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AN ASSESSMENT OF FACTORS INFLUENCING CONSUMPTION PATTERNS OF SUN-DRIED VEGETABLES AMONG HOUSEHOLDS IN TESO SOUTH SUB-COUNTY, KENYA

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ABSTRACT

Micronutrient deficiencies are a public health concern affecting more than two billion people worldwide. When adequately consumed, vegetables avert the risk of micronutrient deficiencies. However, low intake of vegetables is common during the dry season due to scarcity and increased prices. This study, a follow-up to the EATSANE project in Teso South sub-county, aimed to assess factors influencing the consumption patterns of sun-dried vegetables among households in Teso South sub-county. The EaTSANE project used the Trials for Improved Practices (TIPs) approach to promote sun drying and consumption of sun-dried vegetables in the study area. This cross-sectional study involved collecting quantitative and qualitative data through interviews and focus group discussions. It targeted women from the TIPs (50) and non-TIPs households (50) of the EaTSANE project. The questionnaire respondent rate was 99% as only 49 women from the TIPs households could be found. The mean ages were 36.82 ± 11.56 and 34.94 ± 10.94 years for the TIPs and non-TIPs participants, respectively. Most TIPs (61.2%) and non-TIPs (56%) participants did not attain primary education and practiced crop farming. Consumption of sun-dried vegetables was reported by the TIPs participants (38.3%) only. The most preferred sun-dried vegetables were cowpea leaves, amaranth, nightshade, pumpkin leaves, jute mallow, and sun hemp, mostly consumed monthly (7.2%). Awareness of the sun-drying technology created by the EaTSANE's TIPs activities influenced the consumption of sun-dried vegetables [$X^2(4) = 35.233, p = .009$]. There was no significant relationship between the consumption of sun-dried vegetables and the duration of sun-drying ($p > 0.05$). However, a chi-square test of independence showed that there was a significant relationship between consumption of sun-dried vegetables and confidence in preparing a meal using sun-dried vegetables $X^2(4, N=99) = 26.964, p = .000$. A binary logistic regression analysis further showed that both the ease of preparing sun-dried vegetables ($p = 0.006$) and the confidence in preparing a meal comprising sun-dried vegetables ($p = 0.001$) were significant ($X^2(2) = 34.9, p < 0.001$). Sensory attributes including the color ($X^2(4, N=99) = 19.3, p = .001$) and taste ($X^2(4, N=99) = 25.4, p = .000$) of sun-dried vegetables were also significant in influencing their consumption. For improved consumption of sun-dried vegetables, there is a need to create more awareness of the sun-drying technology, especially among households that did not participate in EatSANE's TIPs activities.

Key words: Micronutrient deficiencies, sun-dried vegetables, households, trials of improved practices



BACKGROUND

The triple burden of malnutrition continues to be a public health concern, majorly affecting children and women of reproductive age in low- and middle-income countries. The United Nations Children's Fund (UNICEF) describes the triple burden of malnutrition as the coexistence of various forms of malnutrition, including overnutrition, undernutrition, and micronutrient deficiencies [1]. The triple burden of malnutrition is associated with increased morbidity and mortality among vulnerable groups. Regular and adequate consumption of vegetables plays a vital role in combating the triple burden of malnutrition since vegetables provide the essential micronutrients the body needs to avert micronutrient deficiencies, promote health, and prevent obesity [2]. Despite the health benefits of vegetables, their consumption is significantly below the threshold needed to meet the Food Agricultural Organization (FAO) and WHO recommended intake of 400g of fruit and vegetables per person per day [3]. Low vegetable intake is common during the dry season due to scarcity and increased prices [4]. Sun-drying is an old yet the most accessible form of vegetable preservation influenced by seasonal variations. It extends the shelf-life of vegetables while offering a cost-effective solution for bridging the gap during lean seasons when fresh vegetables may be scarce. The consumption of sun-dried vegetables has been recognized as a way to address micronutrient deficiencies, as it allows households to retain vital nutrients like vitamins and minerals that are often lost in fresh produce due to spoilage or unavailability during off-seasons [5].

While sun-dried vegetables are instrumental in closing seasonal gaps, diversifying the diet, and reducing the risk of micronutrient deficiencies, their consumption is influenced by various factors. One crucial factor is awareness of the sun-drying practice. The level of knowledge among households about sun-drying, including its benefits and the role it plays in improving food security, greatly determines its adoption. Studies suggest that households with a higher awareness of sun-drying techniques are more likely to utilize this method to preserve vegetables for future use [6]. A study conducted in Tanzania revealed that awareness of sun-drying technology played a key role in influencing the consumption of vegetables. According to Ochieng *et al.* [7], all the study participants were aware of the open sun-drying technology because it had been practiced traditionally by the community to enhance food security for households. Awareness of the sun-drying technique also contributed to the occasional consumption of sun-dried cowpea leaves among households in Coastal Kenya [8]. Without this awareness, many families might continue to rely on fresh vegetables alone, leading to dietary gaps during the dry season.



Another factor is the skill level of the participants in the sun-drying process. Proper sun-drying requires specific techniques to ensure that vegetables are preserved effectively without compromising their nutritional value. This involves selecting the right vegetables, preparing them correctly, and drying them in suitable conditions to avoid contamination or nutrient loss [9]. Households that lack the necessary skills might produce poor-quality sun-dried vegetables, which could deter their consumption. The ability to prepare a meal comprising sun-dried vegetables could also influence its consumption. Even though vegetables may be well-dried, the way they are rehydrated and incorporated into family meals can affect their acceptability. Some households may struggle to prepare dishes that maintain the taste and texture of fresh vegetables, which can lower the likelihood of regular consumption [9]. Nguni & Mwila in a study conducted in Zambia, found out that 50% of households cooked both fresh and sun-dried vegetables because women knew 2-4 preparation methods for both kinds of vegetables [10]. Similarly, the consumption of dried vegetables in Rural Tanzania was attributed to the easiness of preparation methods of dried vegetables [7].

Finally, sensory attributes such as taste, texture, color, and aroma play a critical role in determining whether households will consume sun-dried vegetables regularly. Studies have shown that sun-dried vegetables may lose some of their sensory appeal compared to fresh ones, and this can be a deterrent for households, particularly when the rehydrated product does not meet their expectations [11]. However, some households may be willing to overlook these sensory changes if they perceive significant nutritional or economic benefits. Consumption of sun-dried vegetables in Tanzania was also influenced by perception and sensory attributes such as taste and color [7]. While consuming sun-dried vegetables is key in promoting health and nutrition, addressing the above factors could enhance the adoption of sun-dried vegetables as a sustainable solution to seasonal food insecurity and micronutrient deficiencies.

This study was a follow-up of previous work carried out within the Education and Training for Sustainable Agriculture and Nutrition in East Africa (EaTSANE) project. This international collaborative research project was conducted in Teso South sub-county in Kenya and Kapchorwa District in Uganda. The project used the Trials for Improved Practices (TIPs) approach to promote the consumption of vegetables in the study area, and sun-drying of vegetables using protected sun-driers was one of the simple innovations introduced using TIPs to help households preserve surplus vegetables which can be used during the lean seasons. The present study sought to assess factors influencing the consumption patterns of sun-dried vegetables in Teso South sub-county. It involved households that were introduced to the sun-drying technique during the TIPs within the EaTSANE project site in Teso South sub-



county (TIPs participants), as well as households within villages near each of the villages that participated in TIPs that were not involved in the project activities (non-TIPs participants). The rationale for including the two groups in the study was to compare the consumption practices of sun-dried vegetables between the groups, and also to find out whether the EaTSANE project activities had spill-over effects on villages that were not targeted by the project activities.

METHODOLOGY

A cross-sectional study was conducted in Busia County, Teso South sub-county in January 2021. The study targeted women from households that participated in the EaTSANE project (TIPs participants) and those that did not (non-TIPs participants). The sample size was calculated using Yamane (1967) formula, leading to a sample of 100 participants. Since only 50 households participated in the TIPs activities that involved sun-drying of vegetables, women from these households were purposively sampled (TIPs participants). The comparative group comprising 50 women (non-TIPs participants) were systematically sampled from the villages close to those that participated in TIPs. A sample size of 99 was reached, with 49 being the TIPs participants (1 participant was dropped because he was male) and 50 non-TIPs participants. The overall respondent rate was 99%.

A semi-structured questionnaire was used to collect the participants' socio-economic and demographic characteristics, sun-drying practices, and consumption patterns. A quick quantitative data analysis was done to facilitate the development of the FGD guide, which was used to collect qualitative data. Eight FGDs involving 53 women were conducted, with each group comprising 6-10 participants. The average time per FGD was 1 hour and the participants gave further insights on sun-drying practices and consumption patterns. Qualitative data gathered was analyzed thematically while quantitative data was analyzed using the Statistical Package for Social Sciences (IBM SPSS 26.0). The inferential statistics included Chi-square tests, binary logistic regression, and Spearman correlation.

Ethical approval was obtained from Masinde Muliro University of Science and Technology (MMUST) Institutional Research Ethics Committee (IREC) REF NO: MMU/COR: 403012 Vol 3 (01). A research permit was also sought from the National Commission for Science, Technology and Innovation (NACOSTI) NACOSTI/P/21/9449. Informed consent was obtained from all participants, both orally and in writing before data collection. Privacy and confidentiality were maintained through anonymization of data and secure storage, and participants were assured of their autonomy and the voluntary nature of their participation.



RESULTS AND DISCUSSION

Consumption Patterns of Sun-dried Vegetables

a) Types of Sun-dried Vegetables Consumed by the Study Participants

Results showed that the majority (79.6%, n=39) of the TIPs participants consumed sun-dried vegetables, whereas none of the non-TIPs participants reported consuming them. A variety of sun-dried vegetables, including cowpea leaves, amaranth, nightshade, pumpkin leaves, jute mallow, kales, cabbages, sun hemp, and tomatoes were consumed, with variations across seasons. The distribution of vegetables consumed across the year is shown in Figure 2.

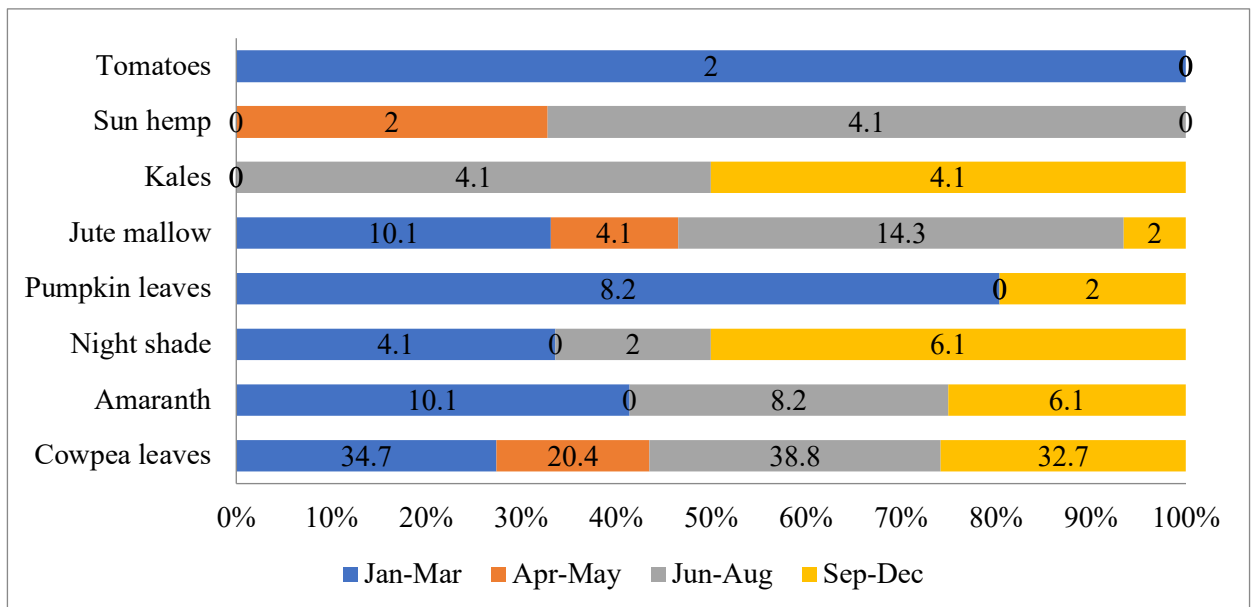


Figure 1: Distribution of Sun-dried Vegetables Consumed

Even though consumption of sun-dried vegetables was only reported among the TIPs participants, both groups mentioned their preferred types. For instance, among the TIPs households, the top five most preferred sun-dried vegetables were cowpea leaves (98% n=48), jute mallow (42.9% n=21), black nightshade (36.7% n=18), sun hemp (24.5% n=12), and amaranth (14.3% n=7). Among the non-TIPS participants, the five most preferred sun-dried vegetables included cowpea leaves (90% n=45), black nightshade (36% n=18), jute mallow (32% n=16), amaranth (28% n=14), and kales (20% n=10).

The FGD findings further revealed that preference for cowpea leaves was attributed to the sensory attributes, specifically taste:

“My children said sun-dried cowpea leaves are even tastier than fresh ones. Sometimes they even eat it raw because of the salt that I add during blanching.”
(FGD Acurut)

In Dodoma, dried cowpea leaves, jute mallow and *Cleome hirta* were the most consumed sun-dried vegetables [12], aligning with the current study's findings where sun-dried cowpea leaves, amaranth, jute mallow, black nightshade, and sun hemp were also mostly consumed. However, this is contrary to a study in Nigeria, where sun-dried tomatoes, okra and baobab leaves were the most consumed [13]. The variation in the findings could be attributed to differences in geographical settings, vegetable preferences, culture, and food beliefs.

b) Frequency of Consumption of Sun-dried Vegetables

Variations in the consumption of sun-dried vegetables across seasons are shown in Table 2. Of the two groups, only the TIPs participants (79.6%, n=39) consumed sun-dried vegetables in 2020. However, consumption varied across the seasons, with the highest consumption (53.1%, n=26) occurring between September and December, revealing an interesting dynamic in the consumption patterns. During this period, there are always plenty of fresh vegetables. Therefore, consumption of sun-dried vegetables during this period could be linked to availability, storage techniques, and preference. One of the reasons for the increased consumption of sun-dried vegetables between September and December is the harvest and preservation cycle. As one of the FGD participants put it:

"I do intercrop maize and beans but I harvest beans quite early. So immediately after harvesting beans I plant vegetables which I harvest with maize in September. The vegetables are always in plenty at this time and it is sunny enough to allow my vegetables to be sun-dried." (FGD Olupe)

The consumption pattern can also be tied to storage challenges. Storage practices directly impact the availability, quality, and durability of sun-dried vegetables consequently influencing how often households consume these foods. Lack of proper storage facilities can lead to a shortened shelf-life and compromised quality due to contamination, mold growth, or insect infestation [3]. Some of the facilities the study participants used for storing sun-dried vegetables included tins, bottles, or buckets with lids (59.2% n=29), tins, bottles, or buckets without lids (6.1% n=3), polythene bags (30.6% n=15), and sacks (4% n=2). Studies in rural Kenya have shown that households lacking proper storage facilities, such as airtight containers or well-ventilated spaces, often experience high post-harvest losses. This depletion of stored sun-dried vegetables reduces availability during critical months, leading to lower consumption when fresh vegetables are scarce [11]. Without reliable storage, households may run out of preserved vegetable stocks before the next harvest season, as seen in Teso South sub-county where stocks are often exhausted by January, despite greater need during the dry season. Other factors that can be linked to this consumption pattern include a preference for sun-dried vegetables over fresh ones and sun-drying minimal amounts of vegetables.



The frequency of consumption of sun-dried vegetables also varied by season. Frequencies reported included once per season, three times per season, and every month. A summary illustrating the frequency of consumption of sun-dried vegetables is provided in Table 3. Sun-dried vegetables were mostly consumed once in a month (7.2%) implying a very low intake of these vegetables in the Teso South sub-county. In contrast, sun-dried vegetables were consumed 2-3 times a week on average in the Kenyan Coastal region (7%), 1-2 times a week (38.9%), and 3-5 times a week (37.3%) in rural Tanzania [7]. These differences may be attributed to the novelty of sun-drying practice in Teso South sub-county compared to its habitual use in Rural Tanzania.

Factors influencing consumption patterns of sun-dried vegetables

Factors influencing the consumption of sun-dried vegetables were categorized into four, including awareness of the sun-drying practice, skills of sun-drying, ability to prepare sun-dried vegetables and sensory attributes.

a) Awareness of the Sun-Drying Practice

Awareness of the sun-drying practice was high among the TIPs (100%, n=49) compared to the non-TIPs participants (58% (n=29) of the were. The main sources of knowledge regarding sun-drying vegetables were the EaTSANE project for TIPs (76.6% n=49) and family members (66.7% n=14) for non-TIPS participants. A binary logistic regression was performed to examine whether awareness of the sun-drying practice predicted the consumption of sun-dried vegetables among participants. The model was statistically significant [$X^2(4) = 35.233, p = .009$], correctly explained 65.4% of the variation in awareness of the sun-drying practice (Nagelkerke R^2) and correctly classified 86.9% of participants who consumed sun-dried vegetables. The model estimates suggested that participants who had heard, seen, or learned about sun-drying vegetables were seven times more likely to consume them. The present study showed a significant ($p < 0.05$) relationship between awareness of the sun-drying practice and consumption of sun-dried vegetables. This is in line with results from Okello *et al.* [8], which showed that awareness of sun-dried vegetables was significantly ($p < 0.05$) associated with willingness to purchase sun-dried vegetables for consumption. Similar results were also reported in a study by Okaiyeto *et al.* [13]. These findings suggest that awareness of the sun-drying practice is pivotal in influencing the consumption of sun-dried vegetables.

b) Skills of Sun-drying Vegetables

Skills of sun-drying vegetables were assessed by finding out about the methods used to sun-dry, the duration vegetables took to completely dry up, and challenges of sun-drying. Regarding sun-drying methods employed, 70.3% (n=23) of the TIPs participants who sun-dried vegetables used the open-air method, while 29.7%



(n=11) used protected sun-driers. The duration vegetables took to completely dry up varied, with 36.8% (n=14) reporting of less than twelve hours, 28.9% (n=11) a day, 28.9% (n=11) two to three days, and 5.3% (n=2) reporting more than three days. Nearly all (94.7%) of the TIPs participants who sun-dried vegetables reported that they didn't experience effort constraints in the sun-drying practice. As one of the FGD participants put it:

“Sun-drying vegetables is not difficult because I was taught how it is done and I do it with my children. I even showed them how they are dried and cooked so that whenever I am not at home, they ca do it on their own.” (FGD Palikite)

A Chi-square test of independence was performed to evaluate the relationship between the consumption of sun-dried vegetables and skills for sun-drying. There was no significant relationship between the consumption of sun-dried vegetables and the duration of sun-drying ($p > 0.05$), and the constraints encountered in sun-drying of vegetables ($p > 0.05$). Those who had ever heard, seen, or learned about the sun-drying practice were likely to have a positive attitude towards the sun-dried vegetables. Similar results were reported in a study conducted in Nigeria where sun-drying vegetables were considered easy, cheaper, and with minimal constraints. Despite the convenience associated with sun-drying vegetables, there was no significant association between the skills in sun-drying and consumption of sun-dried vegetables [14].

c) Ability to Prepare Sun-dried Vegetables

A summary of the participants' ability to prepare a meal using sun-dried vegetables is presented in table 4. A chi-square test of independence showed that there was a significant relationship between consumption of sun-dried vegetables and the level of confidence in preparing a meal using sun-dried vegetables $X^2 (4, N=99) = 26.964, p = .000$. A Spearman's correlation was run to determine the relationship between the perceived ease of cooking sun-dried vegetables influenced participants' confidence in preparing sun-dried vegetables. There was a moderate positive correlation between the two variables, which was statistically significant ($r_s = .583, p < .05$). This implied that participants who perceived sun-drying vegetables as an easy task felt more confident in preparing a meal comprised of it.

A binary logistic regression was further carried out to ascertain the effects of the ease of preparing sun-dried vegetables and the confidence in preparation, on the likelihood of participants to consume sun-dried vegetables. The logistic regression model was statistically significant ($X^2 (2) = 34.9, p < 0.01$ and explained 40.3% of the variation in consumption of sun-dried vegetables (Nagelkerke R^2) and correctly classified 74.7% of cases. Both the ease of preparing sun-dried vegetables ($p = 0.006$) and the confidence in preparing a meal comprised of sun-dried vegetables (p



=0.001) were significant at a .05 level. The association between the ability to prepare a meal using sun-dried vegetables and consumption of sun-dried vegetables was also reported in Coastal Kenya, where women were familiar with more than one recipe for preparing sun-dried vegetables. The recipes included adding coconut milk, cream, and other spices accessible to households, making them more palatable and most preferred relative to fresh cowpea leaves (8).

d) Sensory Attributes

A summary of how the sensory attributes influenced participants' willingness to consume sun-dried vegetables is presented in Table 6. The two sensory attributes looked into included color and taste. A Chi-square test of independence was carried out to examine the relationship between these attributes and the consumption of sun-dried vegetables. The results showed a significant relationship between the color of sun-dried vegetables and their consumption, $X^2 (4, N=99) = 19.3, p = .001$. Similarly, a significant relationship was found between the taste of sun-dried vegetables and willingness to consume them, $X^2 (4, N=99) = 25.4, p = .000$. To delve more into the sensory attributes, the aspects of the color and taste of sun-dried were discussed in the FGDs. The theme derived was preference, where participants made comparisons between the taste and color of sun-dried vegetables vis-a-vis that of fresh vegetables. Some of the excerpts in support of the theme are as follows:

"I am not sure about how sun-dried vegetables taste, but I would eat if I find out that they taste as good as the fresh ones." (FGD Omuye)

"When I first sun-dried cowpea leaves, they turned brown. But when I cooked, they still tasted as good as the fresh ones." (FGD Obekai A)

Sensory attributes such as color and taste play a significant role in the acceptability of sun-dried vegetables [15]. Similar to the findings of this study, Ochieng *et al.* [7] reported that the color and taste of sun-dried vegetables significantly influenced the consumption of sun-dried vegetables in rural Tanzania. Moreover, Albani *et al.* [16], emphasized that the appearance, including the color of sun-dried products, should be attractive to consumers, as it is pivotal in their acceptability.

CONCLUSION AND RECOMMENDATIONS FOR DEVELOPMENT

Consumption of sun-dried vegetables was evident among the TIPs participants only, suggesting that awareness and knowledge dissemination are key determinants of the adoption of this preservation method. However, the intake of sun-dried vegetables was low, with a consumption frequency of once a month. Based on the study findings, factors that influenced the consumption of sun-dried vegetables included awareness of the sun-drying practice, ability to prepare sun-dried vegetables, and sensory attributes, such as color and taste of sun-dried vegetables.



To promote the consumption of sun-dried vegetables, there is a need for increased awareness through targeted education and training. Extension officers and organizations working in Teso South sub-county should intensify efforts to raise awareness of sun-drying as a valuable method for preserving vegetables, especially during lean seasons. They can also leverage media and information platforms to create awareness about sun-drying, storage methods, and the nutritional value of preserved vegetables. There is also a need to improve skills for preparing sun-dried vegetables, especially by conducting practical cooking demonstrations and developing easy-to-follow recipes. By doing this, families will be able to include sun-dried vegetables in their meals while maintaining their flavor, texture, and nutritive value. Since this study did not delve into the nutritional content of sun-dried vegetables and consumer preference, there is a need for further investigation into these aspects, especially in the context of Teso South sub-county.

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Conflict of Interest

The authors declare no conflict of interest.



Table 1: Demographic and socio-economic characteristics of the study participants

		TIPs Participants		Non-TIPs Participants	
		n	%	n	%
Age group	20-29	14	28.6	17	34.0
	30-39	20	40.8	23	46.0
	40-49	8	16.3	5	10.0
	50-59	5	10.3	1	2.0
	60-69	1	2.0	4	8.0
	70-79	1	2.0	0	0
Marital status	Married	45	91.8	43	86.0
	Widowed	4	8.2	3	6.0
	Separated	0	0.0	2	4.0
	Single	0	0.0	2	4.0
Gender of household head	Male	43	87.8	43	86.0
	Female	6	12.2	7	14.0
Occupation of the respondents	Crop farming	23	46.9	18	36.0
	Mixed Farming	8	16.3	8	16.0
	Business	12	24.5	15	30.0
	Casual labor	4	8.2	5	10.0
	Wage employment	0	0.0	1	2.0
	None	2	4.1	3	6.0
Education level	None	1	2.0	1	2.0
	Primary incomplete	30	61.2	28	56.0
	Primary	7	14.3	12	24.0
	Secondary incomplete	5	10.2	3	6.0
	Secondary	3	6.1	3	6.0
	College	3	6.1	3	6.0



Table 2: Variations in Consumption of Sun-dried Vegetables across Seasons

	Jan-Mar 2020	Apr-May 2020	Jun-Aug 2020	Sep-Dec 2020
	n (%)	n (%)	n (%)	n (%)
TIPs participants	16 (32.7)	12 (24.5)	20 (40.8)	26 (53.1)

Table 3: Frequency of Consumption of Sun-dried Vegetables

	Jan-Mar	Apr-May	Jun-Aug	Sep-Dec
	n (%)	n (%)	n (%)	n (%)
Once the whole season	10 (20.4)	7 (14.3)	8 (16.3)	12 (24.5)
3 times the whole season	0	0	2 (4.1)	1 (2)
Monthly	6 (12.2)	5 (10.2)	10 (20.4)	13 (26.5)

Table 4: Participants' Confidence in Preparing a Meal Comprised of Sun-dried Vegetables

		ENC	NC	N	C	EC
		n (%)	n (%)	n (%)	n (%)	n (%)
Confidence in preparing a meal using sun-dried vegetables	TIPs	1 (2.0)	0 (0)	0 (0)	7 (14.3)	41 (83.7)
	Non-TIPS	5 (10)	2 (4.0)	25 (50.0)	5 (10.0)	13 (26.0)

***ENC**-Extremely not confident; **NC**-Not confident; **N**-Neither confident nor not confident; **C**-Confident; **EC**- Extremely confident

Table 5: Spearman Correlation between the Perceived Ease and the Confidence in Preparing a Meal Using Sun-dried Vegetables

			Perceived ease of preparing sun-dried vegetables	Confidence in preparing sun-dried vegetables
Spearman's rho	Perceived ease of preparing sun-dried vegetables	Correlation Coefficient	1.000	.583**
		Sig. (2-tailed)		.000
		N	99	99
	Confidence in preparing sun-dried vegetables	Correlation Coefficient	.583**	1.000
		Sig. (2-tailed)	.000	
		N	99	99

Table 6: The Extent to which Sensory Attributes would Influence Consumption of Sun-dried Vegetables

		ENI n (%)	NI n (%)	N n (%)	I n (%)	EI n (%)
Color	TIPs	7 (14.3)	0 (0)	16 (32.7)	8 (16.3)	18 (36.7)
	Non-TIPS	7 (14.0)	22 (44.0)	8 (16.0)	3 (6.0)	10 (20.0)
Taste	TIPs	1 (2.0)	0 (0)	16 (32.7)	2 (4.1)	30 (61.2)
	Non-TIPS	7 (14.0)	23 (46.0)	8 (16.0)	1 (2.0)	11 (22.0)

***ENI**-Extremely not influence; **NI**-Not influence; **N**-Neither influence nor not influence; **I**-Influence; **EI**- Extremely influence

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