RELATIONSHIP BETWEEN DURATION OF DRUGS CONSUMPTION AND PHYSICAL FITNESS LEVELS WITH COGNITIVE FUNCTION TO REHABILITATION PATIENT AT ERNALDI BAHAR HOSPITAL

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Abstract

Drugs (Narcotics, Psychotropic, and other addictive substances) can harm human life, if consumed in an inappropriate manner, can even cause death. Drugs have a very wide negative impact; both physically, psychologically, economically, socially and culturally and so forth. Drugs cause dependence causing physical and psychic dependence, this situation will make the lazy to move and think resulting in decreased fitness and cognitive function. The design of this study is cross sectional with the number of samples of 7 people. The results of this study indicate a relation between duration of drug consumption and physical fitness level with cognitive function in drug rehabilitation patients at Ernaldi Bahar Hospital (ρ = 0,000; α = 0,05). In addition, this study is expected to increase human knowledge of drugs so as to avoid drug abuse.

Keywords: Drugs, Physical Fitness, Cognitive Function

PRELIMINARY

Health is defined as a state of physical, mental, social, and spiritual prosperity and not just the absence of disease or disability. Perfect health is a state not only free from illness, but having optimal physical fitness is a condition that a person can perform daily activities and have a reserve ability for an emergency (Oktian, 2016).

According to Fox (1987) in the journal Paiman (2009) states that physical fitness is viewed as a physiological aspect, namely functional capacity to improve the quality of life. Understanding fitness according to the above fox can be understood as a thorough fitness (total fitness), while physical fitness (Physical Fitness) is part of the overall fitness. Physical fitness is a physical aspect of comprehensive fitness (total Fitness) that enables a person to live a productive life and can adapt to a decent physical burden. A person's physical burden is individual, meaning that between one person and another the physical burden is different, depending on the burden of the task it carries, the higher the physical fitness that must be possessed (Paiman, 2009).

Susilowati (2007) reveals that factors of physical disfavor are influenced by age, sex, sport, nutritional intake, hemoglobin level, health status, smoking habit, alcohol drinking habits, blood pressure, cholesterol, blood sugar levels, and illicit drug consumption).

Drugs in Indonesia are still something urgent and complex. In the last decade the problem has become rampant. Evidenced by the increasing number of drug abusers or addicts significantly, along with increasing disclosure of crime cases that increasingly diverse drug patterns and the more massive network of syndicates (Jimmy, 2015).

Drug Abuse undermines the adverse effects on the behavior and cognitive function of its users (Rockwood, 2001). The impact on cognitive function is primarily the emergence of negative thoughts such as believing to be useless, guilty, helpless and

unbelievable. In addition, drug abuse generally also has a problem (denial) or consider the problems that are facing (Herni, 2010).

The impact of cognitive function decline in the emergence of depressive behavior (self-isolation from the environment, lack of self-care activities), aggressive behavior and antisocial behavior (disturbing order).Impacts on cognitive function especially the emergence of negative thoughts such as believing himself to be useless, guilty, helpless and unreliable (Thomas 2001).

RESEARCH METHODS

Types of research

Based on the time of the study, this study is a cross-sectional study, because the researcher observed or measured the variables with the same approach at one time.

Data collection technique

The first instrument used in this study was a physical fitness test developed by Cooper that was a 12-minute run test. In this test the distance traveled by the test participants is not determined, which is determined the travel time is for 12 minutes next mileage measured after the test participants ran for 12 minutes. The implementation of the 12-minute run from Cooper requires a somewhat complicated procedure, where the pesrta is required to stop when the 12-minute time has been exceeded, then they need to indicate where the stop is, to quickly measure the distance the result is taken. The next instrument is the Chi-square test.

RESEARCH RESULT AND DISCUSSION

Description of Research Implementation

This study aims to determine the relationship between taking drugs and physical fitness level with cognitive function in drug rehabilitation patients at Ernaldi Bahar Hospital. In the experiment, a 12-minute run and blood sampling were then tested for cognitive function using BDNF test in Lab.This study was carried out for one day and assisted by supervisor and student friends, the first test is blood sampling. Aiming to measure the patient's cognitive function through laboratory tests using BDNF tests, a second test was performed by a 12-minute test. In this test the first determined is the travel time is for 12 minutes next mileage measured after the test participants ran for 12 minutes.The 12-minute test run from Cooper requires a rather complicated procedure, where participants are required to stop when 12 minutes have been exceeded, then they need to indicate where the stop is, to quickly measure the distance of the result.

Research result

After obtaining all the necessary data, the researchers calculated to find out whether there was a significant relationship between duration of drug consumption and physical fitness level with cognitive function in drug rehabilitation patients at Ernaldi Bahar Hospital. The test is described as follows

12 Minutes Run Test Result

Physical fitness test in this study using 12-minute test obtained data as follows:

Table 4.1. Test Result Data Running 12 minutes

No	Patient Initials	Age	Running Outcome	Criteria
1	DN	27	1550 Meter	Bad
2	AR	22	2460 Meter	Above average
3	DL	30	2230 Meter	Average
4	HL	24	1900 Meter	Below average
5	AS	28	1200 Meter	Bad
6	JN	34	1760 Meter	Below average
Highest yield			**2460 Meter**	**Above average**
Lowest result			**1200 Meter**	**Bad**

From the above data, it can be seen that the highest test result is 2460 meters and the lowest 1200 meters. From the results of the above data is known fitness patients drug rehabilitation Ernaldi Bahar Hospital is 4 of them below average and 2 of them good.

Result of Cognitive Function Tests with BDNF test

Cognitive Function Test with BDNF test is by taking blood sample of drug rehabilitation of Ernaldi Bahar Hospital, after blood sampling is done by lab test, the table below is test result of BDNF test:

Table 4.2. Data on Cognitive Function Result with BDNF test

NO	Patient Initials	BDNF
1	DN	151,585
2	AR	221,358
3	DL	193,441
4	HL	170,865
5	AS	95,589
6	JN	161,624
AVERAGE		**141,099**
TOTAL VALUE		**286,653**

From the above data, it can be seen that the median BDNF result of drug rehabilitation patients at Ernaldi Bahar Hospital is 141.099.

Table Old Consuming

No	Name	Age	Month
1	DN	27	12
2	AR	22	5
3	DL	30	7
4	HL	24	8
5	AS	28	17
6	JN	34	10

From the above data, it can be seen that the patient of drug rehabilitation at the Ernaldi Bahar Hospital who consumed more than 5 months of addicted drugs.

Normality Data Test Table

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
BDNF	,203	6	,200*	,967	6	,873
KEBUGARAN	,131	6	,200*	,988	6	,983
LAMAKONSUMSI	,166	6	,200*	,951	6	,751

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

From normality test data obtained significant value BDNF 0,873, Fitness 0,983, Old consumption 0,751, significant value of three variable is bigger than p = 0,05 hence can be concluded normal distribution data.After the data is normally distributed then the next step is to know the relationship between variables by using bavariate test with test results in the table below:

Correlation Table

Correlations[b]

		BDNF	KEBUGARAN	LAMAKONSUMSI
BDNF	Pearson Correlation	1	,980**	-,984**
	Sig. (2-tailed)		,001	,000
KEBUGARAN	Pearson Correlation	,980**	1	-,971**
	Sig. (2-tailed)	,001		,001
LAMAKONSUMSI	Pearson Correlation	-,984**	-,971**	1
	Sig. (2-tailed)	,000	,001	

**. Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N=6

From bavariate test data obtained significant value (2-tailed) fitness with BDNF 0.001 and Length of consumption with BDNF 0,000, the value <p = 0,005 it can be concluded there is relationship:

a. There is a significant relationship between fitness with Cognitive Function (BDNF).
b. There is a relationship between the duration of consumption with Cognitive Function (BDNF).
c. There is a relationship between long consuming drugs between the level of physical fitness with cognitive function in drug rehabilitation patients at Rumah Sakit Ernaldi Bahar.

Discussion

This study aims to determine the relationship between taking drugs and physical fitness level with cognitive function in drug rehabilitation patients at Rumah Sakit Ernaldi Bahar.n the study conducted a 12-minute test and blood sampling and then tested BDNF test in the Lab. This study was carried out for one day in assist with supervisor and student friends, the first test is blood sampling. Aiming to measure the patient's cognitive function through laboratory tests using BDNF tests, a second test was performed by a 12-

minute test. In this test the first determined is the travel time is for 12 minutes next mileage measured after the test participants ran for 12 minutes.

The 12-minute test run from Cooper requires a rather complicated procedure, where participants are required to stop when the 12-minute time has been exceeded, then they need to indicate where the stop is, to immediately measured the distance of the results taken. After data retrieval is held data processing conducted in the laboratory Bio Research Palembang.

The data processing yields the following data: BDNF with Mean ± SD with value 165,74 ± 42,48 (pg / ml), Fitness with mean ± SD 1850,0 ± 455,9 (pg / ml), Length of Consumption with mean ± SD 9,83 ± 4,26.

And from bavariate test data obtained significant value (2-tailed) fitness with BDNF 0.001 and duration of consumption with BDNF 0,000, the value <p = 0,005 it can be concluded there is a significant relationship between fitness with cognitive function (BDNF) between the duration of consumption with Cognitive Function (BDNF), There is a relationship between long consuming drugs between the level of physical fitness with cognitive function in drug rehabilitation patients at Rumah Sakit Ernaldi Bahar.

CONCLUSIONS AND SUGGESTIONS

Conclusion

Based on the results of research with the title The long relationship of consuming drugs and the level of physical fitness with cognitive function in drug rehabilitation patients at Ernaldi Bahar Hospital can be concluded that:

1. There is a significant relationship between fitness with Cognitive Function (BDNF)
2. There is a relationship between the duration of consumption with Cognitive Function (BDNF)
3. There is a relationship between long consuming drugs between the level of physical fitness with cognitive function in drug rehabilitation patients at Rumah Sakit Ernaldi Bahar.

Suggestion

Based on the above conclusions can be submitted several suggestions, among others:

1. It is expected that the role of the family to better supervise the family members so that among the families are not involved drug abuse.
2. The public should engage in positive activities to avoid involvement in drug abuse cases.
3. It is expected that all layers of offices, schools, and high pergura further increase supervision of employees, students and students to always be guided and given counseling about so dangerous drugs.

REFERENCE

Arikunto S. (2013). *Prosedur Penelitian: Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta.

Bramasto. (2015).*Kebugaran Jasmani tentang VO2MAX*. E. Jurnal. http://en.wikipedia.org/wiki/VO2_max. diakses Desember 2015.

Fadhila, Nur. (2015). *Hubungan antara Penyalahgunaan Narkoba dengan Fungsi Kognitif pada Fungsi Kognitif pada Narapidana di Lembaga Permasyarakatan (LP) Kelas 1 Kedung Pane Semarang.* http://Journal.unnes.ac.id. Diakses pada Desember 2015.

Firman, Okta B. (2016). *Faktor yang Berhubungan dengan Kebugaran Jasmani (VO2MAX) Atlet Sepak Bola*. Jurnal. http://FKM_UNAIR.ac.id. Diakses Desember 2016.

Flora, Rostika. (2015). *Jantung dan Latihan Fisik Palembang.* Palembang: Unsri Press.

Giriwijoyo, Santoso. (2017). *Fisiologi Kerja dan Olahraga*. Jakarta: Raja Grafindo Persada.

Hartati. (2016). *Manajemen Pendidikan Jasmani dan Olahraga.* Palembang. Unsri Press.

Hermanto dan Widyanto. (2013). *Perbandingan Kadar Brain Derived Neurotropic Factor (BDNF) Serum Darah Tali Pusat Bayi Baru Lahir antara Ibu Hamil yang Mendapat DHA dengan Kombinasi DHA dan 11-14 Karya Mozart selama Hamil.* Jurnal. Fakultas Kedokteran Universitas Airlangga. Diakses Desember 2013.

Hidayat, Farid. (2016). *Dampak Sosial Penyalahgunaan Narkoba pada Remaja di Kelurahan Kalabirang Kecamatan Pattalisang Kabupaten Takalar*. Jurnal. http://journal.jogoyitnan.blogspot.co.id. Diakses Desember 2016.

Muhajir. (2016). *Pendidikan Jasmani Olahraga dan Kesehatan SMA/MA Kelas XII*. Jakarta: Kementrian Pendidikan dan Kebudayaan.

Muhajir. (2016). *Buku Guru Pendidikan Jasmani Olahraga dan Kesehatan SMA/MA Kelas XII.* Jakarta: Kementrian Pendidikan dan Kebudayaan.

Murtiyanti, Ninik. (2017). *Fungsi Kognitif dengan Aktifities Of Daily Living (ADL) pada Lansia (Kognitif Funcition With Activities Of Daily Living (ADL) In The Elderly).* Jurnal. http://jurnal_akper_dianhusada.ac.id. Diakses Desember 2017.