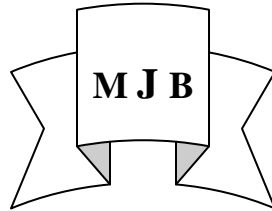


Evaluation the effects of using Miswak tooth stick and dental tooth past on teeth of Handicaps children.

(In vivo study)

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Abstract

In this study we use the best, soft and new type of siwak is that which comes from the arak tree in cleaning the child handicap teeth by there family at home after training them how to use the siwak. We use 32 handicaps child with age 4years for 16 month time duration by one visit in every month, clinical investigation for each one to record scores of the oral health conditional changes for each one, we use two groups:

- 1- Group A, 16 handicaps child use siwak stick in cleaning their teeth and not use tooth past in cleaning there teeth.
- 2-Group B, 16 handicap child, use tooth past perishing in cleaning their teeth and not use siwak in cleaning there teeth.

The result showed that significant effect of the siwak in cleaning and prevent bad oral hygiene as we see in group A also the benefit simplifying in cleaning of siwak when using with handicap children.

تقييم تأثير استخدام بين عودة السواك و معجون الاسنان على اسنان الاطفال المعاقين الخلاصة

الدراسة عن استعمال أفضل أنواع السواك الطري المستخرج حديثاً من شجرة الارك في تنظيف الأسنان اللبنية للأطفال المعاقين عقلياً من قبل ذويهم في المنزل بعد تعليمهم أصول تنظيف الأسنان بواسطة استخدام عودة المسواك وجدت الدراسة والتي شملت ٣٢ طفل ذو فئة عمرية أربع سنوات و لمدة سنت عشر شهراً من خلال متابعتهم عيادياً مرة واحدة بكل شهر وتسجيل المتغيرات الفموية للأسنان و لكل مجموعة من أصل مجموعتين:- الأولى (المجموعة أي) ١٦ طفل تستعمل المسواك ولا تستعمل معاجين الأسنان. والثانية (المجموعة بي) ١٦ طفل تستعمل معاجين الأسنان ولا تستعمل المسواك. ولاحظنا إن (المجموعة أي) فيها الأطفال ليس لديهم تسوس الأسنان ولا يعانون من التهاب اللثة وهناك تحسن في صحة الفم . وفي الأطفال (المجموعة بي) أوجدت الدراسة صعوبة عملية التنظيف وعدم تقبل المريض لطريقة الفرشاة و المعجون لديهم و تعقدها و استمرار التسوس لديهم دون توقف و ظهور أمراض اللثة.

Introduction

Dentistry for the disabled: A disable person is some one with physical or mental impairment which has a substantial and long –term adverse effect on his ability to carry out normal day –to-day activities it is difficult to generalize, but usually mental disability provides the biggest challenge. Difficulties increase in patient with greater than one impairment (1).

A-Delivery of care: This has three aspects:

- 1-low demand due to low priority placed on dental health.
- 2-Lack of provision made to provide the necessary care .
- 3-Practical difficulties in carrying out dental work.

B-In general, disable patient have low plaque control and therefore increase periodontal problems (2).

Bacterial plaque is generally accepted as the predominant etiological factor in periodontal disease and is also regarded essential for the initiation of dental caries (3).

Commentary We learn from this Hadith that the Prophet (PBUH) liked to clean his teeth with Miswak (a softened stick used as tooth brush for cleaning the teeth) with every Salat, but he did not made it obligatory for the reason that it would be inconvenient for his followers. It shows that he was extremely affectionate and kind to his Ummah. This Hadith also shows that using Miswak is an admirable act. Every Muslim should make it a routine to use it as frequently as possible especially before performing prayers. Hudaifah (May Allah is pleased with him) reported: Whenever the Messenger of Allah (PBUH) got up (from sleep); he would rub his teeth with Miswak (tooth-stick). ((3). Aishah (may Allah be pleased with her) reported: We used to prepare for the Messenger of Allah (PBUH) a Miswak (tooth-stick) and the water for making Wudu'. Whenever Allah wished to awaken him from sleep at night, he (PBUH) would brush his teeth with Miswak, make Wudu', and perform Salat(4). Anas (May Allah is pleased with him) reported: The Messenger of Allah (PBUH) said, "I stress upon you to use Miswak (tooth-stick)." [Al-Bukhari]. . Shuraih bin Hani (May Allah be pleased with him) reported: I asked `Aishah (may Allah be pleased with her): "What was the first thing which the Prophet (PBUH) would do when he entered his house?" She replied: "He would use Miswak (tooth-stick)." (3). Abu Musa Al-Ash`ari (May Allah is pleased with him) reported: I came to the Prophet (PBUH) once and noticed the tip of Miswak (tooth-stick) on his tongue. (4). `Aishah (May Allah is pleased with her) reported: The Prophet (PBUH) said, "The Miswak (tooth-stick) cleanses and purifies the mouth and pleases the Rubb. Commentary: "Mataharah" means a medium and means of

purification."Mitaharah" means an instrument/tool for purification. In other words, on the one side, Miswak is a means of cleaning and purifying the mouth, and on the other, a way to attain the Pleasure

Literature review:

Abu Hurairah (May Allah is pleased with him) reported: The Messenger of Allah (PBUH) said, "Had I not thought it difficult for my Ummah, I would have commanded them to use the Miswak (tooth-stick) before every Salat."(4). Oral hygiene measures have been practiced by different populations and cultures around the world since antiquity. Chewing sticks were used by the Babylonians some 7000 years ago; they were later used throughout the Greek and Roman empires and have been used by Jews, Egyptians, and Muslims. Today they are used in Africa, Asia, the Eastern Mediterranean region, and South America. (5) The most common source of miswak (chewing sticks) is *Salvadora Persica*, a small tree or shrub with a crooked trunk. The stems and roots of the plants are spongy and can easily be crushed between the teeth. Pieces of the root are usually scented and become soft when soaked in water (6). Several studies have reported on the antibacterial effects of chewing sticks on cariogenic bacteria and periodontal pathogens, particularly *bacteroides* species (7,8), and inhibitory action on dental plaque formation (9). Recent studies on miswak have improved the understanding about various factors of miswak, e.g., age, size, thickness, and its freshness. (month old miswak (chewing sticks) (10). The comparison of antimicrobial activity in aqueous and alcohol extracts has been made (11).

However, a review of the literature has shown no previous investigation has assessed the comparative antimicrobial activity on salivary streptococcus mutans and lactobacilli using miswak and a toothbrush. The study was to assess the antimicrobial activity of miswak extract, the use of a toothbrush alone, and saline on

salivary streptococcus mutans and lactobacilli in vivo. This research project was registered and approved by the College of Dentistry Research Center (CDRC) ethical committee. For centuries, chewing sticks have been used as a tooth-cleaning device. One of the most commonly used types is known as the Miswak. Despite its common use, few studies have examined possible effects on the gingiva and the surrounding structures. The oral hygiene of habitual chewing stick and toothbrush users who participated in an oral health education (OHE) programmed in schools was evaluated. Bacterial plaque is the primary etiology but not solely responsible for the initiation and progression of periodontal diseases. There are different methods available for the maintenance of oral health. These are mainly mechanical and chemical. Toothbrushes and dentifrices are widely used for cleaning the teeth. The traditional toothbrush or chewing stick called “Miswak” has been used since ancient history(12,13).

Chemical Breakdown Of A Miswak:

Chemical Breakdown of a Siwak has 19 beneficial ingredients in it. Most important among them are:

A. Antibacterial acidic inhibitors that fight decay and diarrhea. They are natural disinfectants and can be used to stop bleeding. They disinfect the gums and teeth and close any microscopic cuts that may have existed in the gums. On first usage, the siwak will taste harsh and maybe even burn, because of a mustard-like substance found in it, but this is the ingredient that fights decay in the mouth and kills germs.

B. Minerals such as sodium chloride, potassium, sodium bicarbonate and calcium oxides. These clean the teeth. For instance, the American Dental Association considers sodium bicarbonate to be a preferred ingredient in toothpastes.

C. Natural scented oils that taste and smell nice, give the mouth a nice smell. They make up about 1% of the siwak.

D. Enzymes that prevent the buildup of plaque that causes gum disease. Plaque is also the number one as a cause of premature loss of teeth.

E. Anti-decay and anti-germ ingredients that act as a penicillin of sorts, decreasing the amount of bacteria in the mouth, which means cleaner teeth and cleaner air when breathing through the mouth.

Some researchers have found that tooth decay is rapid when a dry brush is used, and that wetting one's toothbrush mitigates the damage. So the soak should be dampened before usage. If there is no alternative, one's saliva will suffice to dampen the stick. miswak also has chemicals that cause the mouth to produce extra saliva, which is the mouth's organic defense and cleaning mechanism(13,14,15,16,17,18,19,20,21).

Material and Methods

32 handicap child.

1-16 Crest type tooth past pach NO.6275A7 Exp.10-2009 .

2-16 Tooth prush type formula (Jakarta, indonesia, No.1060550014)

3-16 Miswak (Chewing stick).

4-Dental merrar

5-Dental prob.

How to clean the mouth with miswak:

STEP ONE: Simply scrape off about half an inch from the tip.

STEP TWO: Then chew the tip gently until brush-like

STEP THREE: Start brushing horizontally.

STEP FOUR: After brushing wash the tip.

STEP FIVE: Store packet in packet provided so it doesn't become dirty.

STEP SIX: Before going sleep store the miswak in a glass filled with water and put the part of the miswak that was used and leave it overnight to be soaked.

STEP SEVEN: In the morning cut the bristles and start from step one again, this ensures u have clean bristles every day so that it is more hygienic and effective (3,8).

Subject Selection:

32 Hand coup subjects(child), 4 years of age, were selected from the pediatric clinics at AL-Hilla Dental specialist clinical center. The selected subjects were medically healthy with no systemic diseases and had not used any antibiotics or antiseptic mouthwash during the last two weeks. The subjects were divided into two groups with 16 in each group. Group A 16 subjects (miswak use,) were asked to use by help of there family, fresh miswak for 2 minutes after any meal to cleaning their teeth . The other 16 subjects (non miswak use, group B) were asked to brush their teeth with a toothbrush past for 2 minutes by help of there family.

Samples condition:

The patients which we takes in this study free of caries and gingivitis and with four years old, and try to teach the child family to the study program's of our study in cause using past tooth perish group or other group which they use siwak in cleaning the child teeth after meal. The clinical visited appointment once a month to record their clinical examination scores, as in table (1).

Results

The results showed there was a marked reduction of score a in groups (A) after using, i.e., miswak, than the groups (B) which using toothbrush, in different groups the largest reduction scores was among the miswak group as in Table (2). In the miswak group mean score 0.585 did not show any change, while 3.2 mean score showed change in non miswak groups Table (3). That is to say the groups (A) which use miswak be with good oral haygen as that in group (B) as in fig(1).

Discussion

The Messenger of Allah (PBUH) said, "Had I not thought it difficult for my Ummah, I would have commanded them to use the Miswak (tooth-stick) before every Salat.(3).We learn from this Hadith that the Prophet (PBUH) liked to clean his teeth with Miswak (a softened stick used as tooth brush

for cleaning the teeth) with every Salat, but he did not made it obligatory for the reason that it would be inconvenient for his followers. It shows that he was extremely affectionate and kind to his Ummah.

Miswak Stick. 8cm to 9cm Long. All Natural from Peelu or Arak Plant. Natural, Safer & more effective than synthetic plastic toothbrush. Save less expensive than using a Tooth Brush and Tooth Paste. Each Stick is Individually Wrapped for fresh flavor and keeps it clean. The selection of miswak from the *Salvadora persica* tree for the present study was based on a number of factors. The use of miswak is most common in the Middle East region, its taste is not unpleasant, it is inexpensive, and has been reported to have anti-plaque and many pharmacological properties. (22, 23). The hand cup children have many difficulties in be live as a normal child as speak, eating ,doing there normal daily activities. With this scores of both groups (A,B) in the miswak groups mean score(0.585) did not show any change, while 3.2 showed change in non miswak groups we can say the using of miswak is batter way to protective the oral haygen in the handicap patients.

Conclusion and suggestion

Within the confines of the present study, the following conclusions can be drawn:

1. The clinical study showed there was a reduction in oral scores by all groups used in this study.
2. Oral higen scores counts were reduced more through the use of miswak group than by using a conventional toothbrush group.
- 3- Miswak stick ,natural, safer & more effective than synthetic plastic toothbrush,less expensive than using a Tooth Brush and Tooth Paste.
- 4-It is recommended further research should be carried out on a larger sample size, Salivary Bacterial count, dietary intake of sugar, and oral health status may also be considered. Controlled Clinical trials are needed to find out the effect of *Salvadora persica* on cariogenic microorganisms in comparison with a toothbrush, with and

without fluoride toothpaste, for a prolonged period of time to assess the substantives of the tested material. Controlled clinical trials are needed to determine the substantives effect of *Salvadora persica* (miswak) rather than the washing effect on cariogenic microorganisms.

5- Further work is needed for comparison of the toothbrush, and miswak ,because miswak contains both chemical and mechanical factors.

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Table (1) of the scores distribution for the groups samples.

Score value	Score meaning
0	No enamel surface discoloration and no gingivitis record.
1	Gingivitis only record.
2	Enamel surface discoloration only record.
3	Enamel surface discoloration and gingivitis record.
4	Tooth surface cavitations only record.
5	Tooth surface cavitations and gingivitis record.

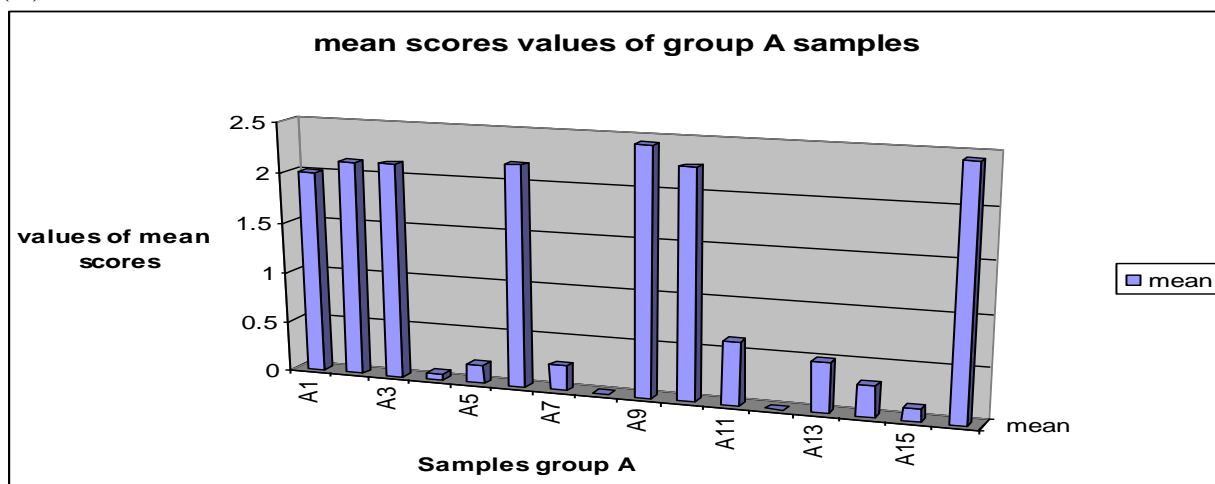
Table (2) Scores for 16 patients from group A for 16 visits (Miswak use group).

scores	scores	scores	scores	scores	scores	scores	scores	scores	scores	scores	scor es	scor es	scor es	scor es	Scro es	Group s	mean
١	٢	٣	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	A1	2
٣	٣	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	A2	2.125
٢	٣	٣	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	A3	2.125
١	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	A4	0.0625
١	١	١	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	A5	0.1875
٣	٣	٣	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	A6	2.1875
١	١	١	١	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	A7	0.25
٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	A8	0
٢	٣	٣	٣	٣	٣	٣	٣	٢	٢	٢	٢	٢	٢	٢	٢	A9	2.4375
٢	٣	٣	٣	٣	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	٢	A10	2.25
١	١	١	١	١	١	١	١	١	١	٠	٠	٠	٠	٠	٠	A11	0.625
٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	A12	0
١	١	١	١	١	١	١	١	٠	٠	٠	٠	٠	٠	٠	٠	A13	0.5
١	١	١	١	١	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	A14	0.3125
٠	١	١	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	A15	0.125
٣	٣	٣	٣	٣	٣	٣	٢	٢	٢	٢	٢	٢	٢	٢	٢	A16	2.4375

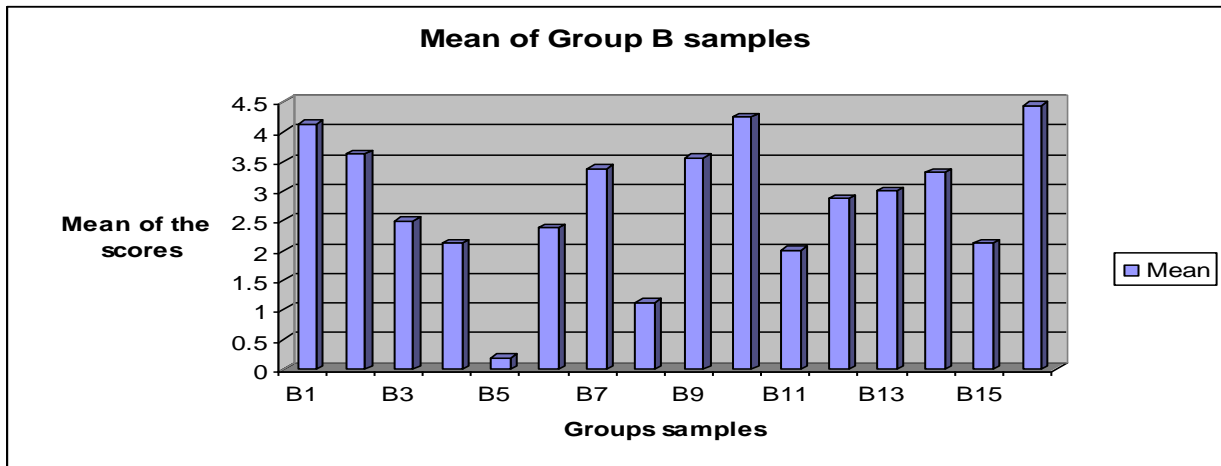
Table (3) Scores for 16 patients from group B for 16 visits (Tooth past use group).

scores	scores	scores	scores	scores	scores	scores	scores	scores	scores	scores	scor es	scor es	scor es	scor es	Scro es	Group s	Mean
١	٢	٣	٤	٤	٤	٤	٥	٤	٥	٥	٥	٥	٥	٥	٥	B1	4.125
٣	٣	٢	٣	٣	٣	٤	٥	٤	٤	٤	٤	٤	٤	٤	٤	B2	3.625
٢	٣	٣	٣	٣	٣	٣	٣	٣	٢	٢	٢	٢	٢	٢	٢	B3	2.5
١	١	١	٢	٢	٢	٣	٣	٣	٣	٣	٢	٢	٢	٢	٢	B4	2.125
١	١	١	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	٠	B5	0.1875
٣	٣	٣	٢	٢	٢	٢	٣	٣	٣	٢	٢	٢	٢	٢	٢	B6	2.375
١	١	١	٢	٢	٣	٣	٤	٤	٥	٥	٥	٥	٥	٤	٤	B7	3.375
٠	١	٠	١	١	٠	٠	٠	١	١	١	٢	٢	٢	٣	٣	B8	1.125
٢	٣	٣	٣	٣	٣	٣	٣	٤	٤	٤	٥	٥	٤	٤	٤	B9	3.5625
٢	٣	٣	٣	٣	٤	٥	٥	٥	٥	٥	٥	٥	٥	٥	٥	B10	4.25
١	١	١	٠	٠	٢	٢	٢	٢	٣	٣	٣	٣	٣	٣	٣	B11	2
٠	٠	٠	١	١	٢	٢	٤	٤	٤	٤	٤	٥	٥	٥	٥	B12	2.875
١	١	١	٢	٢	٢	٢	٣	٣	٣	٤	٤	٥	٥	٥	٥	B13	3
١	١	١	٣	٣	٣	٣	٤	٤	٤	٤	٤	٤	٤	٥	٥	B14	3.3125
٠	١	١	١	١	١	٢	٢	٣	٣	٢	٣	٣	٣	٤	٤	B15	2.125
٣	٣	٣	٤	٤	٥	٥	٥	٤	٥	٥	٥	٥	٥	٥	٥	B16	4.4375

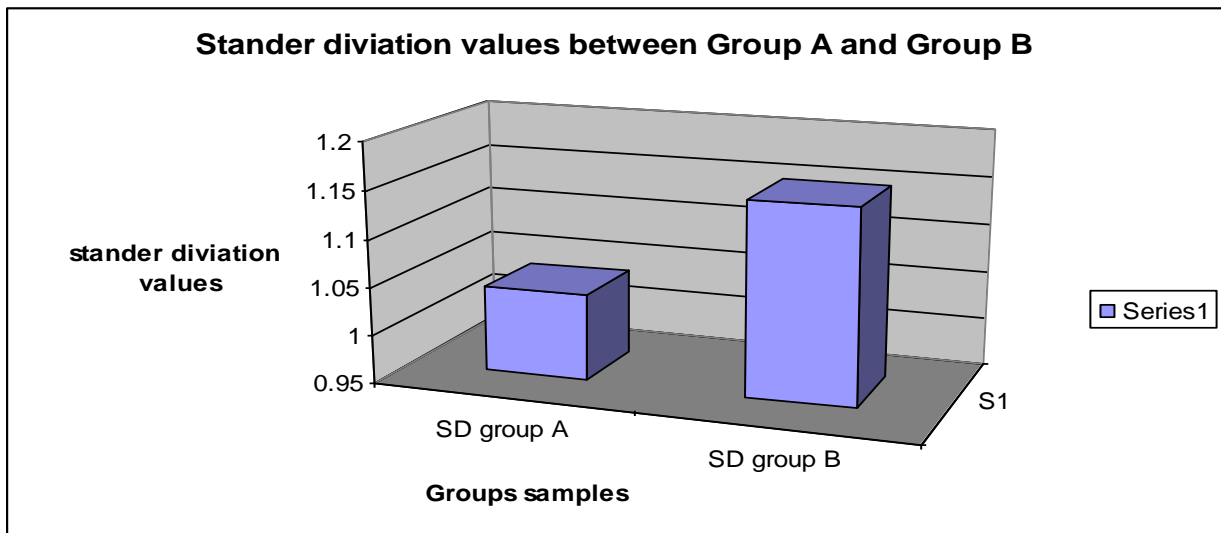
(A)



(B)



(C)



Fig(1) (A) Mean of Group A samples

(B) Mean of Group B samples

(C) Standerd deviation values between group A and group

B.

