THE ASSOCIATION BETWEEN SOCIO-DEMOGRAPHIC FACTORS AND CONSUMPTION OF VITAMINS/ MINERALS SUPPLEMENTS IN CHULALONGKORN UNIVERSITY SUPPORTING STAFF.

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ABSTRACT: This research is aimed to measure the association between socio-demographic factors and vitamins or mineral supplement consumption among Chulalongkorn University supporting staff members. Data collection process was done by random sampling but based on a structured method. The data collection process was done by tallied the total number of supporting staff population at Chualongkorn University and the number of supporting staff at each faculty, the percentage of the faculty's contribution was then calculated to the population size. A total of 324 supporting staff were included in the study, including males and females, were selected based on random sampling. The results of the study showed that the age range was 21-50. The majority of the study population consists of females, which constituted 66.7 percent and males 33.3 percent.Most of the study population was well educated and had a bachelor degree in any related field (63.9 percent). A structured questionnaire was distributed including: socio-demographic factors, knowledge of vitamins and minerals, attitude toward vitamins or mineral supplements and practice of vitamins and mineral supplements. That there was no significant difference in the knowledge score between consumers and non-consumers (p=0.082), while there was a significant association between the attitudes of consumer and non-consumer towards vitamins and mineral supplements (p=0.047). Out of the total of 324 supporting staff that were studied at Chulalongkorn University, a total of 106(32.7%) of them were currently consuming vitamins or mineral supplements, while 173 (79.35%) of the non-consumers were willing to consume vitamins or mineral supplements in the nearby future. There was an association between education and consumption of vitamins and mineral supplements (p=0.044), although there was no association between income and vitamin or mineral supplement consumption (p= 0.423). There was no significant association for lifestyle behavior such as alcohol (p=0.959), exercise (p=0.084) and smoking (p=0.302), with vitamin or mineral supplement consumption in the sampled supporting staff members at Chulalongkorn University. The results showed that the main reason for consumption of vitamin or mineral supplement was "To preserve and maintain good health (33.33%), while deciding to consume vitamins or minerals supplements had came from the media (8.95%). Further studies, will look at the knowledge, attitude and practice of vitamins or mineral supplements in teenagers.

Keywords: Chulalongkorn University, Demographic factors, Vitamin and Mineral supplement consumption, Supporting staff.

INTRODUCTION: In the recent years that has been an increase in the consumption and production of vitamins and minerals in Thailand[1)] and countries throughout Asia[2)]. Vitamin and mineral supplements were introduced to the Thai public approximately ten years ago. Ever since the introduction of vitamins or mineral supplement the market for dietary supplements has grown on average of 15 percent each year [3)]. The increase in consumption and awareness of vitamin or mineral supplement consumption is due to shift in lifestyle[1,2)]. There have been several recent studies throughout Asia that look at the association between vitamin and mineral consumption with socio-demographic factors[2,4,5,6)]. In a recent study by Ishihara (2003) those that were living in more metropolitan areas had higher prevalence of vitamin or mineral supplement consumption, and those who had more conservative jobs such as farming or self-employed were less likely

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to consume vitamin or mineral supplement. Income can also be associated with consumption of vitamins and mineral supplements in all age groups. Teenagers who came from high socio-economic status were more likely to consume vitamins or mineral supplements when compared to those from lower socio-economic status[3)]. To study was conducted to study the association between socio-demographic factors and consumption of vitamins/mineral supplements in Chulalongkorn Supporting staff.

MATERIALS AND METHODS: Data collection: the total number of supporting staff members that were working at Chulalongkorn University were obtained from the university database. The total number of supporting staff members from 18 faculties, were then tallied and calculated as a percentage of the total population. From that using Cochran equation the sample size was the calculated. Random structured sampling was used, so that each faculty could be represented. Measurement tools: a structured questionnaire which was validated (0.72) and tested for reliability (0.83), using Krudel Richardson method and Cronbach-alpha. The questionnaires were distributed to 18 faculties, for 324 respondents, which was selected by random sampling. The questionnaire consisted of 4 parts: socio-demographic part, knowledge about vitamins and mineral supplements (20 questions), attitude towards vitamins and mineral supplements (13 statements) the attitude section of the questionnaire consisted of 13 structured statements. The statements in the attitude section were constructed based on four different areas of preference: affordability preference, brand preference, convenience preference, personal preference, and satisfaction preference. The last part was practice of vitamins and mineral supplements in consumers. Data analysis: Statistical tests, such as t-test and chi-square were formulated to test the association between several socio-demographic factors and vitamin or mineral supplement consumption.

Table 1 Socio-demographic information regarding studied population

	n	Male Consumer	%	n	Females Consumer	%
Gender	108		33.3	216		66.7
Consumers of Vitamin/mineral Supplement		35	32.4		71	32.8
Age(Years)						
21-30 years	53	8	15.1	94	25	26.3
31-40 years	20	12	60	70	26	37.1
41-50 years	15	5	33.3	45	18	40
51-60 years	20	10	50	7	2	28.5
Education level						
High school	2	1	50	22	11	50
Lower vocational School	8	3	37.5	11	3	27.2
Vocational school	7	2	28.5	9	5	55.5
Bachelor degree	66	24	36.3	141	32	22.7
Master Degree	19	3	15.7	25	14	56
Doctor Degree	2	1	50	5	4	80
Others	4	1	25	3	2	80
Household income (per/month)						
Less than 10,000 Baht	37	4	10.8	15	10	66.7
10,000-29,999 Baht	15	2	13.3	120	31	25.8
30,000-49,999 Baht	29	1	3.44	40	16	40
50,000-69,999 Baht	13	8	61.5	30	8	26.7
More than 70,000 Baht	14	11	78.5	11	4	36.3
Smoking Habit						
Current Smoker	18	8	44.4	1	0	
Former Smoker	25	10	40	4	3	80
At least once a week	4	1	25	22	3	13.63
Never smoked	86	10	11.6	164	65	39.6
Alcohol consumption						
Non-consumer	3	1	33.3	156	60	38.46
Socially	95	30	31.6	54	10	18.51
At least once a week	6	3	50	5	1	20
	4	1	25	1	1	100
Exercise activity						
Exerciser	89	20	22.4	63	9	14.3
Non-exerciser	19	15	78.9	153	62	40.5
Duration Of Consumption of vitamins/minerals supplements						
Less than 6 months	-	20	18.5	-	32	30.1
6 - 12 months	-	7	6.5	-	7	6.24
1 - 2 years	-	3	2.8	-	16	15.09
More than 3 years	-	5	4.6	-	16	15.09

RESULTS: Vitamins and supplement usage are rather prevalent in among Chulalongkorn University supporting staff members, out of the 324 of the staff members studied 106(32.7%) (Table 1) of them were currently consuming vitamins or minerals, whereas those that were not currently consuming vitamins at the time of study 173 (79.35%) of the non-consumers were willing to consume vitamins or mineral supplements in the nearby future. forty nine percent of the consumers of vitamin or mineral supplements in the supporting staff had been been consuming them for less than 6 months(Table 1). From 106 consumers, felt very satisfied with the results of consumption of vitamins and minerals that they were currently consuming, while 61.3 percent of them were consuming an imported brand of vitamin or mineral supplement. When deciding to consume vitamins or mineral supplements, the main motivation had come from the media (8.95%), and the main reason for consumption was "To preserve and maintain good health (33.33%)". The overall results of the study showed that the majority of the consumers of vitamins and mineral supplements were satisfied with the results on their health with consumption.

Socio-demographic factors association with vitamin or mineral supplements:

Gender: There was only a slight difference in the gender distribution with the consumption of vitamin or mineral supplements. According to the results of the study 32.8 percent of the consumers of vitamins or mineral supplements were woman, while men constituted 32.4 percent of the consumers (Table1).

Education: The majority of the studied population (63.9%) had a Bachelor's degree in any related field. There was a significant association between consumption of vitamin or mineral supplement and education level (p=0.044).

Income: Less than half of the studied population had an income of 10,000-29,999 baht, although there was no significant association between income and vitamin or mineral supplement (p=0.423).

Lifestyle factors: Alcohol (p=.959), exercise (p= .084) and smoking status (p=.302) had no significant association between vitamin and mineral supplement consumption (Table2).

Knowledge score regarding vitamins and minerals. The knowledge score was rather low for both consumers and non-consumers of vitamins or mineral supplements. The means score for consumers was 9.40 out of 20 whereas; non-consumers had a score of 8.70 out of 20. There was no significant association between these two groups level of knowledge (p=0.082) (Table 3). Therefore, there is no association with consumption of vitamins or mineral supplements and the knowledge level or understanding of consumers in this study group. The average score for the attitude section of the question, regarding the consumption of vitamins or mineral supplements was 3.30. According to the likert scale this would mean that the supporting staff at Chualongkorn University "some-what agreed" with vitamin or mineral supplements. There was significant association between the attitude of consumers and non-consumers (p=0.047) (Table 4). There was a distinct significance, in an attitude statement such as "Consumption of vitamins or mineral makes me feel in trend" had a (p-value of 0.023) (Table 4).

Table 2 Association with lifestyle factors and consumption of vitamin and mineral supplements

Associated factors with Vitamin or mineral consumption	χ^2	Df	P-value
Alcohol	.308	3	.959
Exercise	2.977	1	.084
Smoking	3.647	3	.302

Table 3 Knowledge score of supporting staff

	Knowledge score			
	Mean	**S.D**	**T-value**	**P-value**
Consumers	9.47	3.38		
Non-consumers	8.70	3.91	-1.747	0.082

Table 4 Attitude towards vitamin or mineral consumption (non-consumer *vs.* consumer)

Attitude regarding vitamin or mineral supplement	Non-consumer		Consumer		t-value	p-value
	mean	S.D.	mean	S.D.		
Mean score of attitude	3.26	0.51	3.38	0.45	-1.998	0.047*
Vitamins or mineral supplements will prevent chronic diseases.	3.05	0.84	3.35	0.84	-3.006	0.003*
Consumption of vitamins or mineral supplements makes me feel in trend.	2.57	1.05	2.86	1.10	-2.287	0.023*
Even though vitamins or mineral supplements are expensive, they are worthwhile.	2.76	0.98	3.01	0.96	-2.146	0.033*

DISCUSSION: There was no association between the consumption of vitamin or mineral supplement with the increase in awareness or knowledge level about nutrients and the source of vitamins or minerals, while there was a great significance in the attitude toward vitamin or mineral supplement consumption between consumers and non-consumers (p=0.044). From this it can be said that the supporting staff at Chulalongkorn University are willing to consume, although there maybe other factors that are preventing consumption. For example, affordability preference can be one of the contributing factors. There is a relationship between education and vitamin or mineral supplement consumption, while there is no association between consumption of vitamin or mineral supplement with alcohol, exercise and smoking status. From our study we can see that those with high education are more likely to consume vitamins or mineral supplements when compared to those with lower level of education, while the knowledge level of the consumer of vitamin or mineral supplement consumption was very low, and should have been higher since there should be awareness and understanding of the vitamins or minerals that they are currently consuming. For future studies, a similar study should be performed by changing the study group to teenagers possibly also at Chulalongkorn University as well.

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ความสัมพันธ์ระหว่างปัจจัยทางสังคม–ประชากร ที่มีต่อการบริโภควิตามินและเกลือแร่ ของพนักงานสนับสนุน จุฬาลงกรณ์มหาวิทยาลัย

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บทคัดย่อ: การศึกษานี้มีจุดมุ่งหมายที่จะวัดความสัมพันธ์ระหว่างปัจจัยทางสังคม ประชากรที่มีต่อการบริโภควิตามินและเกลือแร่ การจัดเก็บข้อมูลอาศัยวิธีการสุ่มตัวอย่างอย่างเป็นระบบ สัดส่วนที่จัดเก็บข้อมูลเป็นร้อยละ โดยอิงกับจำนวน บุคลากรจริงของจุฬาลงกรณ์มหาวิทยาลัย จำนวนข้อมูลของพนักงานสนับสนุนที่คำนวณได้ คือ 324 คน โดยรวมทั้งเพศชายและเพศหญิง ซึ่งได้มาจากการสุ่มตัวอย่าง จากการศึกษาพบว่า กลุ่มตัวอย่างส่วนใหญ่อยู่ระหว่างอายุ 21-50 ปี และเป็นผู้หญิง 66.7% และชาย 33.3% ประชากรส่วนใหญ่มีการศึกษาในระดับปริญญาตรี 63.9% แบบสอบถามที่เกี่ยวข้องกับปัจจัยทางสังคมประชากร, ความรู้เกี่ยวกับวิตามินและเกลือแร่ ทัศนคติในการบริโภควิตามินและเกลือแร่ ถูกแจกจ่ายออกไปในการเก็บข้อมูล ผลการศึกษาแสดงให้เห็นว่า ความรู้ไม่ได้เป็นปัจจัยที่ทำให้คนบริโภคหรือไม่บริโภควิตามินและเกลือแร่ แต่เรื่องทัศนคติส่วนตัวมีผลต่อการบริโภควิตามินและเกลือแร่ จากการศึกษาบุคลากรสนับสนุนของจุฬาฯ จำนวน 324 คน มีจำนวน 106 คน บริโภควิตามินและเกลือแร่ ขณะที่ 173 คน คาดว่าจะใช้วิตามินและเกลือแร่ในอนาคต นอกจากนี้พบความสัมพันธ์ระหว่างการศึกษากับการบริโภควิตามินและเกลือแร่ แต่เป็นที่น่าแปลกว่า ไม่มีความสัมพันธ์ระหว่างการบริโภควิตามินและเกลือแร่กับรายได้ ในขณะเดียวกันก็ไม่มีความสัมพันธ์กับตัวแปรอื่น ๆ เช่น วิถีชีวิต การดื่มแอลกอฮอล์ล ออกกำลังกาย การสูบบุหรี่กับการบริโภควิตามินและเกลือแร่ จากการศึกษายังพบด้วยว่าบุคลากรสนับสนุนส่วนใหญ่ของจุฬาฯ ต้องการบริโภควิตามินและเกลือแร่ ให้สุขภาพดี แข็งแรง ในขณะเดียวกันการโฆษณาก็มีผลบ้างเล็กน้อยในการบริโภควิตามินและเกลือแร่ การศึกษาต่อไปควรจะร่วมศึกษาในกลุ่มบุคคลหลายๆ ประเภท โดยเฉพาะอย่างยิ่งกลุ่มเยาวชน ว่ามีทัศคติและแนวคิดเกี่ยวกับวิตามินและเกลือแร่อย่างไร

คำสำคัญ: จุฬาลงกรณ์มหาวิทยาลัย ปัจจัยทางประชากร วิตามินและเกลือแร่ พนักงานจุฬาลงกรณ์มหาวิทยาลัย

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