

## BACKGROUND

From 1993-1996 to 2005-2008, the Nutrition and Health Surveys in Taiwan (NAHSIT) reported an increase in the prevalence of obesity and metabolic syndrome from 10.9% to 24.8% for men and from 20.2% to 33.6% for women despite the Taiwanese government's efforts to establish national dietary guidelines since the early 1980's.<sup>1,2</sup> This data has raised the concern about the population's awareness of metabolic diseases, the importance of having a balanced diet, and the Taiwanese people's access to nutrition information. *The objective of this study was to explore the public awareness on the current dietary issues, the barriers to healthy eating, and the prevalence of nutrition information dissemination in Taiwan.*

## METHODS

**Study design:** This is a cross-sectional, observational survey.

**Participants/Subjects:** The population consisted of the family and friends of non-healthcare professional staff of the Taipei Hospital during June 2019. Thirty-seven participants were asked by a third party, the TIHTC staff, to fill out an anonymous online Google survey between June 5 and June 30.

**Data collection and analysis:** Age, sex, and answers to the survey questions were collected. Questions included evaluation of the participants' perspective on Taiwan's nutrition problem and their own diet, their social media usage in encountering nutrition information, and their barriers in improving diet. Data was stratified by age and gender. The Fisher's exact test was performed to look for statistical significance.

## RESULTS

Survey questions	Responses	Total	18-35	36+	P-value	Survey questions	Responses	Total	18-35	36+	P-value
Is nutrition a problem in Taiwan? (n=37)	Yes	33 (89%)	22 (96%)	11 (79%)	0.14	Do you use a social media platform as a source of nutrition information? (n=37)	Yes	28 (75%)	19 (83%)	9 (64%)	-
	No	4 (11%)	1 (4%)	3 (21%)			No	9 (25%)	4 (17%)	5 (36%)	
Are you concerned about your own nutrition? (n=37)	Yes	28 (75%)	18 (78%)	10 (71%)	0.70	Which social media platforms do you get most of your nutritional information from? (n=29)	Facebook	18 (62%)	14 (74%)	4 (40%)	
	No	9 (25%)	5 (22%)	4 (29%)			Line	5 (17%)	1 (5%)	4 (40%)	
Do you eat a healthy diet? (n=37)	Rarely/Sometimes	26 (70%)	18 (78%)	8 (57%)	0.27		WeChat	0	0	0	
	Often	11 (30%)	5 (22%)	6 (43%)			Instagram	5 (17%)	4 (21%)	1 (10%)	
What is the primary factor that hinders you from maintaining a healthy diet? (n=37)	Habit	5 (14%)	3 (13%)	2 (14%)	-		Twitter	0	0	0	
	Eating Out	20 (54%)	15 (65%)	5 (36%)		Other	1 (3%)	0	1 (10%)		
	Lack of Motivation	5 (14%)	3 (13%)	2 (14%)		How likely are you to put to practice the nutritional information that you see on social media into your dietary practices? (n=30)	Often/Sometimes	20 (67%)	10 (53%)	10 (91%)	0.0485
	Not a concern	1 (3%)	0	1 (7%)			Rarely	10 (33%)	9 (47%)	1 (9%)	
	Access to info	0	0	0		When you put to practice the nutritional information on social media, why did you decide to practice it? (n=30)	It is from people I trust	4 (13%)	1 (6%)	3 (27%)	
	Lack of knowledge	2 (5%)	0	2 (14%)			It seemed fun or interesting	9 (31%)	6 (33%)	2 (18%)	
	No hindrance	2 (5%)	1 (4%)	1 (7%)			It represents information I validated or researched	4 (13%)	2 (11%)	2 (18%)	
Other	2 (5%)	1 (4%)	1 (7%)	The information seemed logical to me	13 (43%)		9 (50%)	4 (36%)			
What are your top 3 ways of getting nutrition information? (n=37)	Upbringing	18 (16%)	14 (20%)	4 (9.5%)	-		It is trending/popular on social media	0	0	0	
	School Education	9 (8%)	6 (9%)	3 (7%)		Other	0	0	0		
	Social media	19 (17%)	13 (19%)	6 (14%)							
	Health care providers	19 (17%)	9 (13%)	10 (24%)							
	Taiwan dietary guidelines	12 (11%)	7 (10%)	5 (12%)							
	Print media	23 (21%)	13 (19%)	10 (24%)							
	Broadcast news	11 (10%)	7 (10%)	4 (9.5%)							
Other	0	0	0								

**Table 1.** Responses from the survey questions and Fisher's exact test analysis

From Table 1, 89% of the participants believed there was a dietary issue in Taiwan. 75% of the participants were concerned about their own diet, and 70% reported that they rarely or sometimes ate a healthy diet. 67% of the participants use a social media platform as a source of nutrition information. Significantly, more than 91% of the older population (>35 years old) vs. 53% of younger participants (18-35 years old) were likely to put into practice what they learned from social media (**p=0.0485**) even though 83% of younger participants and 64% of older participants reported using social media as a source of nutrition information.



## RESULTS (CONT.)

Eating out was reported by 54% of the participants to be the main barrier to maintaining a healthy diet, followed by lack of motivation (14%), and habit (14%) (Figure 2). The top three sources for nutrition information were print media, social media, and healthcare providers (Figure 1). Facebook was the most popular social media platform (62%) as a source of nutrition information.

Interestingly, the survey also showed that most participants applied online nutritional information based on what they thought was either fun or interesting (30%) or what seemed logical (43%), while only 13% of the participants applied the information after validating or researching it (Table 1).

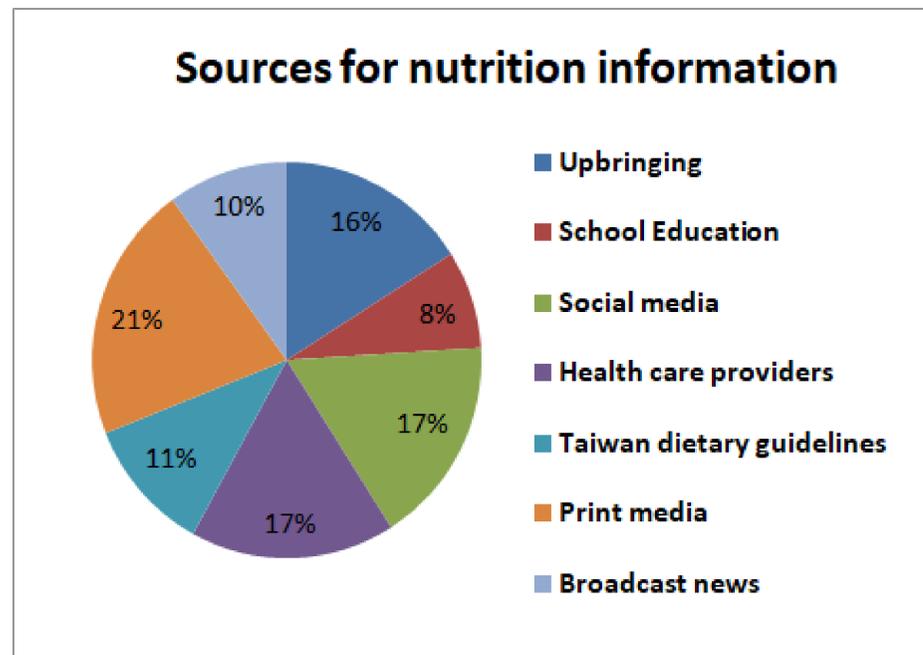


Figure 1. Top three sources selected by participants as primary way of obtaining nutrition information

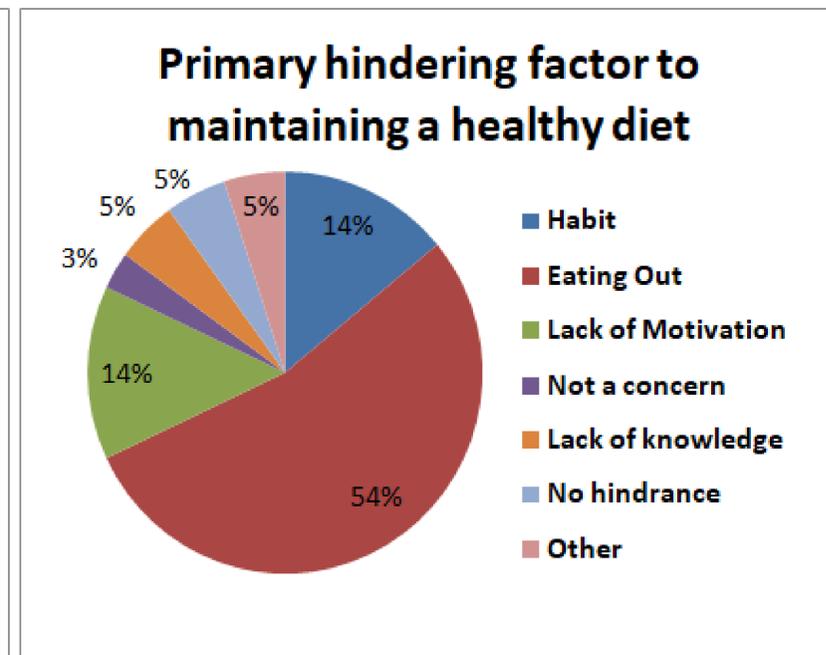


Figure 2. Primary factors selected by participants that hinder them from maintaining a healthy diet

## CONCLUSION

- Despite public and personal interest in addressing nutritional issues, the participants identified the major barrier to maintaining healthy lifestyle was associated with eating out, possibly due to a busy lifestyle, affordability, and convenience.
- Exposing the advantages and disadvantages of social media as an emerging resource for nutrition information, our study suggests that social media can be used as a greater means of disseminating scientifically proven nutritional information in a conducive manner that can attract the general public.
- In summary, this pilot study reveals some of the dietary barriers and behaviors of people in Taiwan and sheds light into potential future interventions to promote public health.

## REFERENCES

1. Pan WH, Wu HJ, Yeh CJ, Chuang SY, Chang HY, Yeh NH, Hsieh YT. Diet and health trends in Taiwan: comparison of two nutrition and health surveys from 1993-1996 and 2005- 2008. *Asia Pac J Clin Nutr.* 2011;20 (2):238-250.
2. Wu SJ, Pan WH, Yeh NH, Chang HY. Trends in nutrient and dietary intake among adults and the elderly: from NAHSIT 1993-1996 to 2005-2008. *Asia Pac J Clin Nutr.* 2011;20(2):251-65.

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