Determination of the Stress Level of Active Smokers after 3 Days of Intake of Vitamin C Tablets

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Abstract: Stress is the body's reaction that occurs when someone faces a threat, pressure, or a change. Stress can also occur because of situations or thoughts that make a person feel hopeless, nervous, angry, or excited. The instrument used in determining the level of stress is the HARS method. This study aims to determine the stress level of active cigarette users after 3 days of vitamin C intake. To quasi experimental was carried out in one group pre test - post test design with a cross sectional approach. The results showed that Correlation 0,800, Sig.: 0,000 at level 0,01, Df: N- 1. t = 1,000: in this research, t = 6,679 > 2,4620 (significant). Sig. (2-tailed): p value at T Paired = 0,000. In means : there is a difference between before and after treatment. Because: p value > 0,05 (95% confidence). The relationship between giving Vitamin C to stress levels gave a very strong relationship after the third day of giving Vitamin C.

1 INTRODUCTION

Stress is a state when a person feels mental and mental discomfort caused by feeling depressed (Das, Mishra, and Murari 2020). Stress is individual and is basically destructive when there is no balance between individual mental endurance and the stress load that is felt (Wang et al. 2020). The sources of stress or causes of stress are recognized as stressors (Bawuna;, Julia Rottie, and Onibala 2017).

External stressors come from outside the individual such as stressors in the environment and social stressors, namely pressure from outside caused by the individual's interaction with their environment (Wolniak 2020). Unavoidable traumatic social stressors, such as losing loved ones, losing jobs, retiring from work, divorce, financial problems, moving house and others. Meanwhile, internal stressors are stressors that come from within the individual, such as psychological stressors, usually negative internal stress, such as frustration, anxiety, guilt, excessive worry, anger, hate, sadness, jealousy, self-pity, as well as a sense of inferiority (Bawuna;, Julia Rottie, and Onibala 2017). Biological stressors such as the release of neurotrasmitters during stress from the adrenal glands, the medulla ie epinephrine and norepinephrine in response to stress. The release of neurotransmitters causes physiological effects such as increased heart rate, increased alertness and others (Wolniak 2020).

A person who consumes a cigarette for the first time experiences several symptoms such as coughing, a bitter tongue, and nausea, but some of the beginners ignore these symptoms (Williamson and Proud 2011). Usually this situation continues to become tobacco dependency or tobacco dependence. Tobacco dependency itself can be defined as sedentary tobacco use. Usually more than half a pack of cigarettes per day, and done repeatedly. This means that smoking behavior is a fun behavior and shifts into an obsessive activity, which if stopped suddenly will cause distress. This is because nicotine is addictive and if it is stopped suddenly it will cause stress (Defie et al. 2018). Even though active smokers know the harmful effects of smoking, many of these smokers persist.

Determination of the stress level of smokers can use the HARS method. Stress is a stimulus or situation that causes distress and creates physical and psychological demands on it. someone. Stress requires coping and adaptation (Bawuna;, Julia

Rottie, and Onibala 2017). Stress is a disorder of the body and mind caused by changes and demands of life, which are influenced by the environment and the appearance of individuals in the environment (Bawuna;, Julia Rottie, and Onibala 2017). There are 6 stages of stress, with the following characteristics:

Stage 1
The characteristic of this phase : High morale, excessive, unusual sharp eyesight, feeling able to complete work more than usual, but without realizing it, energy reserves are running low (Rahmayani, Liza, and Syah 2019).

Stage 2
The characteristic of this phase : feeling tired when waking up in the morning who should feel refreshed, feeling tired easily after lunch, feeling tired quickly in the afternoon, often complaining of other uncomfortable, heart rate kerns more than usual (palpitations), back and nape muscles feel tense, unable to relax (Musradinur 2016).

Stage 3
The characteristic of this phase : stomach and intestinal disorders are getting more pronounced ; for example, complaints of gastritis, irregular bowel movements (diarrhea), increased muscle tension, feelings of restlessness and increased emotional tension, insomnia (Rahmayani, Liza, and Syah 2019).

Stage 4
It feels very difficult to survive the whole day alone, work activities that are fun and easy to complete become boring and feel more difficult, from being responsive to the situation, losing the ability to respond adequately, sleep disturbance accompanied by tense dreams (Apriyana, Widianti, and Muliani 2020).

Stage 5
The characteristic of this phase : physical and psychological exhaustion, increasingly severe digestive system disorders (gastro-intestinal disorder), inability to complete light and simple daily work and arise. (Defie et al. 2018).

Stage 6
This is the climax stage, a person experiences panic attacks and a feeling of fear of death. (Hasanah et al. 2020). Stress levels can be grouped using the HARS (Hamilton Anxiety Rating Scale) criteria. The elements assessed include: feelings of anxiety, tension, fear, sleep disorders, intelligence disorders, feelings of depression, somatic symptoms, respiratory symptoms, cardiovascular symptoms, gastrointestinal symptoms, urinary symptoms, autonomic symptoms, behavioral symptoms (Aditya Tarupay, Indra Fajarwaty Ibnu 2010).

2 METHODS

Collecting samples
The sample was collected by purposive sampling, namely the technique of determining the sample based on the characteristics of the population that had been previously known. The number of samples that met the criteria was 60 male volunteers aged 17-28 years (active smokers), namely 30 as the Intervention sample and 30 as the control. 10 ml of urine were taken before and after treatment with Vitamin C 50 mg x 2. Samples were taken on day 1 and 3.

Design of research
This study used a Quasi Experiment design whose design used the non-randomized control group pretest - post test design technique. Grouping of sample members into the experimental group and the control group was not done randomly.

Operational Defenition
The operational definition is shown in Table 2.1. the following:

Table 2.1: Operational Defenition

Research variable	Operational Defenition	Measuring instrument	Measure Results	Scale
Independent Variable: Giving Vitamin C	Provision of Vitamin C at a dose of 50 mg x 2 to active smokers.	Observation sheet	Given Vitamin C Not given Vitamin C	Nominal
Dependent variable: Stress level	The level of stress that appears in active smokers before and after treatment.	Observation sheet	No stress (0) Light stress (1) Moderate stress (2) Heavy stress (3) Very stressful (4)	Ordinal

Giving Vitamin C
Sample of 30 people was given Vitamin C 50 mg x 2 Tabs (Pacier and Martirosyan, 2015) in the morning at 08.00 WIB and in the afternoon at 16.00 WIB. The treatment is carried out continuously until day 3.

Stress level Analysis
Stress level analysis is done by giving stress level questionnaire (HARS method) (Ruqaiyah, Nusratuddin Abdullah, Mochammad Hatta, Nasrudin A Mappeware, Ayatullah Harun, and Baharuddin 2020) (Das, Mishra, and Murari 2020).

3 RESULT

3.1 Demografi Analysis

Respondents' Data Frequency Distribution by Age as in Figure 2.1. the following:
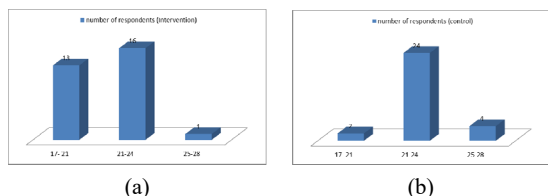

(a)   (b)

Figure 2.1. Demographic analysis of intervention samples (a) and control samples (b)

3.2 Relationship of Vitamin C to Stress Levels

Relationship of Vitamin C to stress levels dapat dilihat pada **Table 2.2. Table 2.2.** indicates that the Stress Level of the intervention sample has decreased on the third day. This decrease is due to the binding of nicotine compounds to the free radical group found in Vitamin C (Paci et al. 2018). Nicotine which has silent hydrogen in the "N" element will be bound by the double bonds found in vitamin C (Pacier and Martirosyan 2015a).

Nicotine levels that attack the central nervous system (CNS) will decrease, this is what triggers a decrease in stress levels in the body of the intervention sample. Stress is a stimulus or situation that causes distress and creates physical and psychological demands on it. someone. Stress requires coping and adaptation. The body's response can be predicted without regard to certain stressors or causes. Stress is the body's nonspecific response to any demands on it. If someone after experiencing stress experiences disturbances in one or more organs of the body so that the person concerned is no longer able to carry out his sensitivity function properly, it is called experiencing distress (Pacier and Martirosyan 2015b).

Table 2.2: Data of paired t test on the relationship of giving Vitamin C to stress levels on day 3

No	Stress Level of Intervention		Stress Level of Control	
	Day 1	Day 3	Day 1	Day 3
1	4	4	3	3
2	3	2	4	4
3	3	3	2	2
4	2	2	2	2
5	4	4	4	4
6	4	4	4	3
7	3	2	2	2
8	1	1	2	2
9	4	4	4	3
10	4	3	4	3
11	2	2	3	2
12	3	2	2	2
13	2	1	3	2
14	3	2	2	2
15	4	3	3	2
16	1	0	2	2
17	1	1	3	2
18	4	3	4	4
19	1	0	2	2
20	2	1	3	3
21	2	2	2	2
22	3	3	3	3
23	2	1	3	2
24	2	2	2	2
25	1	0	2	2
26	2	2	3	3
27	1	1	2	2
28	2	2	2	2
29	2	1	4	4
30	1	0	3	3

Statistic using SPSS Ver 23 follows Figure 3.1. the following:

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Sebelum	2,8000	30	,80516	,14700
	Sesudah	2,1333	30	,89955	,16424

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Sebelum & Sesudah	30	,800	,000

Paired Samples Test

		Paired Differences		
		Mean	Std. Deviation	Std. Error Mean
Pair 1	Sebelum - Sesudah	,66667	,54667	,09981

Paired Samples Test

		Paired Differences 95% Confidence Interval of the Difference				
		Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Sebelum - Sesudah	,46254	,87080	6,679	29	,000

Figure 3.1. Statistical data Relationship of Vitamin C to stress levels on day 3

Figure 3.1 above shows that the changes that occurred in the control sample on the first and third, day did not change much. This shows that the control sample used is good and can be used as a comparison in the study. In this work, the correlation value between these 2 variables: Result 0.800 means that there is a very strong relationship. The level of significance of the relationship = 0.000 means that it is significant at the 0.01 level. Df: degree of freedom For Paired T analysis it is always N- 1. Where N is the number of samples. the value of t count = 1,000. In this study: 6,679> 2,4620 (significant). There is a difference between before and after treatment. Because: p value> 0.05 (95% confidence). Mean: 0.66667 = positive value: This means that there is a tendency to decrease stress levels. The average decline was 0.66667.

4 CONCLUSION

Determination of the stress level of active smokers after 3 days of vitamin C administration can be done by administering a stress level questionnaire used HARS method. The relationship of giving Vitamin C on the third day to stress levels gave a very strong relationship = p value> 0.05 (95% confidence).

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