

# The Effect of Colon Detoxification with Psyllium Husk Seed on Urine and Blood Acidity Level of 23-35Years Old Officer

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## Abstract

This research was introduced by the change in lifestyle in each consumer lead to an insufficient amount of fruits and vegetables consumption. Especially in Thailand was found to have lower fruits and vegetables consumption than WHO has recommended. This problem can lead to colon cancer, gastrointestinal disorder and chronic disease. This research tends to find an alternative solution using the soluble fiber from psyllium husk seed which is believed to improve the defecation as it takes short time to reabsorb into the body .Moreover it helps to bulk laxative. In addition, soluble fiber helps to absorb toxin in the colon.

This research will study the effect of colon detoxification in two groups of volunteers, experimental group take psyllium husk seed with water before breakfast and lunch, while control group only drink 6-8 glass of water. During the day the volunteers must be drink 6-8 glass of water in everyday until completely 1 month. The assessment was done by testing on blood and urine acidity level and satisfaction evaluation of defecation of volunteers

Result, there were no significant change in any blood and urine acidity level in the control group and experimental group before and after treatment. However, intake of psyllium husk seed has significant indicates p -value for the helped to improve bulk laxative, small size and soft feces. Moreover, it helped to increase frequency of defecation/week as well.

The consumption of psyllium husk seed was not associated with improved acid-base balance, neither was the effect on the improvement of defecation.

**Keywords:**Psyllium Husk Seed/Colon Detoxification/Acid -Base Balance

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## Introduction

Today, even the food products which people consider to be natural are still filled with preservatives, pesticides, and other chemicals. The most significant food-related lifestyle changed of the past two decades probably is the increase in consumption of food prepared away from home, whether a meal in restaurants, take-out or home-delivered meals.(Joanne F. Guthrie, 2004)

The data from Thai Ministry of Public Health shown that the consumption of vegetables and fruits were less than the recommendation from USDA's food guidance pyramid WHO recommended 2-4 servings of fruit and 3-5 servings of vegetables daily to promote health benefits. WHO recommended of fruits and vegetables consumption are 400 g./ day

The amount of consumption of fruit and vegetable in Thailand is lower than WHO has recommended. The problem leads to heart diseases, colon cancer, gastrointestinal disorder and chronic disease. The aim of detoxification is eliminating alleged toxins that are held responsible for a variety of symptoms

The soluble fiber from psyllium husk seed is useful in gastrointestinal disorder. It can help as bulk forming laxative, being high water-holding capacity, non-fermentable and able to form gel that has high water-holding capacity which is relatively non-fermentable and forms a gel that resists dehydration in the colon. Moreover, soluble fiber helps to absorb toxins in the colon.

Increased intake of psyllium husk seed contained in colon cleansing products should be helpful to improve defecation because it helps to reduce the time of waste that is reabsorbed into the body.

Researchers hope that this research will be useful as an alternative source of fiber that is inexpensive and easy to find.

### Objectives

1. To study the effect of colon detoxification with psyllium husk seed 6 g./meal on blood acidity level of volunteers.
2. To study the effect of colon detoxification with psyllium husk seed 6 g./meal on urine acidity level of volunteers.
3. To study the effect of colon detoxification with psyllium husk seed 6 g./meal on satisfaction of defecation of volunteers.

### Research Procedure

Volunteers were assessed on the level of insufficient fruit and vegetable consumption, a problem of defecation, by questionnaire before they began the experiment. Urine samples were collected from volunteers for acidity tests before they began the experiment. Volunteers must have a 10 cc venipuncture at the cubital fossa for blood acidity tests by a medical technician from the faculty of Allied Health Science, Chulalongkorn University, before starting the experiment.

Volunteers were divided into two groups. The experimental group consisted of 15 volunteers taking psyllium husk seed 6 gram/sachet, mixed with water and shaken well 20-30 minutes before meals at breakfast and lunch, followed by 1-2 glasses of water. During the day, the volunteers must drink 6-8 glasses of water every day until completely 1 month. The control group consisted of 15 volunteers who must drink 6-8 glasses of water every day until completely 1 month. Urine samples were collected from all volunteers again for acidity tests after the experiment. Ten ml cubital fossa venipuncture blood was taken from volunteers for blood acidity tests by a medical technician from the faculty of Allied Health Science, Chulalongkorn University, after the experiment.

Data was analyzed for descriptive statistics including mean, percentage, average, and standard deviation. Paired t-test was used to analyze change before and after treatment. Chi-square tests were used to assess the intake of psyllium husk seed related with the frequency of defecation/week.

### Results

#### 4.1 The result of blood and urine acidity level.

**Table 4.1** The comparison of blood and urine acidity level of experimental group and control group before and after treatment.

Group	n	Acidity level		df	t	P-value
		Mean	Std. Deviation			
<b>Blood</b>						
Experimental	30	23.173	1.8904	58	0.35	0.73
Control	30	22.937	3.1925			
<b>Urine</b>						
Experimental	30	5.93	0.785	58	-1.67	0.10
Control	30	6.30	0.915			

Table 4.1 shows the comparison of blood and urine acidity level between of experimental group and control group before and after treatment. Experimental group of blood acidity level was (mean  $23.173 \pm 1.8904$ ) and the control group level was (mean  $22.937 \pm 3.1925$ ). There were no statistically significant difference between the two groups ( $p=0.73$ ).

Similarly, experimental group of urine acidity level (mean  $5.93 \pm 0.785$ ) did not show significant difference between the two groups (mean  $6.30 \pm 0.915$ ),  $P$ -value  $>0.05$ .

#### 4.2 The results from satisfaction questionnaires.

**Table 4.2.1 The comparison of defecation less than 3 times/ week**

Defecation less than 3 times/ week	n	Score		df	t	P-value
		Mean	Std. Deviation			
<b>Experimental group</b>						
Before	15	2.93	0.884	28	4.92	<0.001
After	15	1.47	0.743			
<b>Control group</b>						
Before	15	2.73	0.799	28	1.76	0.09
After	15	2.20	0.862			

**Table 4.2.2 The comparison of excessive time spent in defecation**

Excessive time spent in defecation	n	Score		df	t	P-value
		Mean	Std. Deviation			
<b>Experimental group</b>						
Before	15	2.87	0.990	28	2.270	0.03
After	15	2.20	0.561			
<b>Control group</b>						
Before	15	2.00	0.535	28	-1.47	0.15
After	15	2.27	0.458			

**Table 4.2.3 The comparison of the small feces size**

Small size of feces	n	Score		df	t	P-value
		Mean	Std. Deviation			
<b>Experimental group</b>						
Before	15	2.87	0.743	28	2.14	0.04
After	15	2.33	0.617			
<b>Control group</b>						
Before	15	2.27	0.458	28	0.00	1.00
After	15	2.27	0.594			

**Table 4.2.4 The comparison of excessive hard stool**

Excessive hard stool	n	Score		df	t	P-value
		Mean	Std. Deviation			
<b>Experimental group</b>						
Before	15	3.40	1.056	28	3.32	<0.01
After	15	2.27	0.799			
<b>Control group</b>						
Before	15	2.47	0.516	28	0.32	0.75
After	15	2.40	0.632			

Table of 4.2.1 shows defecation comparison before and after treatment for each group. The experimental group was found to increase the frequency of defecation significantly more than 3/ weeks treatment (mean  $2.93 \pm 0.884$  vs  $1.47 \pm 0.743$   $p < 0.001$ ). Control group showed no significant different after treatment (mean  $2.73 \pm 0.799$  vs mean  $2.20 \pm 0.862$ ,  $p = 0.09$ )

Table of 4.2.2 shows the comparison of excessive time spent before and after treatment for each group. The experimental group was found to decrease the excessive time spent in defecation (mean  $2.87 \pm 0.990$  vs  $2.20 \pm 0.561$ ,  $p = 0.03$ ). Control group showed no significant different after treatment (mean  $2.00 \pm 0.535$  vs  $2.27 \pm 0.458$ ,  $p = 0.15$ )

Table of 4.2.3 shows the comparison of small feces size before and after treatment for each group. The experimental group was found to reduce the size of feces significantly (mean  $2.87 \pm 0.743$  vs  $2.33 \pm 0.617$ ,  $p = 0.04$ ). Control group showed no significant different (mean  $2.27 \pm 0.458$  vs  $2.27 \pm 0.594$ ,  $p = 1.00$ ).

Table of 4.2.4 shows the comparison excessive hard stool before and after treatment for each group. The experimental group was found to reduce the hardness of stool significant (mean  $3.40 \pm 1.516$  vs  $2.27 \pm 0.799$ ,  $p < 0.01$ ). Control group showed no significant (mean  $2.47 \pm 0.516$  vs mean  $2.47 \pm 0.516$ ,  $p = 0.75$ ).

### 4.3 The relation of frequency defecation/ week of volunteer

**Table 4.3.1** The relation of defecation per week frequency of experimental and control group before treatment.

Before treatment		Frequency of defecation/week				Total	Pearson Chi-Square
		2	3	4	5		
group	control	1	6	5	3	15	0.305
	experimental	2	8	5	0	15	
Total		3	14	10	3	30	

**Table 4.3.2** The relation of defecation per week frequency of experimental and control group after treatment.

After treatment		Frequency of defecation/week					Total	Pearson Chi-Square
		3	4	5	6	7		
group	control	7	4	4	0	0	15	<0.001
	experimental	0	0	1	5	9	15	
Total		7	4	5	5	9	30	

Table of 4.3.1 and 4.3.2 shows the frequency of defecation/ week of volunteer after treatment with psyllium husk seed were using Chi-square test that shows after treatment P-value (<0.001) has significantly related between the frequency of defecation/ week after treatment.

## 5.1 Conclusion and discussion

According to the results, the study of detoxification with psyllium husk seed, male and female 23-35 years old officer who have problem of defecation symptoms such as defecation less than 3 time per week, excessive time spent in each defecation, difficult to expel and too hard feces and insufficient fruit and vegetable consumption from questionnaires.

First, after the statistical analysis of the blood and urine acidity level data. The clinical study in the experimental group compared with control group. The result of blood acidity level using Paired T-Test showed that experimental group (mean  $23.173 \pm 1.8904$ ) has no significant difference from control group (mean  $22.937 \pm 3.1925$ ), P-value  $> 0.05$ . Similarly, the result of urine acidity level of experimental group (mean  $5.93 \pm 0.785$ ) no significant change in control group (mean  $6.30 \pm 0.915$ ), P-value  $> 0.05$ .

The result statistic showed the satisfaction of defecation of volunteer, intake of psyllium husk seed in experimental group can improved the symptom of constipation such as in take psyllium husk seed help to improve the rates of defecation more than 3 times /week, and reduce the excessive time spent during defecation, increase small size of feces and reduce excessive hard stool significantly (P-value  $> 0.05$ )

The relation of frequency defecation/ week of experimental and control groups before treatment using Chi-square Test shows the comparison of intake psyllium husk seed in experimental group (P $<0.05$ ) and control group have the relation of frequency of defecation per week after treatment.

Psyllium fiber is widely used as a fiber supplement for the treatment of constipation and has in clinical trials repeatedly reported significantly increased levels of stool moisture, as well as wet and dry stool weight in healthy subjects (Julia Wärnberget *al*, 2009). Moreover, intake of psyllium husk seed was the commonly used in the medication for constipation because of sufficient fiber intake and use of laxatives to induce regular bowel movements. (Anthony Lembo, M.D., and Michael Camilleri, M.D., 2003). and help to reduced the constipation symptoms that related from the result of the satisfaction of defecation of volunteer, intake can improved the symptom of constipation such as improved the rates of defecation more than 3 times /week, and reduce the excessive time spent during defecation, increase small size of feces and reduce excessive hard stool.

## References

- Enni-Maria Hietavala , Risto Puurtinen, Heikki Kainulainen and Antti A Mero (2012), **Low protein vegetarian diet does not have a short-term effect on blood acid–base status but raises oxygen consumption during submaximal cycling**, Journal of the International Society of Sports Nutrition 2012, 9:50
- Ian Forrest Robey (2012), **Examining the relationship between diet-induced acidosis and cancer**, Nutrition & Metabolism 2012, 9:72, Arizona Respiratory Center, University of Arizona
- Anthony Lembo, M.D., and Michael Camilleri, M.D. (2003), **Current Concepts Chronic Constipation**, The New England Journal of Medicine, October 2003, 1360-1368
- Joanne F. Guthrie (2004), **Understanding Fruit and Vegetable Choices Economic and Behavioral Influences**, Agriculture Information Bulletin Number 792-1, October 2004
- Harvard Medical School (2008), **The dubious practice of detox Internal cleansing may empty your wallet, but is it good for your health?** Harvard Women's Health Watch, Volume 15 Number 9, May 2008
- Helen Hermana M Hermsdorff, Mariangeles Zulet, Blanca Puchau and José Alfredo Martínez (2010), **Fruit and vegetable consumption and proinflammatory gene expression from peripheral blood mononuclear cells in young adults: a translational study**, Nutrition & Metabolism 2010, Department of Nutrition, Food Science, Physiology and Toxicology, University of Navarra, Pamplona, Spain, 7:42

- RamdaneDris (2005), **Consumption trends of fruits and vegetables intheWest Asian and North African countries**, Journal of Food, Agriculture & Environment Vol.3 (1) : 81-86. 2005.
- SookMee Son** (2003), **Food Consumption Trends and Nutrition Transition in Korea**, Major of Foods and Nutrition, The Catholic University of Korea, Mal J Nutr 9(1): 7-17, 2003
- Joanna Harasym Ph.D., M.Sc., Eng, RemigiuszOledzki Ph.D., M.Sc.(2014), **Effect of fruit and vegetable antioxidants on total antioxidant capacity of blood plasma**, Nutrition 30 (2014) 511–517
- Susan Southon (2000), **Increased fruit and vegetable consumption within the EU: potential health benefits**, Food Research international 33 (2000) 211-217
- John C Atherton (2009), **Acid-base balance: maintenance of plasma pH**, Anaesthesia and Intensive Care Medicine 10:11
- Ranit Mishori, MD, MHS; Aye Otubu, MD,MPH; Aminah AlleyneJones, MD, MPH, **The dangers of colon cleansing**, The Journal of family Practice August 2011 Vol 60, no 8, 454-457
- Joseph H. Kahn, MD Supriya D. Mehta, PHD, MHS (2008), **Aplasic Anemia: A PossibleToxic Effect of an Herbal “Colon Cleansing” Preparation**, The Journal of Emergency Medicine 191-193
- Julia Wörnberget *al* (2009), **Functional Benefits of Psyllium Fiber Supplementation**,Current Topics in Nutraceutical Research Vol.7, No.2, 55-64, 2009