Adolescent Nutrition in Timor-Leste

A Formative Research Study

SUMMARY

WFP World Food Programme

Australian Aid

TOMAK To'os ba Moris Di'ak

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1. Introduction

1.1. The importance of adolescent nutrition

Adolescence is a critical phase of human development, as children aged 10-19 years transition from prepubescent physical attributes to more closely resembling their adult selves (Blum et al, 2014). Forty-five percent of adult bone mass and 15% of adult height is gained during adolescence, accompanied by a range of cognitive, hormonal and emotional changes. It is also a period of intense learning and brain development, with complex neuronal changes occurring as the brain matures towards a more stable adult structure (Giedd, 2015).

As a result of this, adolescents have higher nutritional needs and require more protein and energy than any other age group, averaging approximately 2,420 kcal per day (Akseer et al, 2017). Adolescents also have gender-specific nutrient needs, in particular adolescent girls as they begin menstruating and develop the capacity for future childbearing. Studies have shown the optimal diet to support adolescent girls' healthy development is more expensive than the diet required by an adult man (WFP, 2017).

Adolescence may be the final opportunity to influence adult height and mitigate stunting. Growth and development during adolescence is impacted by nutritional, environmental and hormonal factors, and can therefore be modified and enhanced (Campisi et al, 2018). Outside of the first 1,000 days of life (including gestation), this 'second window of opportunity' to improve nutritional status is critical (UNICEF Office of Research-Innocenti, 2017), especially in countries like Timor-Leste where almost half of all children under five years of age are chronically malnourished.

Adolescence is a time of both opportunity and vulnerability. Changes during adolescence involve

a drive towards individuation, which can manifest in adolescents' assertion of food choices, eating habits and changes in lifestyles. The nutrition-related behaviours acquired in this time can greatly impact future life outcomes. Eating habits are not static among adolescents, they fluctuate throughout puberty in relation to physiological and cognitive development (Fanzo, 2017). This presents an opportunity to influence dietary behaviours prior to adulthood, as adolescents explore and develop their agency and begin asserting their own choices. These choices are increasingly affected by worldwide trends of globalisation and urbanisation, which are resulting in shifts away from traditional diets towards more energy-dense eating habits and sedentary lifestyles (Tzioumis and Adair, 2014). The dual burden of malnutrition (i.e. the co-existence of under- and over-nutrition) is a growing problem in many countries including Timor-Leste, and poses a serious threat to the health of adults, children and adolescents alike.

And this drive for individuation in adolescents is not only limited to eating habits. A variety of high-risk and potentially problematic behaviours may be activated in adolescence, including substance abuse, unprotected sex, and behaviours that may result in injury or other negative outcomes (Mokdad et al, 2016). It is thus imperative to support adolescents to develop healthy behaviours that can prevent the future burden of injury, poor health and disease.

Adolescents are the human capital of the future and will become parents to the next generation of children. It is critical to ensure their healthy cognitive and physical development, and to invest in programs and initiatives that support improved adolescent health and nutrition.

1.2. The link between life cycle nutrition and women and girls' empowerment

Gender inequality can be a cause and effect of malnutrition. Not surprisingly, higher levels of gender discrimination are associated with higher levels of both acute and chronic undernutrition (UNDP, 2011). Women and girls often suffer the greatest burden of malnutrition due to their relatively lower levels of status and power compared to men and boys in many societies (Black et al, 2013).

Gender-biased cultural practices often disadvantage adolescent girls more than boys. Marriage practices can promote early and frequent pregnancies that impact poorly on maternal and child outcomes (WHO, 2014), education potential, and future life opportunities. Food taboos, preferences and consumption patterns have an impact on nutritional status and frequently have a gender dimension.

Adolescence is an ideal phase of life for reshaping gender roles and social norms and installing a sense of empowerment. Improvements in adolescent nutrition supports both adolescent girls and boys to take control over their own lives and bodies. Thus, an empowered adolescent has the capacity to consider options and information and carry through on their decisions from an earlier age.

Targeting women and girls only when they are pregnant is often too late to break the intergenerational cycle of malnutrition. In order to prevent malnutrition being passed to the next generation, adolescent girls, their families, peers and communities must be supported not only to improve adolescents' access to nutrition, but to delay marriage and pregnancy (Save the Children, 2015).

1.3. Adolescent nutrition in Timor-Leste

One quarter (25%) of Timor-Leste's population are adolescents (Census, 2015). As global recognition of the importance of adolescent health and nutrition has increased, there has been an associated shift in attention in Timor-Leste, with a range of actors currently including adolescents in their focus.

The nutritional status of adolescents in Timor-Leste is not optimal. A school-based survey conducted by the World Health Organization in 2015 with students aged 13-17 years old showed 21.8% of students were underweight – with a much higher prevalence among boys (28.0%) than girls (16.3%)

(WHO-SERAO, 2017). Only 4.4% of students were classified as overweight, and just 0.8% were obese - very low rates when compared to other low and middle income countries (LMIC). A separate study found 33.4% of girls aged 15-19 years were underweight, with 21.5% suffering from anaemia (MoH, 2015).

Longitudinal research of two communities in Timor-Leste found that maternal height was the strongest independent indicator of child *z*-height and weight for age (Spencer et al, 2018). This means that taller mothers have taller and heavier children, and reinforces the need to focus on the nutrition of adolescents as a specific audience, moving beyond the 1,000 days spanning pregnancy through to two years of age.

There is currently limited evidence regarding adolescent nutrition in Timor-Leste as a whole, as school-based surveys exclude out-of-school adolescents who may be more nutritionally vulnerable. Thirteen percent of boys and 12% of girls aged 10-14 years are out of school. This increases for older adolescents with 24% of boys and 25% of girls aged 15-19 years having left school (Census 2015). A significant proportion of adolescents (12% of those aged 10-14, and 19% of those aged 15-17) are not living with their biological parents, most likely because they are pursuing educational opportunities away from home (Hilber et al, 2018). However, in contrast to other countries, in Timor-Leste there are no growth differentials found among children who are fostered in households compared with other biological children (Judge et al, 2012).

Overall, 7% of adolescent girls aged 15-19 have begun childbearing (DHS, 2016), a relatively low rate of adolescent pregnancy when compared to other LMIC. However, adolescent girls have twice the risk of dying during pregnancy and childbirth compared to adult women (MoH, 2015), and there is competition for nutrients between mother and foetus during adolescent pregnancy as the mother's body is still growing. A range of socio-economic consequences are also associated with adolescent pregnancy, particularly because pregnant girls are forced to leave school which affects their future livelihood opportunities and deepens their dependence on their husbands and families (MoH, 2015). Research has shown that early pregnancy is also correlated with poorer health outcomes for mothers and their children, with younger mothers at higher risk of experiencing violence (MoH, 2015).

The Government of Timor-Leste has a firm commitment to improving the nutritional status of its citizens, and has developed multi-sectoral nutrition policies including both nutrition-sensitive and nutrition-specific intervention goals. Multiple policies and strategies address adolescent health through the lenses of sexual and reproductive health, maternal health, child health, violence against women, and gender equality. Key policies and strategies which explicitly mention adolescent nutrition and health include the National Nutrition Strategy and the National Action Plan for Children. However, these polices do not discuss adolescents as a unique audience for behaviour change.

1.4. Formative research on adolescent nutrition

The purpose of this study is to inform the development of interventions, activities and materials which can support improved adolescent health and nutrition in Timor-Leste. Formative research is a critical element in the design and implementation of culturally appropriate, integrated interventions that have been tailored to the local context of intended beneficiaries (Bentley et al, 2011). This unique qualitative study used multiple methodologies in order to better understand adolescents' nutrition-related experiences, whilst also highlighting social and gender norms which may impact upon these.

The study was led by the World Food Programme (WFP) and the Australian Government's *To'os ba Moris Di'ak* Program (TOMAK), with support from the Timor-Leste Ministry of Health (MoH) and the Ministry of Education, Youth and Sports (MoE). It was carried out with approval from the *Instituto Nacional da Saúde* (INS) Ethics Committee.

2. Methodology

2.1. Aim of the study

This formative research was undertaken to help inform culturally appropriate and effective strategies to improve adolescent girls' and boys' nutrition, health and related gender social norms. Beneath this overarching goal, four key aims were defined, each with associated research questions. These were:

1. To learn with adolescents about their nutrition knowledge, attitudes and practices, and perceptions and priorities on growth and development
    - *What are the knowledge, attitudes and practices of adolescents relating to nutrition?*
    - *What are the knowledge, attitudes and practices of adolescents relating to health?*
    - *What the perceptions and priorities of adolescents in terms of growth and development?*
2. To describe social and gender norms that influence adolescents' nutrition-related behaviours
    - *How and to what extent do gender social norms influence adolescent nutrition?*
    - *What are appropriate strategies to influence positive social change?*
3. To understand the behavioural determinants of optimal adolescent nutrition
    - *What are the barriers and enablers to optimal adolescent nutrition?*
    - *Who influences adolescents' health and nutrition behaviours in this context and at different levels?*
4. To inform the design of culturally appropriate and effective social and behaviour change strategies in alignment with national policies

- *What are the most appropriate channels, entry points and service delivery platforms to reach the target audiences?*
- *What are the primary, secondary and tertiary audience segments?*
- *What are the tailored messages that will most effectively resonate with adolescents in this context?*

2.2. Research design and methods

This study drew on elements of qualitative and iterative enquiry, the socio-ecological model (McLeroy, 1988), and employed a range of creative, qualitative methods. Its design was informed by research into culturally appropriate nutrition interventions (Kodish and Gittelsohn, 2013; Bentley et al, 2014), barriers and facilitators to optimal adolescent nutrition including gender dynamics (USAID Nurture, 2017), and a multi-country study to inform adolescent programming (WFP and Anthrologica, 2018). The research design was widely consulted among stakeholders for input that refined its content, and was subsequently presented at the UN Youth Group in May 2018.

The *Instituto Nacional da Saúde* (INS) Ethics Committee granted approval for the study (Ref 457-MS-INS/DE-DP/SMD/V/2018) and specific ethical protocols and guidelines were followed when interviewing children and participants with disabilities (ACFID, 2017).

Field research was conducted in two phases between June and August 2018 (the dry season in Timor-Leste), and was followed by a series of stakeholder validation workshops conducted in municipal areas and at the national level in Dili between August and October 2018. See Table 1 for a description of research methods employed in each phase.

Table 1. Phases and methods used in the study

Phase	Period	Method	No. conducted
Phase 1	June 2018	Semi-structured interviews (SSI) with 19 adolescents and 16 pre-identified influencers. Interviews of 30-60 minutes were conducted one-on-one, generally at participants' homes or at schools (for teachers).	35
Phase 2	Jul-Aug 2018, informed by preliminary findings from Phase 1	Free lists and pile sorts with adolescents to identify and classify foods, illnesses and other salient topics for adolescents. These activities were conducted by younger researchers who facilitated each activity one-on-one with adolescents in a classroom.	64
		Participatory community workshops (PCW) with a range of community members to assess nutritional barriers and potential strategies to overcome them.	4
		Key informant interviews (KII) with relevant community and organisational stakeholders. Interviews of approximately 40-60 minutes were conducted at the workplace of the interviewee, primarily at the local village office or health post.	11
		Focus group discussions (FGD) using creative participatory methodologies with adolescents to validate findings conducted in secondary/ vocational schools.	4

2.3. Sampling strategy

Purposive sampling was undertaken in four municipalities and 16 villages (*suku*), including two urban areas (Dili and Baucau municipalities), one semi-urban area (Bobonaro) and three rural areas (Baucau, Bobonaro and Ermera). Sampling considered factors such as Eastern and Western culturally distinct regions, most populous municipalities with diverse linguistic groups, cultural lineage systems (with at least one matrilineal site in Bobonaro selected), and TOMAK and WFP programme implementation areas (see Figure 1).

Figure 1. Map of selected suku for formative research activities

All participants were selected following a criteria matrix, with key characteristics presented in Table 2. Adolescents' selection aimed at even distribution by age group (10–14 years, 15–19 years) and sex, with a higher proportion of participants from rural than urban areas to mirror actual population distribution; and accounted for varying socio-economic status proxied by school type. Influencers´ selection aimed at including more mothers due to their role in food preparation, followed by equal numbers of fathers and grandmothers, and some teachers.

Table 2. Research participants matrix by type and characteristics (n=225)

Adolescents (n=96)*	Influencers (n=16)	Key informants (n=11)	Community members (n=102)
• 52% girls; 48% boys • 34% 10-14yo; 66% 15-19yo • 56% rural; 44% urban	• 38% mothers • 25% fathers • 25% grandmothers • 13% teachers	• 36% health staff • 36% community leaders • 28% Church representatives	• 49% female; 51% male • 40% 17-29yo; 35% 35-49yo; 25% > 50yo • 74% rural; 26% urban

*Combined from SSI and school-based activities

The selection process used for each method is described below:

Participants for **semi-structured interviews** were identified by liaising with community leaders in Odomau and Atabae (Bobonaro), Fatubessi (Ermera), Comoro and Bebonuk (Dili), and Uma Ana Ico (Baucau). For adolescents, age, sex and location were considered, as well as the type of community (patrilineal - matrilineal), in and out of school adolescents, and importantly, three adolescent mothers and two adolescents with disabilities were selected. Influencers included parents, grandmothers and teachers.

Free lists and pile sorts with adolescents were conducted in pre-secondary and secondary/ vocational schools in Fatuhada and Manleuana (Dili) and Estado (Ermera). Participants were selected by the school director or head teacher.

Participatory community workshops were conducted in Letemumo (Baucau), Hataz (Bobonaro), Manleuana (Dili) and Coilate-Letelo (Ermera), generally with the District Public Health Officer's (DPHO) support. A broad representation of community members participated, including different age groups and genders. Local authorities selected participants for the workshops and also suggested participants for **key informant interviews** such as village chiefs, traditional leaders (*lia-na'in*), health staff, and Church representatives.

Focus group discussions were conducted with girls and boys aged 15-19 years, many of whom had previously participated in free list and pile sorting activities. Participants were students at secondary/ vocational training schools located in Bahu (Baucau), Aidabaleten (Bobonaro), Manleuana (Dili) and Estado (Ermera). Students who were not able to participate in the FGD were replaced, with the school director or head teacher selecting a replacement.

A range of different age groups and genders were represented in participatory community workshops.

2.4. Data analysis

Early analysis of the semi-structured interviews conducted in Phase One helped identify common themes, and informed the design of the follow-on Phase Two activities. Overall findings were disaggregated by age, area of residence, disability, and as either patrilineal or matrilineal to provide more detailed recommendations and to better guide potential messaging for adolescents. Researchers used Visual Anthropac 4.98 and Nvivo 12 Plus to analyse dietary patterns and the words adolescents' associate with a variety of foods and illnesses.

3. Research findings and recommendations

Eating habits - frequency & dietary diversity

Key findings

- Adolescents largely eat rice and dark green leafy vegetables for lunch and dinner.
- Most adolescents skip breakfast, sometimes because they wake up late for school.
- Adolescents prefer to eat breakfast at home so they do not have to share it with their friends at school.
- Adolescents want to eat more fish, fruits, and meat.
- Adolescents like traditional dishes like *batar da'an* and *marotok* (which often include a diverse mix of corn, beans, peanuts, ripe pumpkin and greens).
- Adolescents' favourite flavours are sweet and sour.

Recommendations for SBC approaches

- SBC approaches should promote available and affordable animal source and plant-based protein rich foods to increase dietary diversity of adolescents at home.
- Given financial limitations, emphasise that even small quantities of protein rich foods positively contribute to improved nutritional status.
- Promote iron-rich foods to adolescents and their key influencers.
- Promote the benefits of eating breakfast using adolescents' aspirations for the future (breakfast is the most important meal of the day, increased focus in learning).

Eating habits - continued

Key findings

- Community members see barriers to adolescent dietary diversity to be the same barriers as the wider community: infrastructure (roads, water), purchasing power, and allocation of animals for cultural exchange.

Recommendations for SBC approaches

- Promote the importance of eating breakfast to adolescents, and target their influencers to prioritise consumption of breakfast.
- Promote traditional dishes that adolescents like to eat. Target mothers as food preparers, and grandmothers as promoters of local foods for 'strength'.
- Consider adolescents' flavour preferences when describing and promoting foods as a way to appeal to them.

Snacks at school

Key findings

- Adolescents have full decision-making power over their snack purchases at school (unlike lunch and dinner).
- Snacks are highly prized by adolescents.
- Snacks are purchased at school to compensate for skipped breakfast.
- Adolescents make snack and drink choices based on three key drivers: price, taste, and convenience.
- Fruit is a highly desired snack by adolescents, but is highly seasonal and often difficult to access around schools.
- Favourite fruits that are most commonly eaten at school include: apples, oranges, sour mango (with salt), and guavas.
- Most adolescents will split their pocket money between a snack and a drink.
- Adolescent boys are embarrassed to bring food from home to eat at school, but are happy to share food from their female friends.

Recommendations for SBC approaches

- SBC approaches should provide examples of healthy snacks and snack combinations based on what is available around schools.
- SBC approaches should emphasise the functions of the 'three food groups' promoted by the Ministry of Health, and their importance for adolescent growth.
- Promotion of any snack options needs to consider adolescents' three choice drivers and appeal to their taste preferences.
- Capitalise on adolescents' aspirations and link better nutrition to better success in school and attainment of life goals.
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Figure 2. Key choices drivers for adolescents when buying snacks and drinks

Drinks

Key findings

- Adolescents' favourite drinks are fruit-flavoured (and contain little or no actual juice), such as *Ale-Ale* and *Dellos* brands.
- Adolescents also enjoy drinking water and believe it is healthy and important to consume.
- Adolescent boys and girls are not embarrassed to bring drinking water from home, but prefer to purchase it from school because that is what 'their friends do'.

Recommendations for SBC approaches

- SBC approaches should make adolescents more aware of the sugar content of fruit-flavoured drinks.
- Emphasise water as the healthiest drink for adolescents. Draw on the benefits of drinking water in helping to maintain focus in class and be healthy.
- Draw on concepts of peer support in developing SBC materials to promote drinking water (e.g friends encourage friends to choose water).
- Promote bringing water from home, so adolescents can use their pocket money to buy healthier snacks at school.

Classification of healthy and unhealthy foods

Key findings

- Adolescents tend to consider foods along a spectrum of healthy to unhealthy and are unaware of the benefits of different food groups.
- Adolescents classified 'very healthy' foods as mainly carbohydrate rich foods (e.g. rice), dark green leafy vegetables, and legumes.
- Adolescents classified 'healthy' foods as mainly animal source local protein and fruit.
- Adolescents classified 'unhealthy' foods as mainly imported canned and instant foods (e.g. frozen imported chicken, canned fish, sausages, instant noodles).
- Adolescents often described healthy and nutritious foods using the terms '*saudavel*' (healthy) and '*vitamina barak*' (lots of vitamins).

Recommendations for SBC approaches

- *See above on eating habits on promoting dietary diversity.*
- SBC approaches should emphasise the functions of the 'three food groups' promoted by the Ministry of Health and their importance for adolescent growth.

Nutrition-related illness

Key findings

- Adolescents believe it is important to drink water and get sufficient rest to be healthy.
- There are age and gender disparities in health seeking behaviours among adolescent girls. Older girls feel confident to go to a clinic alone when sick, while younger girls and adolescent boys do not. Most adolescent girls inform their mothers first when they are sick.
- Male adolescents feel it is not masculine to see a health professional when sick and believe their health issues are 'simpler than girls'.

Recommendations for SBC approaches

- Programs working in this space should draw on supportive peer practices where appropriate (e.g. encourage others, 'my friends also do this behaviour', etc.)
- SBC approaches should be tailored to gender and age groups in order to reinforce girls' health seeking behaviours and target increase boys' comfort with seeking healthcare services.

Aspirations – priorities and worries

Key findings

- Adolescents want to prioritise career before marriage and children.
- The majority of male and female adolescents want to have two children so there are sufficient financial resources to provide food and education for each child and provide them with individual attention.
- The majority of adolescents want to reside separately but close to their families.
- Parents prioritise education for their adolescents, both girls and boys.
- Adolescents' biggest worries include doing well in school and their ability (academic and financial) to attend university.

Recommendations for SBC approaches

- Capitalise on adolescents' aspirations and link better nutrition to better success in school and attainment of their plans for the future.
- Draw upon parental aspirations for their children to do well in school as a way to promote improved nutrition-related behaviours.

Adolescent participants draw their aspirations for the future.

Adolescent drawings of their future dreams reveal the importance of having a career and home of one's own, in addition to family aspirations.

Culture and gender norms influencing nutrition

Key findings

- Adolescent girls want to ensure family members are happy and maintain hierarchical familial structures.
- Family meals are largely prepared by mothers.
- Fathers and male relatives receive the best cuts of meat within households.
- Most families eat at the same time and the same food.
- Mothers normally make decisions around family meals and manage the household budget, but need to consult with husbands around more expensive food purchases like animal source foods.
- Mothers can have limited agency as fathers tend to be the final decision-makers on purchasing a variety of foods.

Recommendations for SBC approaches

- Target fathers as a specific audience segment and promote concepts of fathers as providers that want their children to be healthy and do well in school.
- Promote communication and joint-decision-making amongst mothers and fathers around household nutrition.
- Focus on adolescent boys as an early entry point for supportive nutrition-related practices.
- Support adolescent girls to negotiate potentially negative gender roles and responsibilities from an earlier age.
- SBC approaches should draw on grandmothers as sources of knowledge and promoters of local foods for strength.

Culture and gender norms influencing nutrition - continued

Key findings

- Grandmothers are the custodians of traditional meals and promote the consumption of local foods to their grandchildren.
- Grandmothers believe local foods provide 'strength' through to old age.
- Grandmothers tend to be suspicious of imported and packaged foods.

Food environment

Key findings

- The school food environment does not support adolescents to make healthy choices for snacks.
- Snack choices are mainly processed, carbohydrate-rich and high in sugar and salt.
- There are no healthy and affordable drinks available around schools other than water.

Recommendations for SBC approaches

- *See above for recommendations under 'Snacks at school'.*
- Explore opportunities to engage food vendors around healthier options that would both meet demand and maintain vendor profit margins.

Nutritious snack options for adolescents in and around school are currently limited.

Key influencers of adolescents

Key findings

- Parents are the clearly the biggest influencers on adolescent nutrition, with mothers as the organisers of family meals and fathers as the final decision-makers on food purchases and sometimes food allocation.
- Older adolescents confide in each other about intimate health issues.
- Teachers are trusted sources of information.

Recommendations for SBC approaches

- Engage male adolescents as future fathers by praising fathers around their support and involvement in spending money and allocating household resources for nutritious food for the family.
- Utilise concepts of supportive teachers when promoting healthy snack and drink choices at school.

Trusted sources of information and communication channels

Key findings

- Health providers are the most trusted source of information by adolescents for nutrition and health-related topics.
- Adolescents want to hear about nutrition and health topics from health providers in person at school.
- Lafaek magazine is a trusted source of information and adolescents like that it is a Timorese magazine.
- Adolescents do not trust social media (e.g. Facebook) for nutrition and health topics as they feel it is easy to post false information on the platform.
- Access to television and radio is variable.
- Adolescent participation in groups is generally irregular (some are active in religious and sports groups).

Recommendations for SBC approaches

- Explore opportunities to develop a special edition of Lafaek covering adolescent nutrition for use at schools and through community channels.
- Any use of social media should be strongly branded with the image of a health provider and the Ministry of Health to increase trust.

Annex 1: Words and phrases relating to health and nutrition used by adolescents

Words and phrases that adolescents commonly use to describe healthy and unhealthy foods and select illnesses were collected during the research. These words and phrases are provided below because they can be used to inform and support message development. By using terms that adolescents commonly use in message development, there is a higher chance these messages resonating and being easily understood by the intended audience.

Words and phrases reflecting perceptions on nutrition and foods

Food description	Words and phrases used by adolescents (Tetun)	Equivalent descriptions in English
Yummy foods	*Gostu, gostu loos, enak, puas, ne'e rame-rame*	Yummy, delicious, exciting
Healthy foods	*Saudável, hahán ho vitamina barak, isin fresku, saúde di'ak, nutrisaun di'ak, bele fó forsa ba ita, forsa ba ita nia isin lolon, han ho balansu, fó bokur ba ita nia isin, han di'ak, aihan ne'ebé fó benefisiu di'ak, isin bokur sa'e, ai-hán nakonu ho nutriente ka kompletu* *Produtu lokál, la iha kímia, ita-nia ai-han lokál, produtu ita nia ita kuda rasik*	Healthy, food with lots of vitamins, looking and feeling fresh, good health, good nutrition, gives us strength, balanced food, fattens up our bodies (positive connotation), good food, food which has good benefits, increases body size, food which is full of nutrients, complete food Local products, chemical-free, our local food, products that we grew ourselves
Unhealthy foods	*Iha kímia, ne'e perigu, ladún di'ak ba saúde, baratu liu, hahán liur, ai-hán importadu, husi nasaun seluk, ai-moruk barak*	Has chemicals, dangerous, not good for health, very cheap, foreign food, imported food, from other countries, full of 'medicine' (chemicals)

Food description	Words and phrases used by adolescents (Tetun)	Equivalent descriptions in English
Feeling after eating breakfast	*Oin fresku, kontente, halo vontade, iha forsa atu halo atividade, bele foka, isin di'ak, bele halimar bola*	Fresh faced, happy, motivated, have strength to do activities, can focus, good/ healthy body, can play football
Feeling after skipping breakfast	*Vontade la iha, la kontente, estómagu moras, kabun moras, matan dukur, susar atu aprende, matan halai ka nakukun, la iha enerjia, triste, atu aprendre la loos ona*	No motivation, unhappy, stomach ache, sleepy, difficult to learn, dizzy or faint, no energy, sad, unable to learn well

Words and phrases reflecting perceptions on health and diet-related illnesses

Diet related illness	Words and phrases used by adolescents (Tetun)	Equivalent descriptions in English
Anaemia	*Ra'an menus, anemia*	'Less blood', anaemia
Symptoms and causes	• *La hemu bee barak no ladún deskansa.* • *Sente kamutis, isin tún no vontade laiha atu han.* • *Sente fraku, oin halai no dezmaia hela de'it* • *Sente baruk, isin tun no isin la saudavel.* • *Tanba la han aifuan sira no forsa la iha* • *La'o iha dalan sempre monu, oin halai, haree rai nakukun* • *La toba, oin kamutis, ibun kulit maran*	• Not drinking enough water and not resting enough • Feeling exhausted, losing weight, losing appetite • Feeling weak and faint • Feeling tired and lazy, losing weight and body is not healthy • Not eating enough fruit and no strength • Falling over in the street, faintness, dizzyness • Not sleeping, weariness, dry lips
Causes, prevention and treatment	• *Tenke deskansa barak, han no hemu, tuir oras no hemu mos vitamina* • *Presiza toba sedu, hemu bee barak* • *Labele hadeer barak* • *Hahan modo tahan bayam* • *Presiza han: iha vitamina, ai-dila* • *Hemu be'e barak no deskansa barak* • *Tanba la han ai-fuan barak, modo tahan no la hemu bee barak* • *Nunka han ai-fuan sira* • *La han hahan ne'ebé ho vitamina di'ak*	• Need plenty of rest, to eat and drink at set times, and take vitamins • Need to go to bed early and drink lots of water • Avoid sleep deprivation • Need to eat bayam (green leafy vegetables) • Need to eat vitamins, papaya • Drink lots of water and take rest • Caused by not eating enough fruit and leafy vegetables, and not drinking enough water • Caused by never eating fruit • Caused by not eating food with vitamins
Diabetes	*Ra'an midar*	'Sweet blood'
Causes, prevention	• *Tanba ita han midar barak liu* • *Han midar barak liu. Atu prevene han modo, midar siin*	• Caused by eating too much sweet food
Treatment	• *Kura ho tratamentu doutor*	• Cured with treatment from a doctor

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