

Knowledge, Attitude, Action, Ability to Pay (ATP), and Willingness to Pay (WTP) Young Adults in Fulfilling the Need for Oral Hygiene Maintenance

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Abstract

Background: One of the preventive efforts that can be performed to avoid dental and oral health problems is by maintaining oral hygiene. Currently, there are various tools for maintaining dental and oral hygiene that are sold in the market. **Purpose:** To reveal the knowledge, attitude, action, Ability to Pay (ATP), and Willingness to Pay (WTP) of young adults in fulfilling the need for maintenance of oral hygiene. **Methods:** This research was a descriptive research type. The sample size was determined as 100 people, targeting the group of young adults aged 20-29 years who have worked or earn. A cross tabulation test was conducted between the ATP and WTP variables with demographic characteristics, namely age and work experience. **Results:** Based on the age frequency of ATP sufferers, those aged 20-29 years are able to meet the needs of oral hygiene at most at a cost of Rp. 51,000- Rp. 100,000, and the age frequency with the most WTP at a cost of Rp. 141,000 - Rp. 160,000. Based on the length of time working with the ATP, most of the oral hygiene needs are Rp. 51,000-Rp. 100,000. Meanwhile, the frequency of working with WTP is the maximum cost of Rp. 141,000 - Rp. 160,000. **Conclusion:** According to the research results, it can be concluded that the level of knowledge, attitude, and action of young adults in fulfilling the needs for maintenance of oral hygiene is good.

Keywords: *knowledge, attitude, action, ability to pay, and willingness to pay, young adults, oral hygiene.*

Introduction

Teeth are part of the body that play an important role in performing several functions such as chewing, speaking, and maintaining the shape of the face. Hence, WHO defines oral health as a state free from oral and

facial diseases, throat cancer, infections, and sores in the mouth, gum and periodontal tissue disease, and disorders that limit an individual's capacity to chew, bite, smile, speak, and psychosocial well-being^[1]. Dental and oral health are not only about dental health, but also related to the tissues that support them, such as the gingiva, alveolar bone, all oral mucosal tissues, the tongue, and lips^[2,3].

The dental and oral health situation in Indonesia according to the results of the 2018 Basic Health Research stated that 45.3% of the population experienced cavities / damaged / sick teeth, 19% experienced tooth loss either due to extraction or self-loss, 10.4% experienced loose

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teeth, and 4.1% of the teeth were filled. Meanwhile, as many as 14% of oral health problems as a whole had swollen gums / abscesses due to cavities^[4]. Tooth and mouth disease is a disease that can affect all age groups from children to adults^[5]. Based on data compiled by the Central Statistics Agency in 2019, the proportion of adolescents and young adults in Indonesia aged 15-24 years is 83.58% of the total population. Pain or other discomfort that is felt due to disruption of oral health will certainly have a negative impact on one's productivity.

Oral and dental health are absolutely closely related to oral hygiene. Oral and dental problems such as caries, bleeding gums, bad breath, plaque, and tartar build-up can occur due to lack of maintenance of oral hygiene^[6,7]. Currently, there are many various tools for maintaining oral hygiene that are sold in the market including toothbrushes, toothpaste, mouthwash, dental floss, toothpicks, and miswak. The various choices of tools for maintaining oral hygiene have differences in use, age, and socioeconomic targets^[8].

Based on previous research, it was found that there was a significant relationship between the work of the head of the family and the DMFT index^[9,10]. Work is related to the level of income or level of expenditure. The lower the level of income and expenditure, it is assumed that the lower the ability to perform oral hygiene maintenance efforts such as the purchasing power of toothpaste and toothbrush. In other words, a person's purchasing power for oral hygiene maintenance

facilities is highly dependent on Ability to Pay (ATP) and Willingness to Pay (WTP). Thus, the purpose of this study is describing the knowledge, attitude, action, ability to pay (ATP), and willingness to pay (WTP) of young adults in fulfilling the need for maintenance of oral hygiene.

Material and Method

This type of research was a descriptive study with a quantitative approach. The population in this study was a group of young adults who have worked and were earning. The young adult group was people aged 20-29 years. The research instrument was an online questionnaire with the Google Form tool which was distributed through social media platforms to the target sample group community. Data collection procedures: distribution of questionnaires via social media (Line, WhatsApp, Instagram, and Twitter), Subjects filling out, and answering questionnaires, questionnaire data will enter the database, data processing. The data obtained from the results of filling out a questionnaire in a group of young adults in Surabaya city used descriptive analysis. Descriptive analysis of the frequency in this research was conducted on the results of respondent data based on demographic characteristics, variables of knowledge, attitude, and action, products purchased to fulfil the needs of oral hygiene, ATP, and WTP. Cross tabulation analysis in this research was conducted on age characteristics with ATP and WTP variables as well as length of work with ATP and WTP variables.

Result

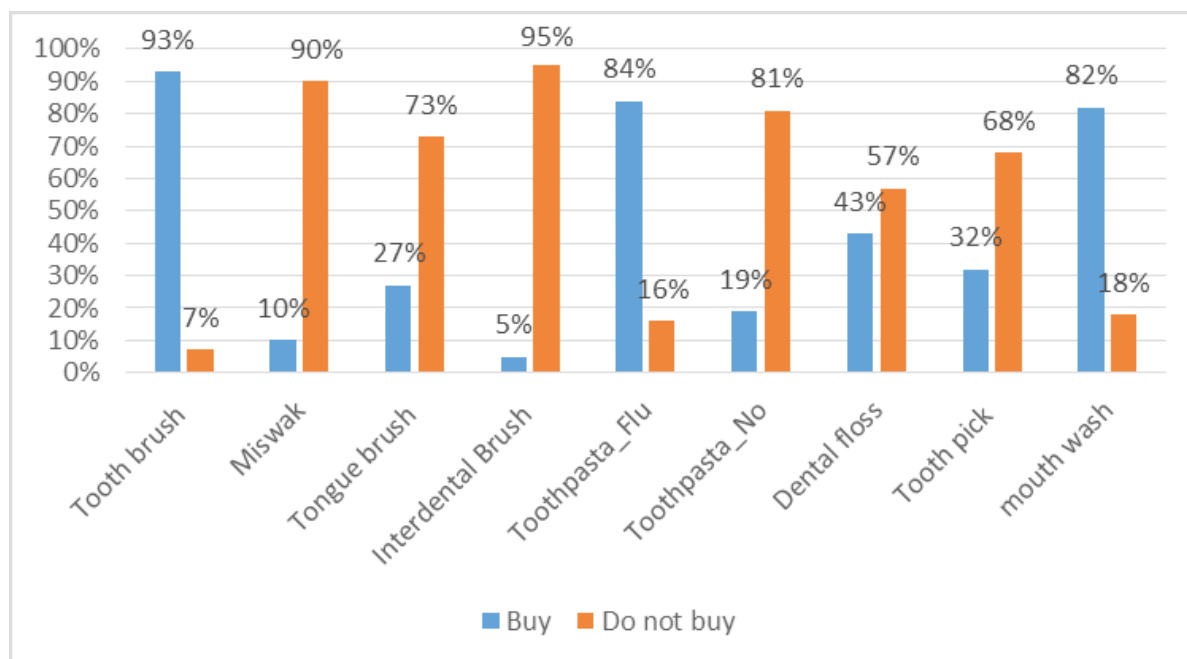
Table 1 Frequency distribution of study subjects based on demographic characteristics

Demographic Characteristics		Frequency	
		N	Percentage (%)
Sex	Male	44	44
	Female	56	56
Latest Education	Senior High School	10	10
	Diploma/Bachelor	90	90

Cont... Table 1 Frequency distribution of study subjects based on demographic characteristics

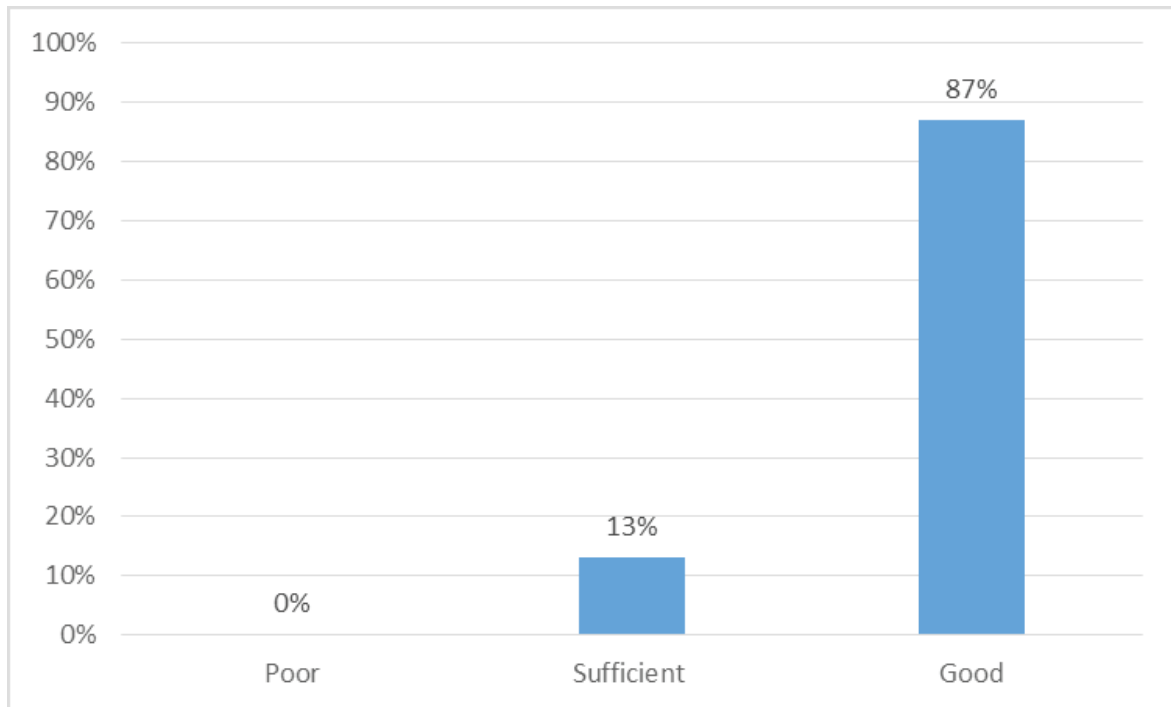
Occupation	Government employees	4	4
	Indonesian national army	1	1
	General employees	34	34
	State employees	5	5
	Entrepreneur	11	11
	Freelancer	15	15
	Home-keeper	2	2
	Others	28	28
Length of Work	< 1 year	50	50
	1-3 years	31	31
	> 3 years	19	19

Table 1 showed the frequency of each demographic characteristic of the respondents in this research. Based on this table, it can be concluded that the number of female respondents was more than male respondents. The latest education frequency analysis showed that the majority of respondents have the latest education at the diploma / bachelor level. Meanwhile, based on the analysis of the frequency of types of work and length of work, it was found that most of the respondents worked as general employees with the majority working experience for less than one year.



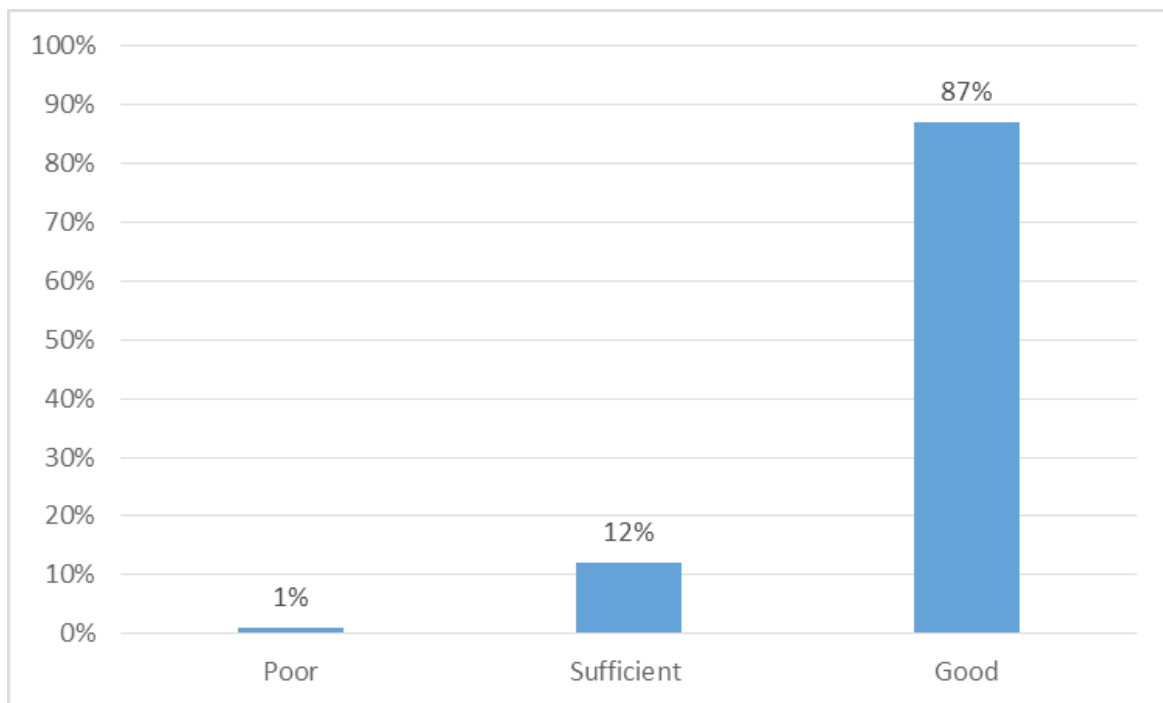
Graph 1 Type of product purchased

Based on graph 1, the results showed that most young adults buy toothbrushes, fluoride toothpaste, and mouthwash to fulfil their oral hygiene needs. Meanwhile, products that were rarely purchased are interdental brushes, miswak, and toothpaste without fluoride.



Graph 2 Frequency of knowledge in young adults

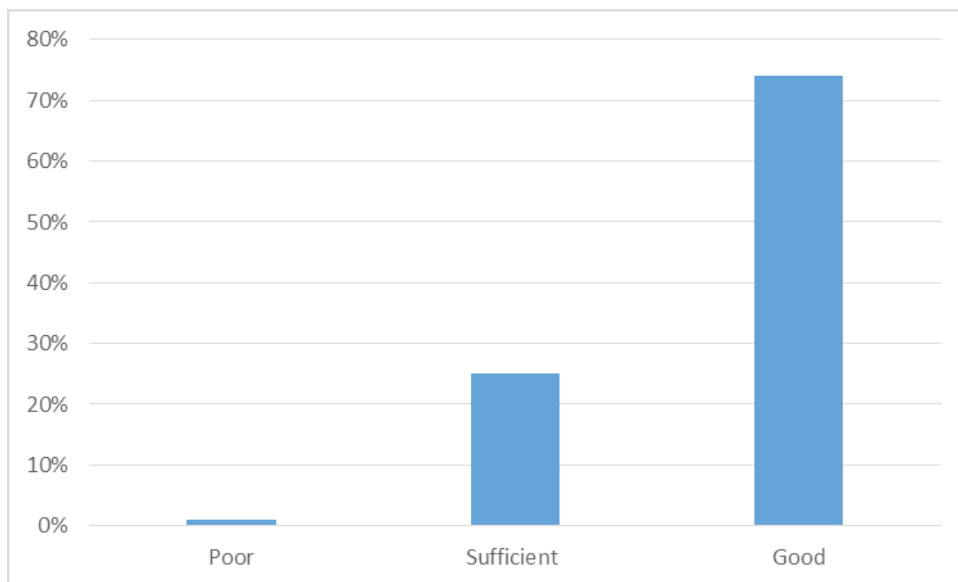
Graph 2 showed that most young adults have good knowledge in fulfilling oral hygiene needs, 87%, 13% have sufficient knowledge, and none have poor knowledge.



Graph 3 Frequency of attitude in young adults

Graph 3 showed that most young adults have a good attitude in fulfilling oral hygiene needs, 87%, 12% have a

fairly good attitude, and only 1% have a poor attitude.



Graph 4 Frequency of action in young adults

Graph 4 showed that most of the young adults had good actions in fulfilling oral hygiene needs by 74%, 25% had good enough actions, and only 1% had poor actions.

Table 2 Frequency of Age with ATP

Characteristic			ATP							Total
			<50.000	51.000-100.000	101.000-150.000	151.000-200.000	201.000-250.000	251.000-300.000	>300.000	
Age	20-23 years old	N	28	27	4	7	2	1	1	70
		%	40%	38.6%	5.7%	10%	2.9%	1.4%	1.4%	70%
	24-26 years old	N	3	9	0	6	1	0	0	19
		%	15.8%	47.4%	0%	31.6%	5.3%	0%	0%	19%
	26-29 years old	N	1	4	1	2	2	0	1	11
		%	9.1%	36.4%	9.1%	18.2%	18.2%	0%	9.1%	11%
Total		N	32	40	5	15	5	1	2	100
		%	32%	40%	5%	15%	5%	1%	2%	100%

Based on table 2, respondents aged 20-23 years were able to fulfil the needs of the most oral hygiene at a cost of <IDR 50,000. Meanwhile, at the age of 24-29 years, they can afford to pay Rp. 51,000 - Rp. 100,000.

Table 3 Frequency of age with WTP

Characteristic			WTP							Total	
			<20000	21000-40000	41000-60000	61000-80000	81000-100000	101000-120000	141000-160000		>160000
Age	20-23 years old	N	2	1	11	2	22	1	29	2	70
		%	2.9%	1.4%	15.7%	2.9%	31.4%	1.4%	41.4%	2.9%	70%
	24-26 years old	N	2	1	0	1	4	0	9	2	19
		%	10.5%	5.3%	0%	5.3%	21.1%	0%	47.4%	10.5%	19%
	26-29 years old	N	0	0	0	1	1	0	7	2	11
		%	0%	0%	0%	9.1%	9.1%	0%	63.6%	18.2%	11%
Total		N	4	2	11	4	27	1	45	6	100
		%	4%	2%	11%	4%	27%	1%	45%	6%	100%

Based on table 3, respondents aged 20-29 years were at most willing to fulfil their oral hygiene needs at a cost of Rp. 141,000 - Rp. 160,000.

Table 4 Frequency of work experience with ATP

Characteristic			ATP						Total	
			<50.000	51.000-100.000	101.000-150.000	151.000-200.000	201.000-250.000	251.000-300.000		>300.000
Length of Work	< 1 year	N	21	17	1	8	2	0	1	50
		%	42%	34%	2%	16%	4%	0%	2%	50%
	1-3 years	N	9	15	2	4	1	0	0	31
		%	29%	48.4%	6.5%	12.9%	3.2%	0%	0%	31%
	> 3 years	N	2	8	2	3	2	1	1	19
		%	10.5%	42.1%	10.5%	15.8%	10.5%	5.3%	5.3%	19%
Total		N	32	40	5	15	5	1	2	100
		%	32%	40%	5%	15%	5%	1%	2%	100%

Regarding a length of work <1 year, they were able to fulfil the needs of the most oral hygiene at a cost of <Rp 50,000. Meanwhile, respondents who worked for 1 year to > 3 years were able to pay Rp. 51,000 - Rp. 100,000.

Table 5 Frequency of work experience with WTP

Characteristic			WTP								Total
			<20000	21000-40000	41000-60000	61000-80000	81000-100000	101000-120000	141000-160000	>160000	
Length of Work	< 1 year	N	2	1	10	1	11	0	23	2	50
		%	4%	2%	20%	2%	22%	0%	46%	4%	50%
	1-3 years	N	2	3	0	2	10	1	11	3	31
		%	6.5%	6.5%	0%	6.5%	32.3%	3.2%	35.5%	9.7%	31%
	> 3 years	N	0	0	1	1	5	0	11	1	19
		%	0%	0%	5.3%	5.3%	26.3%	0%	57.9%	5.3%	19%
Total	N	4	2	11	4	27	1	45	6	100	
	%	4%	2%	11%	4%	27%	1%	45%	6%	100%	

Based on table 5, respondents with length of work <1 year to> 3 years were at most willing to fulfil oral hygiene needs at a cost of Rp. 141,000 - Rp. 160,000.

Discussions

Oral hygiene is the most significant factor in preventing disease and maintaining oral health. The best way to improve oral hygiene is by practicing oral hygiene using products sold in the market^[11]. Along with the development of the dental industry, various dental and oral care products are widely available in the market which include toothbrushes, toothpaste, mouthwash, dental floss, and teeth whitener. Choosing the right product can improve health and prevent diseases of the teeth and mouth. Hence, people must be able to determine products that suit their needs and perform regular maintenance to get maximum results^[11]. According to Awais et al. (2019), there are several factors that affect a person's oral health, including education, employment, social class, and income^[12].

Based on data analysis regarding the knowledge aspect, it was found that 87% of respondents had a good level of knowledge. This can be explained by the theory that the more old a person is, the higher the maturity level of a person in thinking^[13]. A person's age affects their perceptive power and mind-set. As you get older, your perception and mind-set will also develop, thus the knowledge you get will be better^[14].

A high level of knowledge is also followed by good attitudes and actions that the respondents have. This can be seen from the results of data analysis in the attitude domain, where 87% of respondents had good attitude scores. Knowledge and good attitudes are also applied through good actions, where in this study 74% of respondents got good action scores. This is in line with the theory which says that the knowledge that a person acquires will then lead to an inner response in the form of

attitudes towards the object he already knows^[14]. Good action is also influenced by socio-psychological factors, one of them is attitude^[15]. Attitude is a very important factor because attitude determines a person's tendency to act. Good knowledge will influence taking the right attitude, thus it will be willing to start taking the right action as well^[16,17].

Based on the results of the cross tabulation test between age and ATP and WTP, respondents aged 20-23 years were able to fulfil the needs for oral hygiene maintenance of <50,000, while respondents aged 24-29 years were able to fulfil the needs for oral hygiene maintenance at a cost of Rp. 51,000 - Rp. 100,000. This can be explained by the theory that the more mature a person is, the higher one's strength at work^[13], thus the higher the income one gets. The amount of income earned certainly affects a person's ability to fulfil their daily needs, including the need for maintaining oral hygiene.

In regard to the WTP, respondents aged 20-29 years are at most willing to fulfil the needs for oral hygiene maintenance at a cost of Rp. 141,000 - Rp. 160,000. When compared between ATP and WTP, a condition occurs where $ATP < WTP$, meaning that the respondent's desire to buy oral hygiene maintenance products is greater than their ability. It is natural for people with low ATP to have a high WTP because the WTP value is determined by the user's psychological considerations^[18].

According to the results of the cross tabulation test between work experience and ATP and WTP, ATP or the ability to pay the costs for those who have 1 year of work experience to >3 years is higher than work experience <1 year. This is because work experience affects the income used in calculating ATP. The higher the work experience, the income earned will increase. Income is directly proportional to ATP. This is as same as the greater the income and the smaller the frequency of purchasing goods, the value of ATP will increase^[19]. This means that young adults in all work experiences have the same awareness of the costs they want to spend to fulfil dental health products^[20]. Therefore,

it is sufficient to fulfil the needs of health and dental hygiene such as toothbrushes, toothpaste, dental floss, and mouthwash at a cost of Rp. 141,000 - Rp. 160,000.

Conclusions

According to the research results, it can be concluded that the level of knowledge of young adults in fulfilling the needs for maintenance of oral hygiene is good (87% of respondents). The attitude of young adults in fulfilling the need for maintenance of oral hygiene is good (87% of respondents). Besides that, the action of young adults in fulfilling the need for maintenance of oral hygiene is good also (74% of respondents).

The ability of adolescent adolescents in Ability to Pay (ATP) and Willingness to Pay (WTP) based on age who have a higher level of ability in maintaining oral hygiene is aged 24-29 years. The ability of young adults in Ability to Pay (ATP) and Willingness to Pay (WTP) based on length of work which has a higher level of ability in maintaining oral hygiene is 1 year to > 3 years of work, while WTP in all work experiences is the same.

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Ethical Clearance: Approved

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