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**CORRELATION BETWEEN
HOMOCYSTEINE AND VITAMIN B12
SERUM LEVEL WITH VITILIGO
SEVERITY DEGREE**

ENNESTA ASRI

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PADANG

INTRODUCTION

- An acquired skin pigmentation disorder
- characterized by skin depigmentation
- Loss of function melanosit epidermis
- Affecting life quality
- Mental illness comorbidity
- Persistent, Spontaneous repigmentation is rare
- Safe and effective treatment has not been found

INTRODUCTION

- Etiology of vitiligo is still unknown & various hypotheses have been suggested that play a role in the pathogenesis of vitiligo
- The theory of oxidative stress is one of the most popular theories lately.
- Homocystein is a metabolite produced in metabolic metabolism, thought inhibits tyrosinase & leads to release of ROS that can inhibit melanin synthesis and destructs melanocyt
- Vitamin B12 is a major component in the metabolism of homocystein
- A lack of B12 intake will lead to increased homocysteine

METHOD

- An observational study with cross sectional study design
- Conducted for 1 year from August 2016 - July 2017
- Outpatient Clinic of DV Dept. Dr. M. Djamil Hospital Padang
- Inclusion criteria: vitiligo patients aged 15-65 years
- Exclusion criteria:
 - Received systemic therapy within 1 month
 - Taking vitamin B12, vitamin B6 and folic acid last 1 month,
 - Smoking, alcohol, coffee and tea consumption > 4 cups/day
 - Taking drugs methotrexate, anticonvulsant, sulfasalazine, thiazide diuretics, cholestyramine, fibrat acid derivatives.

RESULT AND DISCUSSION

• TABEL 5.1

Tabel 5.1 Research Subject Characteristic Based on age, gender, VASI Score, Vitiligo Classification and vitiligo duration

Characteristic	F (n = 20)	P (%)
Age		
16 – 25 years	2	10
26 – 35 years	6	30
36 – 45 years	1	5
46 – 55 years	6	30
56 – 65 years	5	25
mean ± deviation	44,55 ± 14,36	
Gender		
Male	3	15
Female	17	85
Vitiligo Severity level Based on VASI		
Mean ± deviation	20,33 ± 25,64	
Vitiligo Classification		
Vitiligo vulgaris	14	70
Vitiligo fokal	3	15
Vitiligo universalis	3	15
Vitiligo Duration		
0 – 10 years	8	40
11 – 20 years	6	30
21 – 30 years	3	15
31 – 40 years	2	10
41 – 50 years	1	5
Mean ± Deviation	16,25 ± 12,56	

RESULT AND DISCUSSION

Tabel 5.2 homocysteine serum level on vitiligo patient

	n	Mean ± Deviation	Median (minimal-maximal)
homosistein serum level ($\mu\text{mol/L}$)	20	10,33 ± 10,01	8,04 (2,14 – 45,16)

Table 5.3 Vitamin B12 serum level on vitiligo patient

	n	Mean± Deviation	median (minimal-maximal)
vitamin B12 serum level (pmol/L)	20	138,77±156,07	77,16 (57,04 – 692,82)

RESULT AND DISCUSSION

Significantly higher homocysteine & lower vitamin B12	No significantly higher homocysteine & lower vitamin B12
Shaker & El-Tahlawi (2008)	Balci et al. (2009)
Karadag et al. (2011)	Yasar et.al (2012)

- The differences in the results of this study are due to differences in research sites, ethnicity and lifestyle.
- Homocysteine levels may differ between ethnicities
- In this study the research samples are all derived from ethnic Minang who live in Padang and surrounding areas, therefore obtained results are different from research conducted in other areas.

RESULT AND DISCUSSION

Table 5.4 Correlation between homocysteine levels and vitiligo severity

VASI Score	Homocysteine Level
r	0,057
p	0,812
n	20

Significant relationship between homocysteine level and VASI score	No significant relationship between homocysteine level and VASI score
El-dawella et al (2012)	Hamza et al. (2015)

- This difference in outcome is likely due to many factors affecting serum homocysteine levels and the severity of vitiligo.
- Genetic factors are the most important factor in homocysteine levels and the severity of vitiligo

RESULT AND DISCUSSION

TABEL 5.5

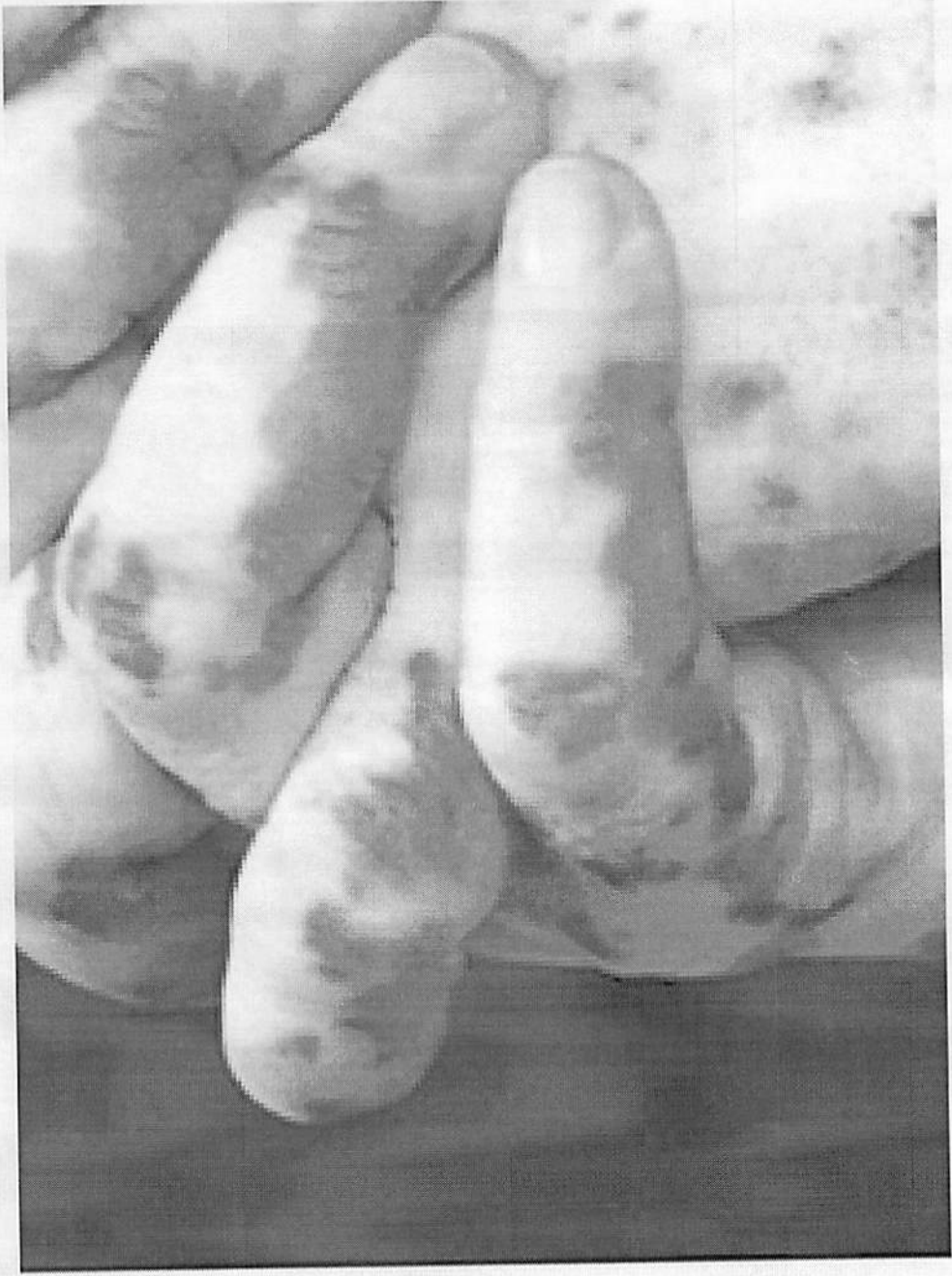
Table 5.5 Correlation between serum vitamin B12 levels and vitiligo severity

		Vitamin B12 level
VASI Score	<i>r</i>	0,131
	<i>p</i>	0,582
	<i>n</i>	20

- Agarwal et al., Reported an inverse relationship between vitamin B12 levels in vitiligo patients with VASI
- However, this relationship was not statistically significant with $p = 0,592$, according to Silverberg et al.

CONCLUSION

- There was no significant relationship between serum homocysteine levels and VASI score
- There was no significant relationship between serum vitamin B12 serum levels and VASI score
- There was no significant correlation between homocysteine levels and serum vitamin B12 with the severity of vitiligo
- The mean vitamin B12 levels are lower than normal values.
- Vitamin B12 should be considered for therapy of vitiligo



THANK YOU