

# Challenges of Food Security for Migrants Living in a Regional Area of Australia: Food Availability, Accessibility and Affordability

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**Abstract Background:** Food security is a vital element for all, particularly people from culturally and linguistically diverse (CALD) group such as migrants who have been identified as food insecure people in previous studies. However, there is limited understanding on migrants' food security in the regional area of Australia, Tasmania. This paper reports on a study, which aimed to examine the experiences of migrants on food security in the regional area of Australia. **Methods:** The cross-sectional study used questionnaires and interviews as a mixed method approach. The data was collected from 301 respondents and 33 interviewee migrants recruited via Migrant Resource Centers, cultural associations and snowball sampling. Descriptive and inferential statistics such as Chi-square tests and ordinal logistic regressions were employed as quantitative data analysis; while, thematic analysis was utilized in qualitative analysis. **Results/discussion:** The majority (91.0%) of respondents did not encounter circumstance where they experienced having no food to eat. Half (50.2%) of respondents travelled more than 4 km to purchase food. In terms of food affordability, over half (55.8%) of respondents indicated the high food cost; nevertheless, a high proportion were neutral regarding their satisfaction with food cost. In addition, gender, length of stay in Tasmania and region of origin were significantly associated with a migrant's experiences with food security. In interview data, three themes were identified: food availability, accessibility, and affordability. Interviewees expressed concern about the lack of certain cultural food in Tasmania. The strategic location of shops and living places eased the ability to access food. Additionally, the cost of food particularly cultural food, were much higher in Tasmania than in big cities of Australia. **Conclusion:** The findings provide insight and understanding of migrants' food security in Tasmania. There is a growing need to address food security policy related to migrants in order to improve the health and well-being of migrants in Australia.

**Keywords:** food security, migrants, availability, accessibility, affordability

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## 1. Introduction

Food security is a basic human right. It is a global challenge that not only occurs in developing countries, but is also a concern in developed countries. Food security is the ability of individuals, households and communities to access sufficient, safe and nutritious food to maintain a healthy and active life long term [7,17]. Food availability, accessibility and affordability are the three main determinants in food security [15]. In general, Australians are food secure. However, although Australia has sufficient food to feed over 60 million people, there pockets of food insecurity that have been identified among various sub-population, such as low-income earners, single-parent households, people at social or geographical disadvantage, culturally and linguistically diverse (CALD) groups, including refugees and migrants [16,17].

In the last decade, there has been an increase in the number of people immigrating to Australia. In 2013,

Department of Immigration and Citizenship (DIAC) reported that there were 237,300 people who immigrated to Australia and forecasted that the migrant population will increase to over 250,000 in 2017 [6]. The growth of the migrant population in Australia has prompted government, society and communities to allocate more attention to migrants' health including food security which is a major determinant of migrants' health.

Coming from diverse cultural backgrounds, migrants face many challenges once they resettle in Australia. The lack of cultural awareness, sensitivity and specific cultural foods may exacerbate migrants' food security, particularly migrants living in rural areas of Australia. Due to the limited knowledge regarding food culture in Australia, migrants have higher risk in food insecurity which can undermine their health [9]. In this sense, migrants are one of the more vulnerable groups in Australia who is at particular risk of experiencing food insecurity [3,16]. In addition, cultural differences may be an obstacle for

migrants to acculturate or adapt to the new environment. Thus, greater attention may need to be given to migrants with different cultural backgrounds who bring along their food cultures and traditions to Australia. As migrants enter and transition in a new environment, there is a propensity for many to experience food insecurity that leads to being susceptible to physical diseases and psychological issues that may arise from linguistic, cultural and religious barriers. Overall, changes in culture and diet can have a significant impact on migrants' health in their new environment.

Migrants perceived and experienced a variety of food security challenges when living in regional or rural areas. Studies have identified food cost, geographical location, language barrier and educational background as the factors that influence food security [5,11,13,19]. In a cross-sectional survey by Liese et al. [11] in rural US, it was reported that the healthy food cost more than unhealthy food and underlined the challenging of shopping for inexpensive healthful food. Similarly, a study of Victorian Healthy Food Basket (VHFB) was conducted on the cost of food in rural Victoria, Australia which undertaken by Palermo and fellows [13]. It also indicated similar findings.

Furthermore, Tsang and colleagues [18] found that the varieties and quality of food, especially healthy and fresh food, decrease as the distance from an urban area to a remote place increased. The limited amount of food available in regional area affected the consumptions on healthy food such as fruits and vegetables. It is observed that the more that fresh fruits and vegetables were offered in the large grocery stores, it increased the daily fruits and vegetables consumption of that particular neighbourhood [8]. Additionally, geographical isolation also has impacted food accessibility in relation to the distances between place residence and location of food store. Language is a main barrier for non-English speakers in an English speaking country. It hinder their ability to communicate and accessing food related information [19].

This study aimed to examine the experiences of migrants' food security in relation to food availability, accessibility and affordability in Tasmania. By identifying migrants' experiences and perceptions about food security, the findings may contribute towards insightful information and guidance not only for all migrants in Tasmania, but also for relevant government and non-government organizations (NGOs) that addressed matters related to migrants' food security and health.

## 2. Methods

The study employed a mixed methods approach where quantitative and qualitative data were collected using a questionnaire and semi-structured interviews. Ethics approval for this study was obtained from the University of Tasmania's Social Sciences Ethics Committee (H0012622). Informed consent was obtained prior to participation.

### 2.1. Study Population and Settings

Tasmania is situated at the south-east coast of mainland Australia with a population of 495,354 people [1]. Within this population, 16.4% were born overseas. Among those

individuals born overseas, 46.6% reside in Hobart the capital city, 15.8% in Launceston the largest regional centre, 7.2% in Devonport and 3.3% in Burnie. In each of these major centres, there was a dense population of migrants compared to other areas of Tasmania. As such, the Migrant Resource Centres located in each of these major centres assisted with respondent recruitment. The selection criteria included migrants from any cultural background; those who live in Tasmania; aged 18 years and older; and have a reasonable understanding of English.

### 2.2. Design of Questionnaire

The questionnaire consisted of 49 questions, which included demographic questions (gender, age, marital status, highest educational level, etc.), and experiences of the food security in Tasmania. The 11 Likert scale questions in the questionnaire were tested on for internal reliability Cronbach's alpha. The Cronbach's alpha coefficient was the score of 0.81, which demonstrates an acceptable level of internal reliability [12,14].

### 2.3. Quantitative Data Collection and Analysis

Hard copies of the questionnaire were distributed to 600 migrants in Tasmania with the assistance of the two Migrant Resource Centres in Hobart and Launceston, and various cultural associations (e.g. Filipino Association of Tasmania, Chinese Community Association of Tasmania, Indian Cultural society). There were 119 hard copies questionnaires returned which represents 19.8% of response rate. In addition to the hard copy version, the questionnaire was also made available in online format using the Survey Monkey®. Respondents were also recruited via social networking websites such as Facebook or Twitter. Using this method, there were 182 online questionnaires completed. Overall 301 questionnaires were completed by migrants in Tasmania.

Data analysis employed both descriptive and inferential statistics using the SPSS version 20. Descriptive statistics such as frequencies and percentages were principally used to analyse the data. Inferential non-parametric tests such as Chi-square ( $\chi^2$ ) tests and ordinal logistic regressions were also performed to determine the associations between different social-demographic factors (such as income, length of stay and region of origin) and experiences of food security (dependent variables). Only statistical significant results ( $p \leq 0.05$ ) are reported.

### 2.4. Qualitative Data Collection and Analysis

The qualitative aspect of this study focused on the insights, meaning and experience of migrants and on the richness and depth rather than the breadth of information [2]. Using convenience and snowball sampling, there were 33 respondents were recruited and interviewed. Qualitative data were analysed using thematic analysis with the assistance of NVivo 10 software.

## 3. Results

### 3.1. Characteristics of the Respondents

#### 3.1.1. Questionnaire Respondents

There were 301 migrants who completed the questionnaire. Female respondents constituted approximately 60% of respondents, while the remaining 40% were male. It was shown that 78.8% of the respondents were from Asia; however, those from Europe, Africa, and America were also represented. Within the sample, 66.1% of the respondents spoke languages other than English at home, whereas 33.9% only spoke English. The majority (72.8%) of the migrants were married; 22.3% were single; 2.7% were widowed; and 2.3% were divorced or separated. All socio-demographics are presented in [Table 1](#).

**Table 1. Demographic of questionnaire respondents**

Characteristics (N = 301)	n (%)
Gender	
Male	122(40.5)
Female	179(59.5)
Age group (years)	
18-24	46(15.3)
25-34	78(26.0)
35-44	70(23.3)
45-54	47(15.6)
55-64	37(12.3)
65 and above	23(7.6)
Region of origin	
Asia	237(78.8)
Europe	36(12.0)
America	7(2.3)
Africa	21(7.0)
English language proficiency	
Excellent	94(31.2)
Good	133(44.2)
Fine	74(24.6)
Places of stay in Tasmania	
Launceston (Northern areas)	162(53.8)
Hobart (Southern areas)	112(37.2)
Devonport (North West areas)	15(5.0)
Burnie (North West areas)	7(2.3)
Others	5(1.6)
Length of stay in Tasmania	
Less than 1 year	43(14.3)
1-2years	35(11.6)
Over 2-3 years	38(12.6)
Over 3 years	185(61.5)
Educational level	
No formal education	2(0.7)
Completed primary education	10(3.3)
Completed secondary school	44(14.6)
Some training (Vocational Education)	49(16.3)
University qualification	196(65.1)
Employment status	
Full time job	103(34.2)
Part time job	41(13.6)
Casual job	47(15.6)
Not working	110(36.6)

### 3.1.2. Interview Respondents

In this study, there were 33 interviewees participated in the semi-structured interviews. The majority (90.9%) of the respondents were from Asia. There were 42.4% of the respondents who lived in Tasmania for more than three years. Almost 70% of the respondents were living in Launceston. Regarding the level of education, three-quarters of the respondents had obtained university degrees. Only 30.3% of the respondents spoke English at home, while nearly 70% spoke other languages including Mandarin, Nepali, Cantonese, Vietnamese, Hindi, Bahasa Indonesia and Korean.

## 3.2. Quantitative Findings

### 3.2.1. Experiences with Food Availability

In addition to the socio-demographic data, there were a number of questions which referred to the experiences of migrants in food security. In terms of their current food situation, a significance number (91.0%) of the respondents did not encounter circumstances where they have experienced a time that they had no food to eat in Tasmania. The remainder (9.0%) stated that the reasons for them to experience going without food were based on food being too expensive (45.9%); not having enough money to buy the food (35.1%); unable to find food they wanted (13.5%); and it was too far to go to the shops (5.4%). There were 77.1% of the respondents felt they knew a reasonable amount concerning food in Tasmania, while many of the food types in Tasmania; 16.3% knew a little; 5.0% felt they knew everything; while only 1.7% stated they knew nothing at all about the food in Tasmania. The majority (88.7%) of respondents indicated they had sufficient choice where to buy food. Those who indicated they had no choice in food purchasing, there were 50.0% who stated there were limited food choice, while others stated there was a lack of cultural food (35.3%), lived in an isolated location (11.8%) and that food price were high (2.9%) were reasons for those who had no choice in food purchasing.

The most popular place migrants went for food shopping was supermarkets (98.0%). Less than half of the respondents went to cultural food shops (45.5%) and local food shops (41.9%). Regarding the adequacy of food sources, 76.0% of the respondents stated that the food sources were adequate to fulfil their needs. There were 18.3% who indicated that the food sources were neither adequate nor inadequate; only 5.7% felt that there were inadequate of food sources in Tasmania. Over three-quarters (77.4%) of the respondents demonstrated that there were many food choices available in Tasmania, and 74.4% respondents stated that the food choices fulfill their needs.

Talking about availability of traditional food ingredients, 65.8% of the respondents found it was easy to get the ingredients they required. There were five reasons given by the respondents who found difficulty in getting traditional food ingredients. The reasons included traditional food choices were limited (47.6%); certain foods were not available in Tasmania (39.8%); food was expensive (4.9%); inability to gain fresh food ingredients (4.9%); and food ingredients were not available in Tasmania but found and accessed from mainland Australia (2.8%).

### 3.2.2. Experiences with Food Accessibility

In terms of food accessibility, half (50.2%) of the respondents indicated that they often travelled over 4km to buy food, while the other half did not. The majority (82.8%) travelled using their own car, while others walked (8.6%), using public transport (7.9%) or bike (0.7%).

### 3.2.3. Experiences with Food Affordability

Responding to the food price, over half (55.8%) of the respondents rated the food was expensive; 40.2% rated reasonable; and only 4.0% rated cheap. In terms of the satisfaction on the current food price, 38.5% of the respondents were neither satisfied nor dissatisfied, while

34.2% dissatisfied with current food prices. Over a quarter (27.3%) was satisfied with current food prices.

### 3.3. Associations between Demographics and Food Security Experiences

#### 3.3.1. Associations between Gender and Knowledge about Food in Tasmania

A Chi-square test for association was conducted between gender and knowledge about food in Tasmania which showed there was a statistically significant association between gender and knowledge about food in Tasmania,  $\chi^2(2) = 10.172, p = 0.006$ . In order to determine which independent variable had a significant effect on the dependent variable, ordinal logistic regression test was employed. As shown in Table 2, gender was shown to have a statistically significant effect on the level of knowledge about food in Tasmania (Wald  $\chi^2(1) = 4.899, p = 0.027 < 0.05$ ). In this case, male respondents were 1.664 times less likely to know about food in Tasmania than female respondents.

**Table 2. Ordinal logistic regression of gender and food knowledge in Tasmania**

Gender	OR	95% CI	Wald $\chi^2$	df	p-value
Female	Reference				
Male	1.664	1.060 to 2.612	4.899	1	0.027

#### 3.3.2. Associations between Length of Stay and Knowledge about Food in Tasmania

Using Chi-square test for association, it was found that there was a statistically significant association between length of stay and knowledge about food in Tasmania,  $\chi^2(6) = 26.057, p = 0.000$ . An ordinal logistic regression test was performed to determine which independent variables had a significant effect on the knowledge about food in Tasmania. Table 3 shows there is a significant association between migrants' length of stay in Tasmania and their knowledge about food in Tasmania (Wald  $\chi^2(3) = 20.047, p = 0.000 < 0.05$ ). Respondents who stayed less than one year and over two to three years in Tasmania were shown to have 3.658 and 2.968 times respectively less likely to know about food in Tasmania than migrants who stayed over three years.

**Table 3. Ordinal logistic regression of length of stay in Tasmania and knowledge about food in Tasmania**

Length of stay in Tasmania	OR	95% CI	Wald $\chi^2$	df	p-value
Over 3 years	Reference				
Less than 1 year	3.658	1.882 to 7.111	14.626	1	0.000
Over 2 to 3 years	2.968	1.486 to 5.929	9.494	1	0.002

#### 3.3.3. Associations between English Language Proficiency Level and Knowledge about Food in Tasmania

Chi-square test showed a statistical significant association between English language proficiency level and knowledge about food in Tasmania,  $\chi^2(4) = 18.184, p = 0.001$ . An ordinal logistic regression test was performed to determine which independent variables have a significant effect on the knowledge about food in Tasmania. English proficiency level of migrants had

statistically significant effect on the level of knowledge about food in Tasmania (Wald  $\chi^2(2) = 13.058, p = 0.001 < 0.05$ ), as shown in Table 4. Respondents with reasonable English proficiency level were shown to have 2.921 times less likely to know about food in Tasmania than migrants with excellent English language proficiency level.

**Table 4. Ordinal logistic regression of English language proficiency level and knowledge about food in Tasmania**

English language proficiency level	OR	95% CI	Wald $\chi^2$	df	p-value
Excellent	Reference				
Fine	2.921	1.590 to 5.366	11.936	1	0.001

#### 3.3.4. Associations between Region of Origin and Satisfaction about Current Food Price

Chi-square test showed a statistical significant association between region of origin and satisfaction about current food price in Tasmania,  $\chi^2(2) = 6.469, p = 0.039$ . The results of the ordinal logistic regression regarding region of origin and satisfaction about current food price are presented in Table 5 below. Respondent's region of origin was significantly associated with the level of satisfaction with the current food price (Wald  $\chi^2(1) = 4.094, p = 0.043 < 0.05$ ). Table 5 demonstrated Asian migrants were 1.679 times more dissatisfied with current food price than those migrants from other regions.

**Table 5. Ordinal logistic regression of region of origin and satisfaction with current food price**

Region of origin	OR	95% CI	Wald $\chi^2$	df	p-value
Non-Asia	Reference				
Asia	1.679	1.016 to 2.774	4.094	1	0.043

## 3.4. Qualitative Findings

Three themes were emerged from the interview data that related to experiences of migrants' food security in terms of food availability, accessibility, and affordability.

#### 3.4.1. Food Availability

The respondents shared their experiences with food security in relation to the availability of food ingredients and cultural foods. Different people had different experiences of food availability in Tasmania. Migrant 25 stated that "Well, we get everything here..." to show that food ingredients are available in Tasmania and sufficient to fulfil the needs. However, there was still a lack of certain food ingredients available in Tasmania, particularly vegetables when compared to their home countries.

*I can buy veggies from the supermarket, but there are not many options, especially Asian veggies. (Migrant 2)*

On the other hand, migrants also indicated that there were more cultural foods available in Tasmania than in previous years, "because there is a new grocery shop opened in town [Launceston]" (Migrant 7). Different types of cultural food such as dried fish are available in shops nowadays, as stated by Migrant 24.

*In the Philippines, we love dried fish and now we can buy it from Asian shop. It is now available here. That is really good. (Migrant 24)*

Although presently more cultural food is available in both supermarkets and cultural food shops, the choice remained an issue for some. It was still a challenge for migrants to find certain cultural foods. As such, respondent who loved spicy food found that there was a limited range of chillies available.

*[I] like chilli. [But there is] not much chilli available although still can found... I bought [chilli] from Coles [major supermarket], but not many choices. (Migrant 11)*

When compared to other parts in Australia, Tasmania was observed to be at a disadvantaged and was limited in terms of food choice. There were certain foods that could not be found in Tasmania yet available on mainland Australia. For example, "yam, a kind of Chinese herbs. My friend can find it in Melbourne, but I cannot find it in Burnie" (Migrant 2). When compared to big cities like Sydney, Melbourne or Perth, more Chinese or Korean food ingredients were available there due to a greater number of Asian grocery shops which offered more options.

*There is a limitation in food choice certainly. I used to live in Sydney, and I think it is lots more easily to get Chinese food and ingredients from the grocery there but in Tasmania just don't have many choices. (Migrant 7)*

### 3.4.2. Food Accessibility

The respondents also expressed their experiences with food accessibility in Tasmania. Majority of the respondents stated that it was convenient for them to get or buy food they needed. They "live near to the town. It just needs five minutes of walk" (Migrant 2) to where the supermarkets and food shops are located. In most cases, there was a short distance between where migrants were living and the shops they visited.

In terms of transportation, the respondents usually walk or drive to buy food depending on the shops location. They walked to buy food where the shops were located nearby and used cars when there was a need to go further or had a 'big' shopping.

*Sometimes we do drive to another shop that is about 5 km from my house to get certain food. (Migrant 1)*

When the respondents were being asked where they buy their food, the supermarket was the first choice. Local food store such as the green grocer was another option for the respondents to buy fresh vegetables and fruits which were often cheaper than in the supermarkets. In addition, cultural food stores were the third option, particularly for certain cultural food products that were not available in supermarkets.

*I have to buy [some things] from the Asian shop because they are not available in supermarket. (Migrant 23)*

### 3.4.3. Food Affordability

Food affordability plays one of the important roles whereby people can afford to buy nutritious food and achieve food security. The increase of food price affected migrants in terms of food purchasing power. A comparison was made by respondents between food price in Tasmania and mainland Australia.

*The food prices are more expensive [higher] than in the mainland [i.e., Melbourne]. (Migrant 8)*

When the respondents compared the cultural food prices in Tasmania with those in mainland Australia, they discovered that the prices here were much higher.

*Many big supermarkets in Sydney and Melbourne are selling cheaper [items], such as "lao gan ma", a kind of chilli paste, you know, here you buy one for \$4, but in Brisbane and Sydney is only \$2, or nearly \$2. Nearly twice of the price here. (Migrant 33)*

Food budget is considered necessary for migrants. Due to the high food prices, a well-planned food budget was indicated to be required so as to control food expenses. Migrants had to plan carefully around food shopping. For example, they need to compare the cost before purchase; get information about the places to get cheaper fruits and vegetables.

*The apples are \$5 a bag, but in local green grocer, it just cost \$3.50. So there are many differences buying from supermarket compared to the local green grocer. (Migrant 6)*

It was more challenging for people who had a low income or were unemployed. Without money, it was difficult to purchase high priced food or the food they preferred. In these cases, the migrants had to act wisely in planning their food budget.

*I do think the food price in Tasmania is quite high for people like us because we are relying on the Centrelink payment, we are not working and we have no money. So it is really high for us. (Migrant 4)*

## 4. Discussion

The study focused on the experiences of migrants in food security in relation to food availability, accessibility and affordability. A number of findings were found in this study. The finding of this study indicated that migrants had enough food when they were in Tasmania. They knew a lot about food in Tasmania, and had adequate choices where to buy their food. The food sources available in Tasmania were enough to fulfil their needs. Supermarkets were the most common place where migrants went to purchase food. Although there were enough food sources for migrants, yet, they found that accessing cultural food ingredients was limited. One strategy to obtain certain food ingredients for migrants was to travel using their own vehicles to buy food.

In terms of food price, migrants were more likely to be dissatisfied with current food prices and felt that food in Tasmania was expensive. In addition, it was shown that gender, length of stay in Tasmania, English proficiency level and region of origin were the significant factors that influenced migrants' experiences of food security in Tasmania. Male migrants were less likely to know about food in Tasmania than female migrants. On the other hand, migrants who stayed over three years in Tasmania knew more about food in Tasmania than those who stayed less than three years. This shows that the longer a migrant resides in the host country, the more information and knowledge they may gain about foods, food sources and local food preparation. In addition, the length of stay in the host country also influenced migrants' food security. The longer they stay in the host country, the better food security they have because they acculturate better into the culture.

Furthermore, migrants with lower English proficiency levels were show to have less knowledge about food in Tasmania than those with higher English proficiency level.

Migrants' region of origin also was shown to have an impact on satisfaction on current food price in Tasmania. For example, Asian migrants were more likely to be satisfied with the current food price than migrants from other regions. However it has been shown that after longer period of residency, there are improvements in language and food knowledge among migrants which improves their food security levels long term [4].

Within the interview data, migrants demonstrated the current limitation of cultural food and fresh vegetables in Tasmania; although there were more varieties compared previous times. The climate of Tasmania and quarantine restrictions of the island caused food products to be unavailable while being accessible on mainland Australia. In addition, when comparing the food price between Tasmania and mainland Australia, it was shown to be higher particularly specific cultural foods. This factor made it more challenging for migrants with low income or who were unemployed to purchase food and to keep on budget due to the high food prices.

In previous studies, immigrants were identified as one of the groups that prone to food insecurity [3,9,16]. However, in this study, migrants were not identified as food insecure. Supermarkets were the first choice for migrants to purchase food as supermarkets offer a wider range of food options, cheaper price and higher quality food [11]. Nevertheless, there was still lack of certain food available in Tasmania due to the geographical isolation. This was similar to a study done by Tsang and colleagues [18] on the Adelaide Healthy Food Basket which showed the decreased in food options and quality in remote and regional areas. Due to the location, the food price is higher in regional areas compared big cities [13]. Furthermore, food availability is related to food price in which limited food lead to higher food price [11]. Although transportation is identified as a restriction when accessing food [10], this was indicated to not be a problem for migrants in this study. Besides that, the length of stay in the host country also influenced migrants' food security.

The significance of this study is that it provides a better understanding about the migrants' experiences of food security in a regional area, such as Tasmania. From the findings, it is noted that there is a need to increase food varieties and choices in Tasmania, particularly those cultural foods which would accommodated and fulfil the needs of migrants. There should be an increase in the awareness for policy makers, government and non-profit organisations which address food security to concern more on migrants' health and well-being. For instance, the Migrant Resource Centres can make more efforts in educating or introducing new arrived migrants regarding foods that are available in Tasmania and how they impact healthy eating. This may better prepare migrants in terms of the food and culture of the host country before arrival, which may contribute to a better adaptation and acculturation into the new culture and environment.

## 5. Limitations

Limitations of this study mainly include a sampling bias that may affect the generalizability of the results. The sampling bias occurred as a convenience sampling strategy using snowball sampling method was employed

as data collection method. The majority of the study sample was from Launceston, the Northern part of Tasmania. Instead, the selection criteria of the respondents should be evenly distributed. This occurred because there were organisational structure changes at one of the Migrant Resource Centres which meant that fewer participants were recruited from the North West areas. The second limitation was the study was cross-sectional rather than longitudinal in approach due to time and financial constraints. This limited the understanding of the migrants' living experiences and casual relationships could not be determined among variables.

## 6. Conclusion

This study showed that generally, migrants in Tasmania were in food secure. However, they still were faced with different challenges, such as lack of cultural food and higher food price. It is important to understand the food habits in terms of food security for migrants' population in order to offer adequate accessible quality food with affordable price to fulfil their needs. Further research is required to determine the available foods and cost in food outlets such as major supermarkets and cultural food stores.

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