dose to manage dental caries in children and adults by preventing and/or treating early lesions.<sup>25</sup> It is also advised to rinse with mouthwash after toothbrushing.

Regarding dietary habits, more than half (54.8%; n=171) of the study participants claimed that they snack at least once a day and about 61.22% (n=191) of participants reported consuming sweetened drinks at least once a day. The recommended diet and lifestyle for optimal dental health is to eat healthy meals rich in fruits, vegetables, high fibre foods and dairy products, avoid empty snacking, prevent repeated bingeing between meals and minimise sticky sugars and candies.<sup>26-28</sup> Concerning dental visits, the majority of the study participants completely disagreed with the statement "I believe visiting the dentist is only necessary when I am experiencing pain" at 169 (54.2%). This is consistent with the results of another study where 203 (72.2%) of respondents disagreed with this statement.<sup>15</sup> On the other hand, more than one-third (119; 38.14%) of participants reported visiting a dental practitioner regularly every 6-12 months. Regular dental check-ups are essential for preventing dental problems and encouraging healthy home dental care. Caregivers should understand and appreciate the need of frequent dental check-ups for preventing dental conditions and maintaining oral health.<sup>5</sup> at a comprehensive rehabilitation centre.

According to Nicolau, institutional venues such as schools, recreation centres, correctional facilities and workplaces should be effectively utilised for the formation of education groups based on participatory, dialogical and processual knowledge construction.<sup>29</sup> However, there is a dearth of information on the oral health practices, attitudes and knowledge of this population in this context. Therefore, more research in a larger geographic area is required, particularly using a provincial or nationally representative sample. The researchers believe that caregivers will be able to place a high value on health and be more inclined to pursue health-promoting behaviours if they have improved knowledge and attitude changes towards oral health.

### Strengths and limitations

The current study provided a better understanding of oral health care knowledge, attitudes and practices of the caregivers and educators of the learners with special needs attending special needs schools in eThekweni District, KZN. A number of limitations may have influenced the study's outcome. This study concentrated on caregivers and educators within schools, leaving out caregivers outside of schools, such as parents or who may be caring for the learner at home or outside of the school environment. Self-report data can be influenced by social desirability bias, which can affect the validity of the results. Furthermore, participants may misinterpret questions or respond in an incomplete or erroneous manner. Future research is needed to compare the perspectives of school educators/caregivers with parents and other caregivers outside the school environment about their current oral health KAP in order to improve the sample's representativeness and gain input from people who take care of the learners living with disabilities.

### RECOMMENDATIONS

First and foremost, basic oral health education should be provided to caregivers and educators through workshops. Secondly, oral health care management programmes should be embedded into educators' and caregivers' curriculum; and, finally, educators and caregivers should actively participate in oral health awareness campaigns.

### CONCLUSION

The results of the present study showed some inconsistencies in educators' and caregivers' knowledge, attitudes and practices a lack of knowledge on flossing and the role of sugar in tooth decay. Most respondents had positive attitudes towards oral health, believing it enhances optimum oral health. However, they had mixed or negative attitudes towards oral health practices, such as bleeding gums while flossing, believing tooth loss is a normal part of growing up and believing that as long as they brush their teeth, they can eat anything. The oral health practices of the caregivers were fair, with most of them having the correct daily oral hygiene practices. Furthermore, most caregivers believed their oral health knowledge (KAP) influenced how oral health education is conducted in the school.

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