



# Uno Dental Card Game as an Effort to Improve Dental Health Knowledge in Elementary School Students

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## ABSTRACT

Background: along with the development of technology, technology-based educational learning media has also developed, one of which is the uno card application. Elementary school children need appropriate and adequate educational learning media to increase their knowledge, especially regarding health, especially dental and oral health, the formation of a fun learning situation is also one way to achieve ideal and meaningful learning. The presence of media, especially visual media in learning activities, will help foster the initial interest of respondents which is expected to be able to stimulate further curiosity about the material being taught. Objective: To analyze the effectiveness of dental health knowledge before and after being given dental health education with the uno dental card media game for elementary school children. Method: The research design used in this study was a quasi-experiment with a pretest and posttest design with one group design. This study was conducted in March-April 2024 on grade 5 students of SDN 08 Cilandak Barat. The instruments used include a questionnaire and the uno dental card media game. Data analysis is conducted using the Wilcoxon test. Results: The results of this study indicate that the average value of knowledge about dental health maintenance before being given education with the Uno dental card media game is 90.73 and after being given education with the Uno dental card media game is 97.80 with a good category, with the Wilcoxon test results of  $p < 0.001$ . Conclusion: The Uno dental media game is effective in increasing knowledge about dental and oral health as evidenced by an increase in the average value of knowledge which is included in the good criteria or this can be seen from the difference in the average value of knowledge of 7.71 which means an increase.

## INTRODUCTION

Dental and oral health is an important thing in the life of every individual, including children, because damaged and untreated teeth and gums will cause pain, chewing problems, and can disrupt other body health (Erdiyani et al., 2023). Dental and oral health needs to be maintained because it will have a negative impact on daily life, such as a decline in general health (Asmawati et al., 2023).

The most prominent dental health problem in Indonesia is the problem of tooth loss due to dental caries. Dental caries disease is experienced by 90% of Indonesian people (Ramdiani et al., 2020). Proven by the results of Basic Health Research, dental and oral health problems in Indonesia in 2018 reached 57.6%. In the elementary school age group (10-12 years) the proportion of dental and oral health problems was 55.6% with a caries prevalence of 73.4%. Dental health problems in Indonesia, one of which occurs in the province of DKI Jakarta with a proportion of dental and oral health problems reaching 41.3% and in the age group of 10-14 years, the proportion of dental and oral problems was 41.4 (Riskesdas, 2018). Therefore, the condition of dental and oral health in Indonesia must be considered, because if caries occurs from an early age, it will most likely have an impact on dental and oral health problems in adulthood (Ningsih et al., 2021).

Dental caries in school children can affect quality of life, research shows (Fadjeri et al., 2022) stated that caries in children has an impact on daily activities which will affect the child's quality of life. Children who experience dental caries have a worse quality of life compared to children without caries. According to (Susilawati et al., 2023) stated that dental caries can affect daily activities and disrupt children's nutritional status.

One of the main factors causing dental and oral health problems is having poor dental and oral health attitudes and behaviors (Rakhmawati et al., 2020). This means that someone who has good

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knowledge, attitude and behavior will have a lower caries incidence rate (Khulwani et al., 2021). This is reinforced by research (Fadjeri et al., 2022) proves that behavior influences dental health, because good tooth brushing behavior can reduce the risk of caries.

Efforts to prevent high rates of dental and oral health problems require a person's awareness to adopt a healthy lifestyle, one of which is by increasing knowledge through dental health education (Faricha Pangesti et al., 2022). According to (Kurniawan et al, 2023), increasing knowledge can be done through education or promotion of dental health. Proven by research (Reca & Restuning, 2022) The results showed that providing information through dental health education can increase knowledge, meaning that the more information is obtained and received, the more a person's knowledge will increase.

Dental and oral health education is an effort to instill messages about dental health to the community, groups, or individuals in the hope that they can gain knowledge that can influence changes in their behavior (Notoatmodjo, 2014). The success of education can be influenced by the media and methods used (Leilani et al., 2019). Media plays an important role in supporting the learning process because media can make learning more interesting and enjoyable, so that the target does not get bored easily when given education, can be more communicative and interactive (Simbolon et al., 2019). Educational methods play an important and supportive role in increasing the effectiveness of learning, so that targets can increase interest and make it easier to understand the material (Hasan et al., 2021).

The counselling method that can be used as an alternative to attract the attention of elementary school children is to use game media. Interactive game media can create active and communicative teaching and learning activities, so that learning can be more enjoyable and arouse children's interest in learning (Rahman, 2018).

Another interactive game media that can be used is the uno card game. According to (Estiani et al., 2015) Uno is one example of a game that suits the interests and personalities of elementary school children. The uno card game is known worldwide and is suitable for children aged 7 and above because of its simple rules. This uno card game media is included in the type of print-based visual media because it is made through a printing process that produces images, text, and graphics on the cards. Uno cards are used in games where many players try to get the same combination of card numbers or suit colors. The competitive and interesting way of playing it is unique in uno cards. Its competitive nature can trigger the spirit of playing, increase focus and concentration and train strategy skills.

The Uno card game has the advantage of training communication because this Uno card game is effective and efficient in conveying material clearly and concisely, increasing children's participation, enthusiasm and motivation to learn (Nurbaity, N et al., 2023). Therefore, this Uno card game can be used to provide education about dental and oral health to elementary school children.

## METHOD

The design of this study is a quasi-experimental study with a pretest and posttest design with one group design. This study was conducted to determine the effectiveness of knowledge before and after being given dental and oral health education with the Uno Dental card game media for Grade 5 children of SDN 08 Cilandak Barat. Data collection will be carried out in March to April 2024. This study uses sampling with the total sampling method, so the total sampling in this study was 41 students. The instrument used in data collection used a questionnaire given to measure dental health knowledge and the Uno Dental Card game media. Data collection was carried out by filling out the pretest and posttest questionnaire sheets that discussed dental health. Data analysis used in this study was using SPSS with the Wilcoxon test.

## RESULT

**Table 1.** Frequency Distribution of Knowledge Before Dental Health Education with Uno Card Media Game

Knowledge	Before		After	
	F	%	F	%
Good	40	97.6	41	100
Moderate	1	2.4	0	0
Less	0	0	0	0
<b>Total</b>	<b>41</b>	<b>100</b>	<b>41</b>	<b>100</b>

Table 1 shows that before the education with the uno dental card media game, the majority of 41 respondents (97.6%) had knowledge about dental health in the good category, 1 respondent (2.4%) had knowledge in the sufficient category, and no respondents had knowledge in the poor category. Meanwhile,

after the education with the uno dental card media game, all respondents had knowledge about dental health in the good category, namely 41 respondents (100%).

**Table 2.** Effectiveness test of Knowledge Before Dental Health Education with Uno Card Media Game

Knowledge	Mean	Difference	p-value
Pre-test	90.73		
Post-test	97.80	7.07	0.001

\* *Wilcoxon*

Table 2 above shows that before dental health education was conducted with the uno dental card media game, the average respondent's knowledge was 90.73 with a good category, while after dental health education was conducted with the uno dental card media game, the average respondent's knowledge was 97.80 with a good category or an increase of 7.07. The Wilcoxon test results obtained  $p = 0.001$  ( $p < 0.05$ )

## DISCUSSION

Technology has also led to the development of technology-based educational learning media (Fadhilah et al., 2021). One of the games that can be used in the development of learning cards is the uno dental card (Dahlialis & Iswendi, 2023). Children after elementary school need appropriate and adequate educational learning media to increase their knowledge about health, especially dental and oral health (Souza et al., 2014). The high level of dental health problems is closely related to the lack of knowledge about the importance of maintaining dental and oral health, with knowledge about dental and oral health indirectly will maintain dental and oral health. So it is necessary to have good educational efforts and methods in handling it, by having knowledge about dental and oral health indirectly someone will maintain dental and oral health so that in the end it can prevent dental caries, which means that knowledge about dental and oral health also has an impact on the incidence of caries (Sinaga et al., 2014).

Dental health education needs to be maintained because by having healthy teeth and mouth, several daily activities will not be disturbed because they are free from pain or discomfort. (Putri & Suri, 2022). The purpose of dental health education in general is to provide knowledge about dental health, so it is hoped that public knowledge can increase, so that they are more aware of their dental and oral health. Thus, the knowledge provided in health education can little by little influence the behavior of individuals and society to be better, then it will influence the health status of society which will change the quality of life of individuals and society to be better (Sari et al., 2021).

Providing education requires media, educational media is very diverse, there are visual media, audio, or even audio visual. The counseling method that can be used as an alternative to attract the attention of elementary school children is using game media (Rahman, 2018). Another interactive game media that can be used is the uno card game. According to (Estiani et al., 2015) uno is one example of a game that suits the interests and personalities of elementary school children. The uno card game is known worldwide and is suitable for children aged 7 and above because of its simple rules. This uno card game media is included in the type of print-based visual media because it is made through a printing process that produces images, text, and graphics on the cards. Uno cards are used in games where many players try to get the same combination of card numbers or suit colors. The competitive and interesting way of playing it is unique in uno cards. Its competitive nature can trigger the spirit of playing, increase focus and concentration and train strategy skills.

The results of the study showed that before the education of the Uno dental card media, the majority of 41 female students (90.73) had knowledge about dental and oral health in the good category. The results of this study are in line with the results of research conducted by (Putri Triananda Ayu, 2020) shows the percentage difference in the level of knowledge of brushing teeth with the good category being 64.3% and the control group 39.3%, meaning that there is an influence of the Uno Stacko game media about brushing teeth on the level of knowledge of brushing teeth of elementary school students.

The results of the research that has been conducted on respondents when conducting this pretest have a good category in their knowledge, but providing dental and oral health education is still needed to improve respondents' knowledge. Researchers conducted an intervention in the form of educational learning on how to maintain dental and oral health. This also shows that the use of dental and oral health

uno card educational media can improve knowledge on how to maintain dental and oral health in elementary school children, especially in grade V children, because the dental uno card can increase children's attention when conducting educational learning, and the dental uno card has an attractive appearance and the material has been summarized according to the material to be conveyed, and this dental uno card is easy to access and play repeatedly so that children find it easier to understand the material, especially dental and oral health.

Based on the results of the study that has been conducted after the intervention of giving uno dental cards, the majority of respondents who participated in this study experienced an increase, this is because after being given an intervention using uno dental card media which can improve children's ability to maintain dental and oral health according to the objective indicators that the researcher has compiled. This uno dental card media will make children concentrate on following activities because both senses are used at once, namely sight and hearing. Children will understand the message conveyed through picture cards that look interesting to respond, which ultimately makes children enthusiastic or motivated to want to follow the next activity (Purnama et al., 2019).

This is reinforced by after being given dental and oral health education using the uno dental card media, it shows that all total respondents in grade V of SDN 08 Cilandak Barat have knowledge about dental and oral health with a good category, namely 41 students (100%), and there is 1 student with a sufficient category, and there are no students with a poor category, and this study also shows that the difference in average before and after dental and oral health education with the uno dental card media can provide an increase in knowledge about dental and oral health to be more increased, this can be seen from the average increase before education was carried out, namely 90.73% and after being given dental and oral health education there was an increase in the average knowledge of respondents to 97.80% With a good category, this can be seen with significant increase results, namely the average results before education and after education, so that there is a difference in the results of an average increase of 7.07 and statistical tests show  $p = 0.001$ .

## CONCLUSION

Based on the results of the research that has been done, it can be concluded that the uno dental media game is effective in increasing knowledge about dental and oral health of elementary school students.

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