Developing a Traditional Oral Health Education Folktale for Primary School Pupils in Ibadan, Oyo State, Nigeria

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ABSTRACT

Background: Oral diseases are a major public health problem among children all over the world. Oral health education directed at major etiological factors such as diet, oral hygiene, and dental clinic attendance has helped to reduce the burden of oral diseases in children. Folklore. which includes folktales, puppet shows, dramas, folk music, and dance, appears to be a promising tool that could gain and engage young people's interest. However, traditional folktales in school-based health education in Nigeria have not yet undergone much research or evaluation. This paper aims to describe how a local traditional folktale for oral health education among primary school pupils was developed and to provide information on how the folktale can be developed in other languages, as well as how other oral health education folktales can be developed.

Materials and Methods: Oral health professionals, a linguist, and a theater arts expert from the University of Ibadan, Nigeria, developed a traditional folktale represented on a graphically designed banner (comic strips) for use as an oral health education tool for primary school pupils. Developing the tool involved certain processes that were validated and evaluated by content validity, in which independent subject matter experts were asked to review and critique every step. These processes included developing oral health messages on adequate dietary and oral hygiene practices as well as good dental clinic attendance. The messages were used to develop a folktale using the improvisation circle method. Graphically designed illustrations of the folktale to be presented in the classrooms were then developed.

Results: A 6-foot x 4-foot banner containing graphically designed illustrations (comic strips) of the traditional folktale on oral health was developed. The oral health messages in the folktale, which were basically on diet, oral hygiene, and dental clinic attendance instructions, were aimed at improving the attitude and practice of primary school pupils in Ibadan toward oral health. The folktale was developed in the English language, the official language in Nigeria. Important aspects of the tool that were validated included the simplicity, duration, and relevance of the oral health messages in the folktale to the pupils' life experiences and ages. Modifications were then made to the oral health messages until they were suitable and adequate for use in promoting oral health among the pupils. Many skills, such as team-building, effective communication, and leadership, were developed from the many phases and meetings required in the development of the folktale.

Conclusions: The early years are formative; hence, developing a tool to improve the oral health education of children using traditional folktales is a valuable and culturally advantageous project that has substantial future potential

INTRODUCTION

According to the World Health Organization Global Oral Health Status Report (2022), close to 3.5 billion people worldwide are affected by oral diseases, with 3 out of 4 people affected living in middle-income countries.1 Oral diseases affect more than 530 million children² and 514 million children suffer from dental caries of primary teeth.3 Traditional oral health education on adequate dietary intake, toothbrushing with fluoride toothpaste, and regular dental checkups is therefore integral to primary school curricula in many countries.4 This is good news for those who advocate for conventional oral health education programs. These programs are often very cost-effective and can have a lasting impact on children's oral health.

Oral diseases cause difficulties with eating and sleeping, resulting in low oral health-related quality of life for affected children. They also cause a lack of concentration during classes and absenteeism from school, resulting in poor academic performance.⁵ These oral health diseases are largely preventable through lifestyle changes such as reducing free sugar intake, taking proper oral hygiene measures, and using fluoride-containing dentifrices. ⁶ Extra attention must also be given to children with special needs to ensure they benefit maximally from oral health education interventions. ⁷

Adequate dietary, oral hygiene, and dental clinic attendance practices are three of the most important habits we can develop in our lifetime, yet they are often overlooked or neglected. § This is especially true for children, who may only sometimes have access to the proper resources or education to practice healthy oral healthcare habits.9

To tackle this issue and create a more comprehensive education program for primary school pupils, it is often necessary to develop interesting methods to convey oral health education for effective behavioral changes. 10-13

Several possible explanations exist for why young people do not practice good oral health care. Some theories are based on poor socioeconomic background, low sociocultural standing, and bad belief systems.9 For example, some individuals believe that cariogenic diet consumption is associated with affluence, regular dental clinic attendance is associated with more tooth extraction, and cleaning primary teeth is not important because they will be replaced with permanent teeth. In addition, some cultures do not place priority on oral health.8 Others lack access to proper dental care or education about the importance of a good diet and oral hygiene.8 Whatever the reasons, it is clear that more needs to be done to promote good oral health practices among all population groups. Poor dietary and oral hygiene practices have been found to contribute to tooth decay and other health problems in Nigeria.12,14,15 These findings highlight the need for more targeted education programs to improve children's oral health literacy skills.

To effectively teach adequate dietary, oral hygiene, and dental clinic attendance practices to primary school pupils, it is essential to use a method that has been proven to be successful. Traditional oral health education using stories or fairytales is one such method.13 Studies have shown that when children are taught about oral health care using traditional methods, they are more likely to maintain good dietary and oral hygiene habits into adulthood. 12 16 One of the essential aspects of oral health education is teaching children how to brush their teeth properly.¹⁷ This includes teaching them the importance of a good diet and how to choose the right toothbrush, use toothpaste, and floss correctly. It is also

essential to teach children the importance of regular dental checkups. Teaching children about these things can help them develop good oral health habits that will last a lifetime.

Adequate knowledge will likely result in positive attitudes and practices, reducing the burden of oral diseases among them. A systematic review by Shweta and colleagues showed that oral health education effectively reduced oral health disease burden overa five year period.18 Several methods, such as television shows. jingles, newspapers, cartoons, etc., have been used to deliver these messages with differing effectiveness.¹⁶ The use of folklore is a method with considerable potential for success, even though many ways have been used to convey these messages with varying degrees of effectiveness. Research has shown that in developing countries, folklore, which includes folktales, puppet shows, dramas, folk music, and dance, has been successfully used to gain and engage the public's interest. A recent study sought to fill this gap by investigating the effects of a traditional oral hygiene education folklore program on primary school pupils in Tanzania.17 The study found that the program improved pupils' oral health knowledge and practices because the folklore was tied to the traditions or culture of these pupils. The pupils consistently showed low levels of plaque and calculus, even after 36 months.17

Folklore as a means of communication has one of its most robust features in aiding the continuous transmission of knowledge and experience.¹³ This can be used to gain the community's trust and reach people's inner thoughts because of its popularity and how it promotes cultural values. Songs and stories do not require literacy and are inherently more storable and transportable, essentially accessible to all who care to learn them, and dynamic in their social and recreational functions.¹¹ In Nigeria, traditional folktales in school-based health

education are yet to be studied and evaluated significantly. Consequently, this paper aims to describe the development of a traditional folktale in Nigeria that promotes oral health education among primary school students.

CREATING A FOLKTALE TOOL FOR ORAL HEALTH EDUCATION

There is a popular saying that "a picture is worth a thousand words". This saying has been widely supported by a variety of research showing that visualization greatly helps children retain knowledge. So, our tool of choice for oral health education—a traditional folktale with visual art aids—rose from the need to mix oral health instructions with an interesting traditional folktale story colorfully represented in a diagrammatic form. Creating this in English as an oral health education tool involved a series of processes, including assembling a multidisciplinary team.

THE TEAM

To create the folktale tool for oral health education, a team was assembled. This team included oral health professionals, a linguist, a theatre artist, and a visual art expert at the University of Ibadan, Ibadan, South West Nigeria. There was also input from children, parents or guardians, schoolteachers, and community heads. To develop the research tool, physical and online meetings were employed for consultations, discussions, and reviews. Before undertaking this project, ethical approval was obtained from the University of Ibadan/University College Hospital Ibadan Ethical Review Committee.

DEVELOPING THE FOLKTALE

The intended oral health messages comprised carefully selected points on good dietary, oral hygiene, and dental clinic attendance practices, which were developed by oral health professionals. Then, a linguist and a theater artist developed the messages into a folktale

using one of the many improvisation tools called Improvisation Circle (Improv Circle). Improvisation circle is a unique activity that encourages creativity and adaptive cognitive stimulation in a social environment through performing short scenes with content suggestions. 19 Modern improv typically involves a group of players performing short scenes based on games, with content suggestions from the audience.19 It has also been utilized to improve social connectivity among at-risk youth.20 This circle allowed for the choice of a storyline for the oral health message from a popular folktale performer who sat in a circle with other performers. A leader was chosen to describe what was required.

One performer stood up and began to tell the story while others watched attentively. As soon as the storyteller displayed signs of drying up, another performer deftly entered the circle and took over the storytelling seamlessly. This was repeated several times until the best cast emerged and a coherent story was built using the popular animal characters in one of the most popular traditional folktales in South West Nigeria featuring ljapáTirókò (Tortoise), Ajá (Dog), Aparò (Sparrow), Ehoro (Hare), Ewúre (Goat), Kétékété (Horse), Kìnìún (Lion), ľkokó (Hyaena), Egbin (Antelope), Obo (Monkey), Efon (Housefly), Amotékun (Leopard) and, Eku (Rat). Discussions were held after each session, wherein each participant was encouraged to comment on the lessons learned and whether they enjoyed the sessions. From the discussions, it was obvious that the sessions had both aesthetic and instructive import.

Before the development of the folktale, the authors (IA, AB, OG, GO, FA, OA) went through a mini-online training from the digital resource library of the Kennedy Center 50 on writing folktales.²¹ This aided in the proper development of the folktale involving "jàpáTrók', his wife 'Yánbo', and his friends from the animal kingdom. The storyline was developed as a series of conversations among the chosen animal

characters to show that in a social media generation, information, talks, and discussions are liberal. Oral health topics should also be readily available for classroom, hallway, mainstream, and social media chats. The folktale contained three scenes: an observational discussion about a fellow's good oral health; research to find out the fellow's dietary and oral hygiene; dental clinic attendance practices; and a public oral health education. This ended with increased awareness, the correction of wrong ideas, and an expressed desire to improve the oral health practices of the community. The intention was to keep the storyline as short, compelling, and entertaining as possible while concise oral health messages that can improve oral health literacy and practices amongst children are being passed along. So, the use of words and expressions was ageappropriate, elementary, and catchy. The folktale was written in the English language, the official language in Nigeria. Below is the final product of the folktale in English:

ÌjàpáTìrókò' and his wife 'Yáníbo', as well as his friends Ajá, Àparò, Ehoro, Ewúre, and Kétékété, sat under the mango tree in the forest and were talking about Kìniún, the king of the jungle.

"Why is he the strongest among us? Why do his teeth shine so well whenever he talks?" Ewúre asked.

"Why must he be the most adored of all of us?"

Ìjàpá said, "I have always wondered how Kìnìún has such a strong and white set of teeth. It makes him look good. Today, I will go to his house and hide beside the window. I must know his secret. I see him eating strong meat that you and I cannot dare to eat every day, and his teeth have never broken before. I must know his secret."

"Let me go with you," said Ehoro.

Aja then said, "Be careful when you are spying on him. He will be very angry if he catches you."

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That night, Jàpá and Ehoro snuck into Kìnìún's compound and climbed on a stone to try and see into his house. They saw that Kìnìún and his family had just completed their dinner, and each had a piece of fruit close to his plate.

Ìjàpá commented, My children need to see this. When I offer them fruits, they won't eat them. But you see that chocolate and sweet, ehn? That is what they like instead!"

"Bananas, pawpaws, and other fruits are better options. They are sweet, less expensive, and very nutritious." Ìjàpá replied.

Then, they saw Kiniún entering his bathroom. Kiniún took his toothbrush, picked up Mr. Fluoride's toothpaste, and pressed only a small size on his toothbrush.

Ìjàpá was surprised and said to Ehoro, "Why is Kìnìún using only a small size of Mr. Fluoride toothpaste? That is only about the size of a groundnut. I always use a lot of Mr. Fluoride toothpaste; I don't stop pressing it until all of my toothbrush is covered with Mr. Fluoride toothpaste."

"I don't even use Mr. Fluoride toothpaste! I only use soap, Ehoro said.

"Ahh! This one I know, Mr. Fluoride toothpaste, will make your teeth strong. Don't you see that that is why he can tear meat easily?"

They continued to watch as Kìnìún began to brush. Then ljàpás said, "Why is he taking so long to brush? See, he is brushing his tongue too!"

Ehoro looked at his watch and said, "He spent two minutes brushing. Wow! I only spent 30 seconds, but I have never seen anyone brush their tongue. These must be his secrets!"

Just then, Kìnìún's son entered the bathroom and asked him, "Daddy, why must we brush two times a day?"

"We have to brush in the morning and at night so that our teeth will not decay. Did you see lkokó's teeth last week at the village square?"

"Yes, yes, Daddy! Part of his front teeth were black." His son answered.

"Yes, they are decaying already, and because of this, he can't smile properly. It has affected his appearance. So when he laughs, he covers his mouth out of shame."

"What can he do about it, Daddy?"

"He is supposed to go and see a dentist, and all of us should see a dentist every 6 months because the dentist will help us treat our teeth!"

"Yes, I remember you and I went to see Egbin, the dentist, last week."

'That's good, son. Also, remember to encourage your friends to do the same. We should watch out for each other's healthy mouths because the health of our mouths is an important part of the health of the rest of our bodies."

"Yes, Daddy. I heard the other animals at the stream today talking about what kind of toothbrush they use to brush. I heard them saying that children like me should only use soft toothbrushes. Is that true?"

"Yes, my son, children should use soft toothbrushes, and they must change their soft toothbrushes every three months."

"Every three months?"

"Yes, son, it is better if you buy a new toothbrush every three months."

'Okay, Daddy, what if I get hungry after brushing my teeth at night?"

"Then you must brush your mouth after you eat because brushing your mouth should be the last thing you do before you go to sleep."

Just then, ljàpá fell from the stone he was on and made a loud noise. Immediately, Kìnìún roared! "Who is there? If I catch you, I will eat you alive!"

Quickly, Ehoro helped his friend stand, and they ran away before Kînìún came outside.

Two days later, all the animals in the jungle were gathered together for Kiniún's son's 10th-year birthday party. Kiniún invited everyone far and wide. There was a lot of food to go around. But some animals, like Òbọ, Èfọn, Àmòtékùn, and Eku, started grunting and complaining.

Òbo said, "There are no sweet drinks. Only water is served everywhere."

Ewúre then replied, "But there are watermelons, pineapples, and blended fruit juices; just take anyone of your choice. They are even healthier."

Aja, passing by, stated that the chicken bone he crushed was stuck between his teeth.

Ewúre replies again, "Didn't you notice the plastic material wrapped around the food? That was what I used to remove the moinmoinp leaf in between my teeth. Erm... I was told it is dental floss."

Ìkokó responded, "Ewúre, how come you know all these?"

Ewúre replied, "Ever since Ìjàpá came back from spying on Kìnìún, I have been reading about oral health, and I even got to know that it is as important as general health."

All the animals exclaimed, "Wow!"

DEVELOPING THE VISUAL AID

A visual art expert was then invited to develop a banner measuring 6 feet by 4 feet to contain graphically designed illustrations (comic strips) of the folktale (Appendix 1) to be presented in the classrooms while the pupils are comfortably seated in their seats. The comic strips were designed in bright and beautiful colors to catch the attention of children. The font and font sizes were also bold and legible.

VALIDATION OF THE TOOL

The oral health education tool was evaluated after each stage of development by independent experts from relevant fields, including two pediatric dentists, three community dentists, two visual art experts two theater arts experts, eight school teachers, and eight parents or guardians. These experts and school teachers had previous experience in health education activities and the face and content validation of health education intervention tools. They commented on the adequacy and appropriateness of information and its presentation style from the reader's perspective. While evaluating the tool, they assessed the flow and ease of understanding, as well as the simplicity of the language. Regarding the illustrations in the visual aids, the appropriateness of the pictures and their placement concerning the text were evaluated. The recommendations given by the experts at the end of validation were accepted and incorporated into the education tool. New versions of the tool after corrections were subjected to another evaluation by the independent experts until all of them agreed that the tool was ready to be implemented on study participants. The tool was then piloted with 15 primary school pupils, who reviewed the vocabulary as well as the appropriateness of the illustrations. Some revisions in vocabulary and illustrations were made, and the tool was corrected.

FUTURE IMPLICATIONS

This project aimed to develop a traditional folktale based on oral health instructions to educate and improve the dental health attitude and practice of schoolchildren. The benefits of this tool, however, can be extended to the pupils' families, the teachers, and their families. The efficacy of this approach will be observed and evaluated over time with the intent of proposing to the Ministry of Education that this tool be endorsed for school use, such that the graphically designed banners can be made readily available in various educational centers for children. Developing this folktale provides baseline data for building other health educational tools. For instance, the visual aid-graphically designed illustrations on banners—can

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serve as a precedent for future animations and applications on smartphones and other electronic devices. This will enable an average child with access to the internet to have equal access to quality oral health education on the go. This project has greatly enhanced the proficiency of the oral health professionals involved in the project by improving their synergy and team spirit through collaborating with various disciplines and building relationships with different groups, which is necessary for the future of public health interventions.

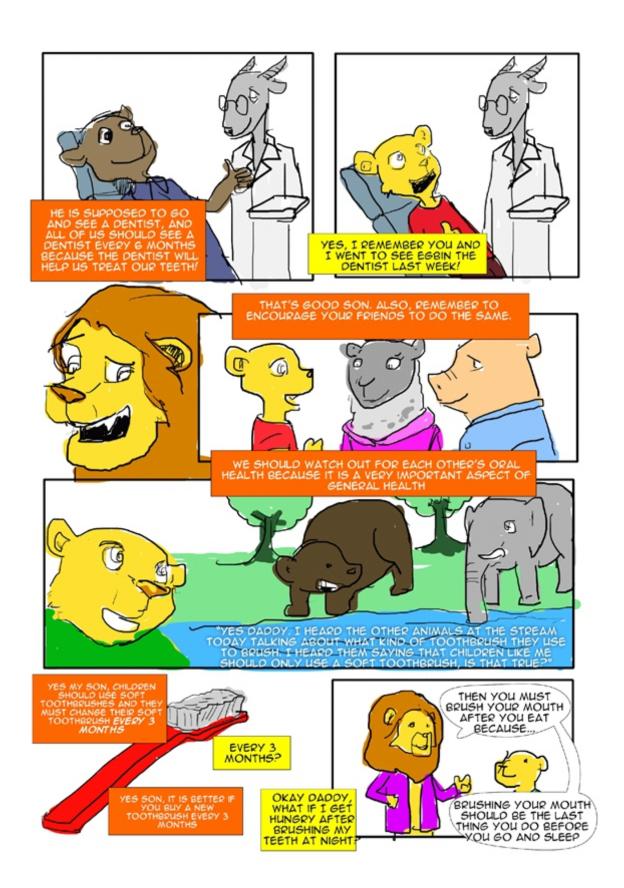
CONCLUSIONS

This paper has described how a local traditional folktale for oral health education among primary school pupils was developed. This information could be used to develop folktales on oral health in local Nigerian languages as well as show how other oral health education folktales can be developed. Young people continue to suffer from oral disorders, particularly in disadvantaged and neglected neighborhoods. It is, therefore, essential to develop innovative and efficient methods, such as the use of stories or tales, to encourage oral health instructions in children.

African folktales have an important role in daily life and can, therefore, be utilized to shape people's behaviors, particularly during the formative years of school. The creation of innovative and efficient oral health teaching materials necessitates a range of tools, methods, and procedures. However, it is a necessary and worthwhile activity in ensuring the long-term maintenance of good oral health, particularly amongst children, as we progress into the future.

CONFLICTS OF INTEREST

There are no conflicts of interest.

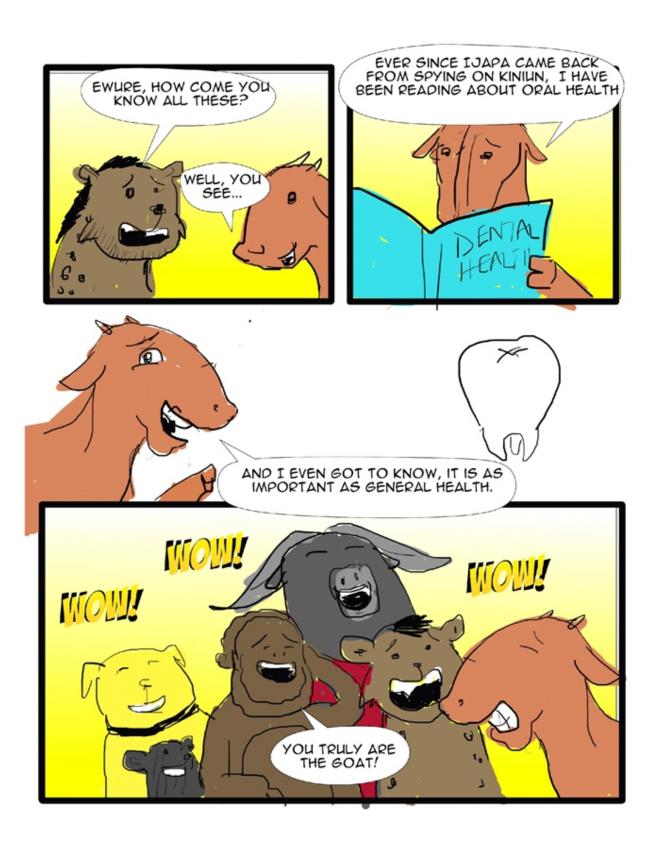


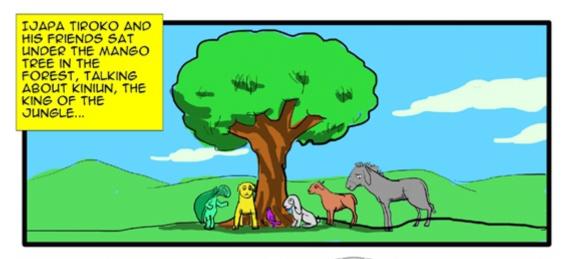








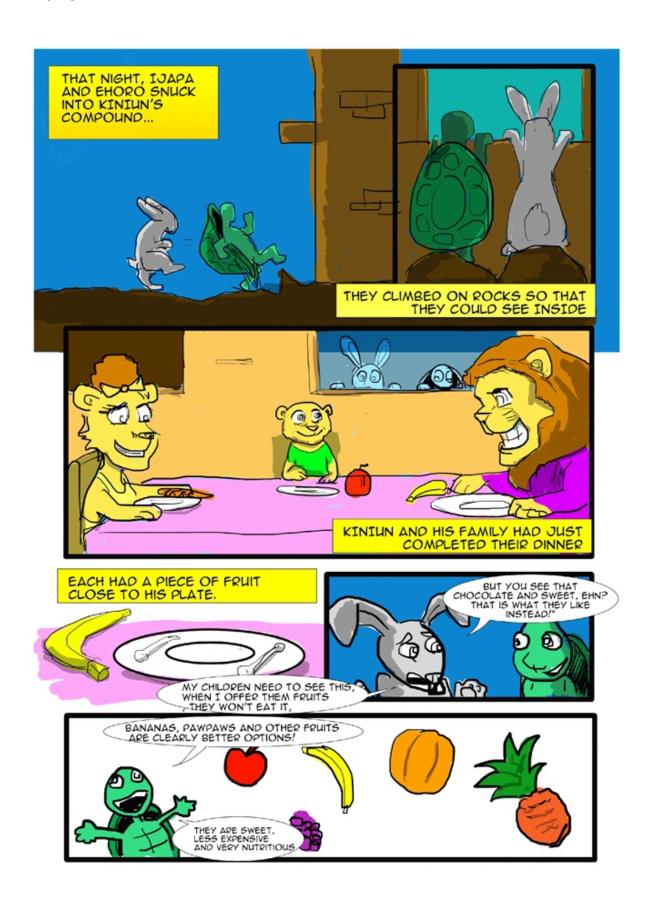


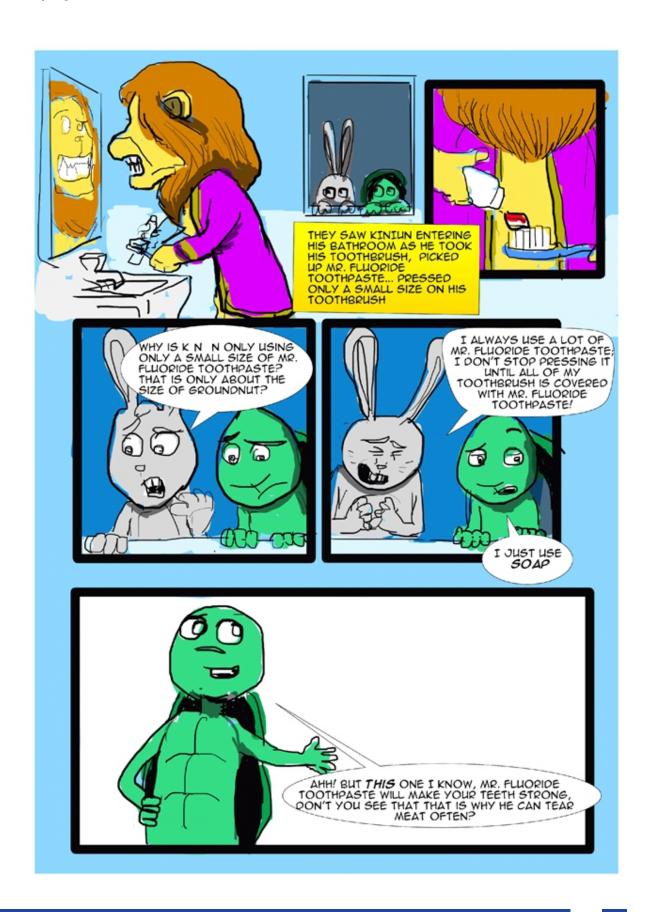


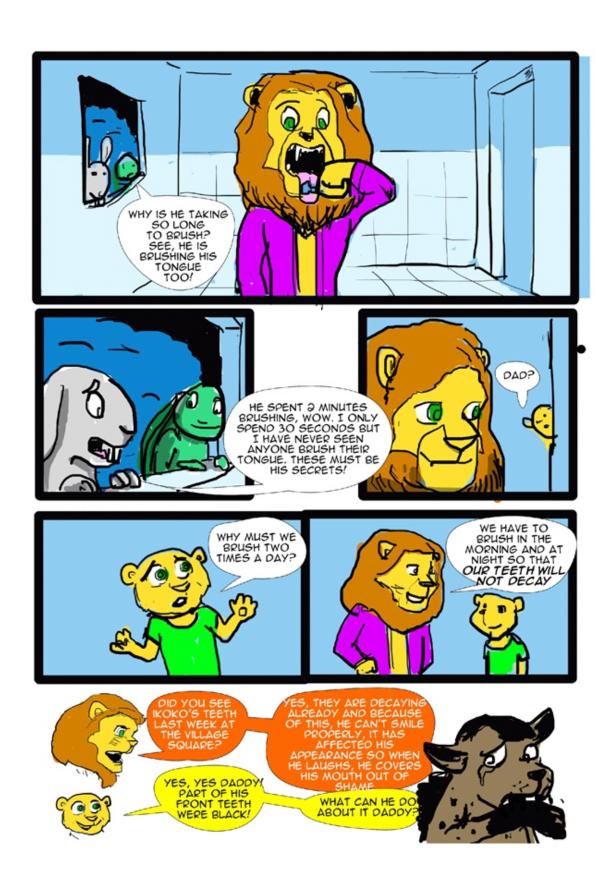












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