

The Relationship of Coffee Drinking to Change Teeth Color in Adult Age 19-44 Years in Padang Lampe Hill, Compong Village Sidrap District

Sultan Amin Yasin¹ ; Yulistina² ; Anita³

^{1,2,3} Department of Dental Health

Muhammadiyah Sidrap Institute of Health and Science Technology, Indonesia

Abstract:- Background: Stain is a color that sticks to the surface of the teeth which occurs because of it the attachment of food colors, drinks and other ingredients that cause changes tooth color. One of the factors that causes tooth discoloration in adulthood is coffee drinks consumed over a long period of time. Coffee drink contains caffeine which, if consumed over a long period of time, will causes discoloration of the teeth which is also known as staining. **Research Objective:** to find out the relationship between drinking coffee and Changes in tooth color in adults aged 19-44 years in Padang Lampe Hamlet, Compong Village Sidrap Regency. **Method:** This research is quantitative research using analytical survey design with a cross sectional study approach. **Sample** in this study are all adults aged 19-44 years who live as men in Padang Hamlet Lampe, Compong Village, Sidrap Regency and the sampling technique used is total sampling with a sample size of 30 people. **Results:** By using test The chi square statistic resulted in $p = 0.004$ which indicates a p value < 0.05 so It can be concluded that there is a relationship between the time of drinking coffee and the frequency of drinking coffee in adults 19-44 years old with tooth staining in Padang Lampe Hamlet, Compong Village Sidrap Regency. **Conclusion:** Adults who consume coffee are in the good category as many as 7 people (23.3%) with no tooth discoloration incident in 3 people, there were 4 people. Meanwhile, adults who consume coffee are in the moderate category as many as 9 people (30%) with no tooth discoloration incident totaling 0 people, there were as many as 9 people. And as many adults who consume coffee are in the bad category 14 people (46.7%) with no tooth discoloration, 0 people, yes as many as 14 people.

Keywords:- Coffee Drinks, Stain

I. INTRODUCTION

The dental and oral health of Indonesian people is still an issue which needs serious attention from health workers, both doctors and dental nurses, it can be seen that dental and oral disease is still present suffered by 90% of Indonesia's population. Oral health is an integral component of general health (Ramadhan et al., 2016). Efforts to maintain and develop dental health and the mouth, especially in the school age group, need attention especially because at this age children are undergoing a process of growth and

development. The previous condition of the teeth will influence development dental health in adulthood. (Ramadhan et al., 2016).

Dental and oral health is a fundamental part of health general and influences overall well-being. Experts agree that dental and oral disease is a "behavioral disease" or behavioral related illnesses. Factors influencing grooming behavior dental and oral health is not yet known, so it needs to be done research to see the determinants that have the most influence on dental and oral health care behavior (Wulandari et al., 2018).

Caffeine and tannin are substances that contain color and can be dissolved in water so it can easily affect color changes on teeth. Caffeine can cause staining of teeth a layer of plaque that will stain when someone drinks coffee. Tannin is a type of polyphenol compound that can break down in water, causing the color compounds in coffee to stick more easily to teeth. These color compounds can cause discoloration of teeth, so that the teeth change color to become more yellow. Apart from the acid content Coffee can reduce minerals in tooth enamel. Deep acid Coffee can make tooth enamel softer and rougher, so stains stick more easily and change the color of teeth. (Pangestu, 2020).

Stain is a pigmented deposit on the tooth surface that occurs due to attachment of color to food, drinks or other ingredients is a substance that produces tooth stain. Stain can also cause tooth decay brown to black on the neck of the tooth. Distribution and Color changes in teeth are determined by type, number and duration habits of consuming substances or materials that trigger changes these colors. (Pangestu, 2020)

The habit of drinking coffee can cause changes in saliva pH because sucrose content in coffee, namely where the extra cellular synthesis of sucrose is more faster than other sugars, so it is converted into acid more quickly by microorganisms in the oral cavity. (Pangestu, 2020)

Based on observation data that I obtained in Compong Village, I get a lot of people who have dental health problems and the mouth, especially the problem of tooth discoloration due to consumption coffee. The entire community in Padang Lampe Compong hamlet totaling 374 of which there were 192 men and 182 women. There are 30 male domiciles aged

19-44 years.

Based on the background above, the author feels interested in conducted research entitled The relationship between coffee drinks and Changes in tooth color in adults aged 19-44 years in Padang Lampe Hamlet, Compong Village, Sidrap Regency.

II. METHOD

Judging from the research to be achieved, this research uses *analytical descriptive* with a cross-sectional study method, namely this type of research which observes

population or sample data only once at a time the same one. By providing questionnaires and inspections directly to respondents to find out their eating patterns associated with tooth discoloration or *Stain*.

III. RESULTS

Based on the results of research on the The Relationship Of Coffee Drinking To Teeth Color Changes In Adults Aged 19-44 Years In Padang Lampe Hill, Compong Village, Sidrap District Year 2024. So the following results are obtained:

➤ Respondent Characteristics

Table 1. Characteristics based on Age
Primary Source 2024

age (Year)	Frequency	Percentage (%)
19-23	9	30%
24-28	8	26,7%
29-33	6	20%
34-39	4	13,3%
40-44	3	10%
Total	30	100%

Based on table 1, it can be seen that the most respondents were adults aged 19-23 years, namely 9 respondents or (30%), respondents aged 24-28 years were 8 respondents or (26.7%), respondents aged There were 6 respondents aged 29-33 years or (20%), 4 respondents aged 34-39 years or (13.3%), and 3 respondents aged 40-44 years or (10%) .

Table 2. Characteristics based on Work
Primary Source 2024

Working	Frequency	Percentage (%)
Student	1	3,3%
Self-employed	20	66,7%
Farmer	8	26,7%
Village chief	1	3,3%
Total	30	100%

Based on table 2, it can be seen that the respondents who have the highest level of employment are entrepreneurs with a total of 20 respondents or equal to (66.7%), then farmers totaling 8 respondents or equal to (26.7%), students totaling 1 respondent or equal to (3.3%) and the hamlet head was 1 respondent or (3.3%).

Table 3. Distribution of Respondents based on Frequency of Drinking Coffee

Frequency of Drinking Coffee	Frequency	Percentage (%)
1	7	23,3%
2	9	30%
3	14	46,7%
Total	30	100%

Based on table 3, it can be seen that the number of respondents who drank coffee once was 7 people or (23.3%) while the number of respondents who drank coffee twice was 9 people or (30%) and respondents who drank coffee 3 times. namely 14 people or equal to (46.7%)

Table 4. The Relationship between Coffee Drinking and Teeth Color Changes in Adults Aged 19-44 Years in Padang Lampe Hamlet, Compong Village, Sidrap Regency, 2024

Stain	Frequency	Percentage (%)
There is	27	90%
There isn't any	3	10%
Total	30	100%

Based on table 4, it can be seen that on average respondents experienced stains than those who did not have stains.

Table 5. The Relationship of Coffee Drinks to Tooth Color Change in Adults 19-44 Years in Padang Lampe Hamlet, Compong Village, Sidrap Regency in 2023

Frequency of Drinking Coffee	TOOTH COLOR CHANGES		%	PVALUE
	There is	There isn't any		
GOOD	3	4	23,3%	0,004
CURRENTLY	0	9	30%	
BAD	0	14	46,7%	

Based on table 5, it can be seen the relationship between coffee drinking and tooth discoloration in adults aged 19-44 years in Padang Lampe hamlet, Compong village, Sidrap district. There were 7 adults who consumed coffee in the good category (23.3%) with 3 people having no tooth discoloration and 4 people. Meanwhile, there are 9 adults who consume coffee in the moderate category (30%) with no tooth discoloration incidents, there are 0 people, there are 9 people. And adults who consumed coffee in the bad category were 14 people (46.7%) with no tooth discoloration incidents totaling 0 people, there were 14 people with p value = 0.004.

IV. DISCUSSION

Based on the research results from table 6, it shows that from 30 samples (100%), there were 7 people (23.3%) who consumed coffee in the good category, with 3 people not having tooth discoloration, but 4 people. Meanwhile, there are 9 adults who consume coffee in the moderate category (30%) with no tooth discoloration incidents, there are 0 people, there are 9 people. And as many adults who consume coffee are in the bad category. There were 14 people (46.7%) with no tooth discoloration incidents, totaling 0 people, there were 14 people with p value=0.004.

Table 2 The most respondents were adults aged 19-23 years, namely 9 respondents or (30%), respondents aged 24-28 years were 8 respondents or (26.7%), respondents aged 29-33 years there were 6 respondents or (20%), 4 respondents aged 34-39 years or (13.3%), and 3 respondents aged 40-44 years or (10%).

Table 3 Respondents who have the highest level of employment are entrepreneurs with 20 respondents or (66.7%), then farmers with 8 respondents or (26.7%), students with 1 respondent or (3.3 %) and the hamlet head accounted for 1 respondent or (3.3%).

Table 4 Respondents who drank coffee once were 7 people or (23.3%) while the number of respondents who drank coffee twice was 9 people or (30%) and respondents who drank coffee 3 times were 14 people or amounted to (46.7%).

Table 5 shows that on average respondents experienced stains than those without stains.

Data from table 6 shows that most respondents have a habit of consuming caffeinated drinks. More specifically, the results of this research show that the type of caffeinated drink that is generally a habit of respondents is coffee. It is also known that the frequency of this habit is generally in the bad category. This proves that the higher the level of ability and awareness the behavior of tooth staining, the better the incidence of tooth staining in the population. With the results of the analysis test being p (0.004) or $p < 0.05$, it means that there is a relationship between the frequency of drinking coffee and the incidence of tooth staining or changes in tooth color.

The results of this research are similar to research by Febriana Ira Dewi, et al (2019) regarding the consumption of caffeine drinks by TBP-IPB students, the results show that 76.1% of respondents consumed coffee. with poor actions and experiencing changes in tooth color (Kasihani et al., 2020; Novi Khasanah, Tri Syahniati, 2021).

After analysis, there is a relationship between drinking coffee and changes in tooth color in adulthood with a p value = 0.004. Where it can be seen that there is a significant relationship between coffee drinking status and changes in tooth color in adulthood. Adults who drank coffee in the bad category experienced more tooth discoloration than adults who drank coffee in the good category and had no tooth discoloration.

The results of this research are in line with previous research conducted by Ni Nyoman Kasihani (2020) regarding risk activities and the status of extrinsic tooth stains in society, the results of which show that 62% of people experience tooth stains in the moderate category. This shows that the habit of consuming coffee influences the possibility of changes in tooth color due to the content of the coffee consumed.

Consuming coffee can have the effect of eliminating drowsiness, increasing mental awareness, thinking, focus and response for the consumer. However, consuming too much coffee and for a long time can harm your health, especially your oral and dental health. Dental and oral hygiene disorders that occur due to consuming coffee include staining or staining of the teeth. The ingredients in coffee can cause color changes in tooth surface.

In general, stains are bacteria-free and do not cause irritation to the gingival tissue. Apart from that, stains are not the focus of plaque deposition but are so aesthetically disturbing that they become a serious problem for almost everyone. Tooth staining cannot be removed using a toothbrush alone. The stain cleaning technique is a mechanical method using abrasive instruments, a combination of polishing materials and a chemical method using a chemical solution.

Consuming coffee is indeed liked by many people, especially in adulthood because drinking coffee can eliminate drowsiness, increase mental awareness of the mind, thoughts, and can also make the drinker more focused. However, consuming too much coffee for a long time can harm your health, especially your teeth and mouth. Dental and oral health problems caused by coffee include discoloration of the teeth, also known as staining, where the discoloration of the teeth is caused by the caffeine content in coffee drinks. So the author believes that there is a relationship between the frequency of drinking coffee and the incidence of stains.

V. CONCLUSIONS

Based on the results of research conducted on adults aged 19-44 years in Padang Lampe Hamlet, Compong Village, Sidrap Regency, it can be concluded that:

- Distribution of results identifying the incidence of tooth staining. Adults who consumed coffee were in the good category as many as 7 people (23.3%) with no incidence of tooth discoloration as many as 3 people, there were 4 people. Meanwhile, there are 9 adults who consume coffee in the moderate category (30%) with no tooth discoloration incidents, there are 0 people, there are 9 people. And there were 14 adults who consumed coffee in the bad category (46.7%) with 0 incidents of tooth discoloration, 14 people.
- The distribution of identification results can be seen that the number of respondents who drank coffee once was 7 people or (23.3%) while the number of respondents who drank coffee twice was 9 people or (30%) and respondents who drank coffee 3 times. namely 14 people or (46.7%), and the number of respondents who did not have stains was 3 people or 10%, while the number of respondents who had stains was 27 people or 90%. So it can be concluded that the frequency and time of drinking coffee greatly influences the incidence of stains.
- There is a relationship between the time of drinking coffee and the frequency of drinking coffee in adults aged 19-44 years and the incidence of tooth stains in Padang Lampe Hamlet, Compong Village, Sidrap Regency. Where the respondents who experienced blemishes were 27 people or 90%, while those who did not experience blemishes were 3 people or 10%.

VI. SUGGESTIONS

The suggestions in this research are as follows:

- It is hoped that the Head of Compong Village, Sidrap Regency, will collaborate with cross-sectors (health workers, health centers) in providing information or counseling to the community regarding dental health.
- It is hoped that future researchers will continue or conduct research with different variables.

REFERENCES

- [1]. Abdullah, N. (2018). Hubungan Status Kesehatan Gigi Dan Mulut Anak Sekolah Dengan Pelaksanaan UKSG (Usaha Kesehatan Gigi Sekolah) Di Sekolah Dasar dan Sederajat Se Kota Makassar. *Jurnal Media Kesehatan Gigi*, 17(1), 32–33.
- [2]. Angelina, M. (2021). Faktor-Faktor yang Berhubungan dengan Hipertensi pada Pengemudi Kopaja di Terminal Kampung Rambutan Jakarta Tahun 2019. *Jurnal Kesehatan*, 14(1), 41–53. <https://doi.org/10.32763/juke.v14i1.197>

- [3]. Aviva, N. N., Pangemanan, D. H. C., & Anindita, P. S. (2020). Gambaran Karies Gigi Sulung pada Anak Stunting di Indonesia. *e-GiGi*, 8(2), 73–78. <https://doi.org/10.35790/eg.8.2.2020.29907>
- [4]. Hastuti, Dewi Septiningtyas 2018, 'Kandungan Kafein Pada Kopi dan Pengaruh Terhadap Tubuh', *Media Litbangkes*, 25(3), pp 185-192.
- [5]. Herawati, Cucu, Suzana Indragiri, and Puji Melati. 2020. "Aktivitas Fisik Dan Stres Sebagai Faktor Risiko Terjadinya Hipertensi Pada Usia 45 Tahun Keatas." 66–80
- [6]. Kasihani, N. N., Budiarti, R., RR.Re, P., Erwin, E., & Mujahidah, A. F. (2020). Aktivitas Risiko Dan Status Stain Ekstrinsik Gigi Pada Masyarakat Rt 004 Rw 001 Kampung Bali Tanah Abang. *JDHT Journal of Dental Hygiene and Therapy*, 1(1), 16–20. <https://doi.org/10.36082/jdht.v1i1.121>
- [7]. Mursalin, Nizori, A., & Rahmayani, I. 2019. Sifat Fisiko-Kimia Kopi Seduh Instan Liberika Tungkal Jambi yang diproduksi dengan Metode Kokristalisasi. *Jurnal Ilmiah Ilmu Terapan Universitas Jambi*, 3(1), 71–77.
- [8]. Novi Khasanah, Tri Syahniati, M. (2021). Hubungan Kebiasaan Mengonsumsi Kopi Terhadap Terjadinya Stain. *Jurnal Kesehatan Gigi dan Mulut*, 03(01), 39–43. <https://jurnal.poltekkespalembang.ac.id/index.php/jkgm/article/view/72>
- [9]. Pangestu, A. R. (2020). Comparison of Swiss Webster's Wound Healing Process Speed with Robusta and Arabica Coffee Literature Review. *Jurnal Ilmiah Kesehatan Sandi Husada*, 9(2), 812–816. <https://doi.org/10.35816/jiskh.v10i2.414>
- [10]. Rahma Dewi. (2021). Gambaran Pengetahuan Tentang Makanan Kariogenik Pada Siswa SDN Palang-Tuban Tahun 2020. *Indonesian Journal Of Health and Medical*, 1(1), 1.
- [11]. Ramadhan, A., Cholil, & sukmana indra, B. (2016). Hubungan Tingkat Pengetahuan Kesehatan Gigi dan Mulut Terhadap Angka Karies Gigi di SMPN 1 Marabaha. *Kedokteran Gigi*, 1(2), 173–176. <https://ppjp.ulm.ac.id/journal/index.php/dentino/article/view/567>
- [12]. Riset Kesehatan Dasar (Riskesdas) (2018). *Badan Penelitian dan Pengembangan Kesehatan Kementerian RI tahun 2018*
- [13]. Rompis, Karen, Vonny N. S. Wowor, dan Damajanty H. C. Pangemanan, 2019, Tingkat Pengetahuan Bahaya Merokok bagi Kesehatan Gigi Mulut pada Siswa SMK Negeri 8 Manado. *Jurnal e-Clinic (eCl)*, 7:2
- [14]. RR Amalia, E Lestari, NE Safitri. 2021. Pemanfaatan jagung (Zea mays) sebagai bahan tambahan dalam pembuatan permen Jelly. *Jurnal Teknologi Pangan: Media Informasi Dan Komunikasi Ilmiah Teknologi Pertanian*, 12 (1), 123-130
- [15]. Wachamo, H. L. 2017. Review on Health Benefit and Risk of Caffeine Consumption. *Medical & Aromatic Plants Journal*, 11:416.
- [16]. Wulandari, N. N. F., Handoko, S. A., & Kurniati, D. P. Y. (2018). Determinan perilaku perawatan kesehatan gigi dan mulut pada anak usia 12 tahun di wilayah kerja Puskesmas I Baturiti. *Intisari Sains Medis*, 9(3), 55–58. <https://doi.org/10.15562/ism.v9i3.265>