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Perception of diet, dietary practices and sources of dietary information among people with type 2 diabetes followed up at a tertiary care outpatient clinic: a qualitative study

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Abstract

Background Dietary practices and beliefs among people living with diabetes in low-middle-income South-Asian countries are unique. Understanding them is paramount in supporting them to improve their clinical outcomes. This study aimed to understand the perception of diet, dietary practices, and sources of dietary information among Sri Lankan adults with type 2 diabetes.

Methods Focus group discussions (FGD) were conducted with the participation of adults with type 2 diabetes attending a Medical Clinic at a tertiary care hospital in Sri Lanka. Eligible participants were recruited between June to October 2022 through convenience sampling. FGDs were facilitated by two researchers using a semi-structured discussion guide developed for this study. Abridged transcripts were formulated using the notes and audio recordings. Data were analysed using Braun and Clarke's six-step method for thematic analysis.

Results Among 38 participants included in five FGDs, the mean age was 59.9 (range: 39–76) years, 27 (71.1%) were females, and mean duration since the diagnosis of diabetes was 9.4 (range: 0–25) years. Five main themes were identified. (1) Diet in diabetes and composition of the meal; participants were aware of the importance of diet in diabetes and understood a healthy meal including the plate concept. (2) Individual components in the diet; many participants used 'sugar' to refer to 'starch' in the food. Participants considered rice superior to wheat flour-based products in diabetes. Finger millet products were believed to lower blood glucose. We observed beliefs on the glycaemic effects of specific varieties of yams, legumes and fruits. Some participants completely avoided sweets and starchy vegetables. (3) Utilisation of food labels; only a few participants referred to food labels. (4) Factors affecting the practice; external factors such as the recent economic crisis, family members' influence, and availability affected their food choices. (5) Sources of information; some felt that ready access to information was limited.

Conclusions We identified several misconceptions and undue dietary restrictions, minimal utilisation of food labels and information sources, and the impact of several external factors including economic restrictions. Understanding

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these dynamic patient and social factors would enable culturally acceptable dietary interventions by health professionals to improve patient outcomes.

Keywords Type 2 diabetes, Diet, Focus group discussion, Meal

Background

Dietary interventions play a cornerstone in successful management of type 2 diabetes (T2D). Healthy eating and enjoying a variety of culturally acceptable food in appropriate portion sizes is recommended for people living with diabetes (PLWD) [1]. However, PLWD tend to believe diet in diabetes is restrictive, and expensive and prevents them from enjoying a variety of foods [2]. Misconceptions about diet in diabetes have been widely observed throughout the world and those lead to more restrictive dietary patterns [3, 4]. PLWD feel unsupported when it comes to diet and hope healthcare professionals should be engaged and help them understand dietary management [5]. Healthcare professionals should have a good understanding of dietary habits, misconceptions, cultural beliefs, and factors influencing the diet of their patients to deliver more effective dietary interventions [6].

Dietary practices have a strong cultural, geographical, and economic association. It is crucial to understand perceptions and practices related to diet among low-middle-income South-Asian PLWD due to their unique cultural food habits and economic constraints. Furthermore, recent economic crises experienced by some countries such as Sri Lanka, Pakistan, and Bangladesh have impacted the access to food in these communities. T2D in South-Asians behave differently from a biological perspective as well predisposing them to a greater risk of complications [7, 8]. Hence, it is prudent to explore dietary beliefs and practices among these populations to develop focused interventions. This study aimed to assess the perception of diet, dietary practices, and sources of dietary information among Sri Lankan adults with T2D.

Methodology

A series of qualitative focus group discussions (FGD) were conducted at the Medical Clinic, University Hospital- Kotelawala Defence University (UH-KDU; a state-run hospital providing free healthcare to the public) between June to October 2022. Adults (> 18 years) with type 2 diabetes attending the clinic were recruited through open invitation. Patients who had specific nutritional demands such as people with chronic kidney disease stage 3B or advanced, people with cirrhosis, and people who had undergone weight reduction surgery were excluded.

Each FGD was conducted in an enclosed meeting room at the clinic with minimal external distractions and lasted 45 to 60 min. Sociodemographic details of the participants including age, sex, and duration of diabetes were recorded at the beginning of the FGD. All the FGDs were facilitated by the same researchers to ensure consistency. One researcher (HD) facilitated discussions by providing guidance according to the discussion guide and stimulating discussion. She was also responsible for maintaining the focus, regulating the floor, and timekeeping. The other researcher (RH) took notes of verbal responses in the participants' own words and documented emotional responses. The discussions were audio recorded. FGDs were carried out in Sinhalese (the commonest native language in Sri Lanka) using a semi-structured discussion guide developed for this study (Additional file 1) and all the participants were fluent in Sinhalese.

Data collection continued till the data saturation was reached when the issues raised by the participants were observed to be repeating and no new codes were emerging. Abridged transcripts were formulated with the notes taken during the discussion and audio recordings. The same researcher (HD) who facilitated all five discussions (moderator), who is also a clinician, with postgraduate qualifications in clinical nutrition formulated the transcripts to have a better contextual understanding of data.

The analysis started with reading and re-reading the whole transcript to familiarize with the data. Thematic analysis involves developing themes by rigorously understanding the data set and there are three main approaches to thematic analysis named coding reliability, codebook and reflexive analysis [9]. Braun and Clarke's six-step method for reflexive thematic analysis, which involves researcher's reflexive and recursive engagement with the data set, was adopted for the data analysis in our study. This flexible and systematic method can be used in a range of research questions [10].

The coding of the data was done manually. Preliminary themes and codes under each theme were reviewed by two investigators (HD; a clinician with postgraduate qualifications in clinical nutrition and NL; a clinician with postgraduate qualifications in diabetes and endocrinology) who came to conclusions on themes and sub-themes by working together in a collaborative and reflective manner. Selected phrases were translated into English by a researcher and back-translated into Sinhalese by a

separate researcher to assess comparability with the original content. Ethics approval was obtained from the Ethics Review Committee, Faculty of Medicine, General Sir John Kotelawala Defence University. Informed consent was obtained for participation and audio recording.

Results

A total of 38 subjects participated in five FGDs. The mean age of the participants was 59.9 years ranging between 39 to 76 years and the time since diagnosis of

diabetes ranged from 0 to 25 years. The characteristics of the participants are summarised in Table 1.

Five main themes and several sub-themes were identified and are summarised in Table 2.

Diet in diabetes and the composition of the meal

Everyone mentioned that diet is an important component in managing diabetes. Further, the majority believed that the diet in diabetes differs from that of a person without diabetes.

Yes, of course, the diet is very important in controlling blood sugar (Group 1, 62-year-old, female)

Table 1 Characteristics of the study participants

Group	Number of participants	Number of males (%)	Mean age in years (range)	Mean duration since diagnosis of diabetes in years (range)
Group 1	6	1 (16.7%)	60.2 (39–73)	9.2 (0.25 –21)
Group 2	7	2 (28.6%)	57.6 (37–74)	5.6 (0 – 22)
Group 3	11	4 (36.4%)	60.1 (39–69)	10.3 (0.75–20)
Group 4	7	2 (28.6%)	63.9 (50–76)	7.3 (2–25)
Group 5	7	2(28.6%)	57.6 (48–70)	13.9 (2–20)
Total	38	11 (29.0%)	59.9 (39–76)	9.4 (0 – 25)

Table 2 Themes and sub-themes identified during coding

Theme	Sub-themes
1) Views on diet and dietary changes in diabetes and composition of a typical meal	
2) Perception on individual food component in meal and dietary practices	2.1) Views and practices in relation to carbohydrate rich food 2.2) Views and practices in relation to legumes 2.3) Views and practices in relation to vegetables 2.4) Views and practices in relation to fruits 2.5) Views and practices in relation to sweets
3) Utilisation of food labels and reasons behind underuse	
4) Factors determining the dietary practices, other than the knowledge and beliefs	4.1) Influence of family members on dietary practices 4.2) Financial situation affecting dietary practices 4.3) Effect of food grown in home garden on dietary practices
5) Sources of dietary information used by the participants	

We should have control over what we eat. We have to eat differently compared to a person without diabetes (Group 2, 44-year-old, female)

Overall, most of the participants believed that they should eat less starch and more vegetables. The plate method was familiar to some of the participants. However, there was a disagreement about the proportions of individual food components. Some mentioned $\frac{1}{4}$ of the plate should contain rice (the main staple in Sri Lanka), while others said $\frac{1}{3}$.

Rice should fill $\frac{1}{4}$ of the plate, $\frac{3}{4}$ should be the vegetables and fish/meat. If you want to eat boiled jackfruit or breadfruit, you can have it instead of rice. Even if you prepare a curry with those, you have to reduce your rice portion if you want to have them on your plate (Group 1, 57-year-old, female).

But, as far as I know, $\frac{1}{3}$ of the plate should contain rice (Group 1, 39-year-old, female)

Individual components in the diet

Carbohydrate-rich foods

Most participants used the term 'sugar' instead of 'starch' or 'carbohydrate' when referring to carbohydrate-rich foods.

I do eat red lentils daily; does it contain sugar? I have heard that it does not (Group 1, 62-year-old, female)

I always go for red rice. I don't eat other rice varieties; red rice has less sugar (Group 2, 58-year-old, male)

Rice which is considered the staple food in Sri Lanka seems to be the most consumed carbohydrate source in the diet. Wheat flour, kurakkan flour (finger millet), yams, jack fruit, and breadfruit were the other carbohydrate-rich staples consumed.

Rice Participants held different views on different rice varieties. Many believed that red rice, nadu rice (a variety of medium grain rice in Sri Lanka), parboiled rice, and basmati rice are better for PLWD and believed to have less 'sugar'. In contrast, few believed that there is no difference among rice varieties as long as they consume controlled portions.

I always go for red rice. I don't eat other rice varieties; Red rice has less sugar (Group 2, 58-year-old, male)

Nadu is the best among rice varieties. If you can

afford it, basmati is also good (Group 5, 48-year-old, male)

Flour varieties Many had a negative impression of wheat flour-based products. Some believe that rice is better than wheat flour-based products.

Bread is not good, you have to eat rice (Group 2, 44-year-old, female)

I stopped almost all the sweet and wheat flour products after being diagnosed with diabetes (Group 1, 57-year-old, female)

Further, commonly available bread in Sri Lanka is made of refined wheat flour (white bread). Whole wheat flour was not much discussed. Two of the participants (Group 3, 60-year-old, female; Group 1, 39-year-old, female) mentioned that whole wheat products are healthier than refined wheat flour.

Kurakkan (finger millet) flour was popular, and some considered finger millet flour-based food can bring down the blood sugar level. However, a 39-year-old female participant in group 1 mentioned that they should focus on portion size even for finger millet flour. Further, she mentioned that finger millet flour is healthier than refined wheat flour.

Kurakkan controls blood sugar, we can eat kurakkan pittu (flour mixed with coconut scrapings cooked by steaming), roti (unleavened flat bread made with flour and coconut scrapings cooked on the hob), and thalapa (flour mixed with water and made into balls) (Group 2, 44-year-old, female)

It is not good to eat a large amount of even whole wheat flour or millet flour, but they are better than wheat flour (Group 1, 39-year-old, female)

Yams Yams were discussed as a staple. A 76-year-old female participant from group 4 mentioned that she was advised to avoid yams in the diet. Similarly, a female aged 60 years in group 3 mentioned that manioc and sweet potatoes are not good. In contrast, a 69-year-old female from the same group said that yams are good, and she consumes a plate of sweet potato for her breakfast. As for legumes, participants held different views on different varieties of yams.

Underground yams such as Manioc and sweet potatoes are not good (Group 3, 60-year-old, female)

The yams like manioc and kiri ala (Taro (Colocasia esculenta) root), which are grown under the

ground are good, but potatoes are not good (Group 1, 57-year-old, female)

I eat manioc frequentlyI have heard that it does not contain sugar (Group 1, 62-year-old, female)

Legumes

Participants had different views on different legumes. A few of them mentioned that some legumes contain 'sugar' while some do not.

Cowpeas and chickpeas do not contain sugar, but mung bean has (Group 1, 63-year-old, male)

I do eat red lentils daily; does it contain sugar? I have heard that it does not (Group 1, 62-year-old, female)

Red lentils contain some sugar, it has protein as well, but less protein compared to fish and meat. It has more sugar compared to protein. (Group 1, 39-year-old, female)

Vegetables

Almost everyone mentioned that vegetables are good, and they should consume more vegetables in their diet.

We should eat more vegetables and less rice (Group 2, 44-year-old, female)

Participants had different views on different vegetables. Some had negative impressions of carrots, beets and pumpkins. They mentioned that these vegetables contain sugar and increase their blood sugar level.

I try to avoid things like beetroot (Group 1, 63-year-old, male)

Beets contain more sugar than rice. I have completely removed them from my diet (Group 1, 57-year, female)

Carrots, beets and pumpkins are not good. I don't know why they are including carrots in the hospital diet, I only eat them very rarely (Group 2, 37-year-old, female)

Further, some believed that bitter vegetables could bring down their blood sugar. The bitter gourd was the most discussed among bitter vegetables.

I do eat bitter gourd as people say that it is good for diabetes (Group 1, 67-year-old, female)

Yes, me too, though I don't like it (Group 1, 57-year-old, female)

Some participants did not have a clear idea of vegetables and considered yams and legumes as vegetables when these were prepared as curries.

I think manioc curry can be counted as a vegetable. Similarly dhal, potato and sweet potatoes too (Group 2, 74-year-old, female)

Fruits

Fruits were consumed at the main meal or as snacks. Some believe that fruits facilitate the digestion of food when consumed just after the main meal. A 39-year-old female from group 1 mentioned that consuming fruits at snack time helps her control portion sizes at the next main meal.

I eat them as desserts to facilitate the digestion of the main meal. I do eat one or two bananas after the main meal (Group 5, 58-year-old, male)

I believe that it is better to eat fruits in between main meals. So, I can reduce the quantity of food consumed at the next main meal (Group 1, 39-year-old, female).

The most discussed fruit was the banana. Participants believed that different banana varieties affect their glycaemic control variably. Many believe that sour bananas are good, and that other varieties especially silk banana (Kolikuttu) and Sugar bananas (Seeni) banana are not good for people with diabetes.

I was told not to eat 'Kolikuttu' (Group 4, 76-year-old, female)

I am scared to eat 'Seeni' banana as it has more sugar (Group 1, 57-year-old, female; Group 1, 62-year-old, female)

Sweets

Some participants think that sweets should be completely avoided while others believe they can consume a small amount.

I eat everything, but in small quantities (Group 1, 73-year-old, female)

Few of them mentioned that they should avoid white sugar and can instead have brown sugar. However, some disagreed with this. Similarly, few believed that pure jaggery was good and some were against it.

White sugar is not good, but it is okay to have brown sugar (Group 3, 66-year-old, female)

I believe that there is no difference between these two

(Group 1, 73-year-old, female)

I think pure jaggery is okay for us (Group 2, 65-year-old, female)

There is no difference between jaggery and sugar (Group 4, 61-year-old, female)

Utilisation of food labels

Some of the participants mentioned that they refer to the label. The colour code seems to be the main piece of information referred to on the label. Except for a 39-year-old female participant from group 1, none mentioned that they read the nutrition information table. Small prints seem to be limiting the utilisation of the nutrition fact tables.

Yes, I do read the table, especially when I am going for a new product (Group 1, 39-year-old, female)

I always look at the colour code. But not the table, as I cannot read small prints (Group 4, 61-year-old, female)

In contrast, few mentioned they never read the food labels. One of the participants mentioned that she could feel what was there in the food, so she did not refer to the label. Few did not read the labels as they doubted the credibility of the information given.

I don't look at the label. If I eat some food containing sugar, I can feel it. I feel a sour taste. I have lived with diabetes for years. I can feel what is there in the food. So, why should I look at the label? (Group 4, 70-year-old, male)

Actually, I don't believe them. So, I don't look at the label (Group 1, 73-year-old, female)

Though the colour code says green for sugar for some foods, they taste sweet. I don't think they have reduced sugar though they mention in the label (Group 2, 37-year-old, female)

Factors affecting the practice

Some mentioned how external factors change their practices irrespective of knowledge. Influence from the family members, financial situation and availability of certain foods in home gardens were some determining factors.

Influence of family members

A sixty-three-year-old male mentioned that his wife decides what he should eat. Further, he mentioned that he sometimes gets annoyed by this behaviour.

My wife advises me on what to eat. Sometimes if I serve myself something which she thinks is bad for diabetes, she takes it back. I know that food will not cause any issue; basically, my wife decides what I should eat. (Group 3, 63-year-old, male)

Financial situation

The financial crisis in the country had influenced the majority's diet. Many mentioned that they find it difficult to afford vegetables, legumes and fruits.

It is difficult to change the diet due to financial issues (Group 5, 58-year-old, male)

It is very difficult to afford for recommended quantity of vegetables (Group 1, 63-year-old, male)

Though the legumes are good we cannot afford them (Group 1, 63-year-old, male)

I know that we should eat more vegetables and less rice. But we are unable to eat like that. We can afford only a small quantity of vegetables, that also for the whole family (Group 2, 44-year-old, female)

I cannot eat vegetables and fruits as recommended. I haven't eaten some fruit for 3-4 months (Group 5, 53-year-old, female)

One of the participants mentioned a good solution for the vegetables and the majority in that group agreed to her idea.

I agree with you all. But I have found a solution to that. We can have a large portion of green leaves instead of expensive vegetables. There is a variety of green leaves in Sri Lanka, and they are not expensive as well (Group 1, 39-year-old, female)

Availability in home garden

Some participants mentioned that the yams, jackfruit, breadfruit and bananas are grown in their home gardens. Large portions of jackfruit, breadfruit, and yams are consumed with a condiment or coconut scraping and without any vegetable or protein-rich food for the main meals. This seems to be helping their economy.

We have manioc and breadfruit in our home garden. We boil them and eat them with lunumiris (a condiment made with onions and red chilli) and coconut scrapings in the mornings. Yes, it is because we have it in our garden.... Of course, it helps with my economy as well (Group 1, 63-year-old, male)

Sometimes, if we have jackfruit in the home gar-

den, we eat boiled jackfruit with coconut scrapings for lunch (Group 1, 63-year-old, male)

Fruits are also grown in the home garden and large portions are consumed. A fifty-seven-year-old female participant from group 1 mentioned she eats a lot of bananas as she does not want to throw them away.

I eat lots of bananas if available. When I have bananas at home, I eat even 20-25 per day (Group 1, 63-year-old, male)

When available, I eat a large amount of fruit. I don't want to throw them away. I don't consider timing. Before meals, after meals, whatever the time.... But my sugar level is also good (Group 1, 57-year-old, female)

Sources of information

Some of the participants had received advice on diet at the healthcare facilities. A seventy-three-year-old female from group 1 said that she listened to a health talk by a nurse while waiting for the clinic and found it useful. One had received dietary advice when she was admitted to the hospital. A 63-year-old male participant who had been diagnosed with diabetes for 7–8 years, mentioned that he did not receive proper guidance on diet even though he asked the doctor.

When I was admitted to the ward, a nurse taught me about diet (Group 1, 57-year-old, female)

I haven't had an opportunity like this. The doctor just says, 'do not eat sugar-containing food much'. That's all. I have been on treatment for diabetes for 7-8 years (Group 3, 63-year-old, male)

Relatives, friends, neighbours, YouTube, Facebook and magazines were the other sources of dietary information used by the participants. Further, some mentioned that the information and advice appearing on social media do not apply to everyone.

I got some advice from my brothers and neighbours (Group 5, 48-year-old, male)

When I want to know something, I check YouTube (Group 1, 39-year-old, female)

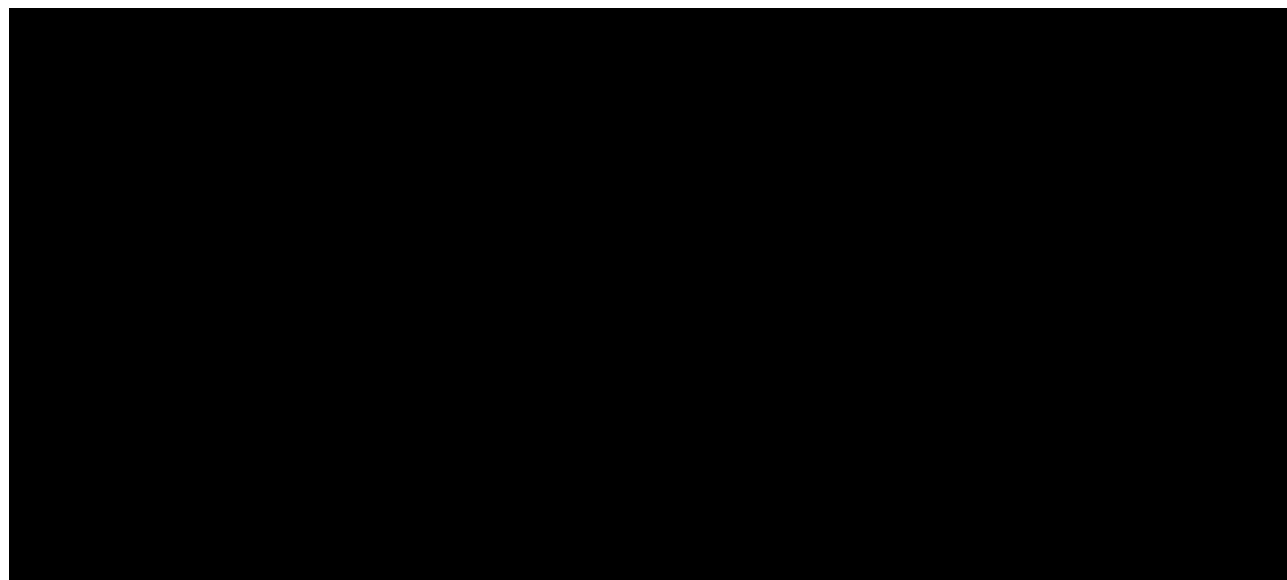
I do not believe things on Facebook. Everything does not match everyone. (Group 3, 64-year-old, male)

Discussion

Our study provides insight into the perception of diet, dietary practices and sources of dietary information among PLWD from a low-middle-income South Asian perspective. Participants are aware of the importance of a healthy diet to diabetes management and have some understanding of the composition of a healthy meal. However, several misconceptions and misinterpretations sometimes leading to undue restrictions, lack of utilisation of food labels and the impact of several external factors including recent financial crises were concerning. The interrelationship between those factors and their impact on dietary practices are summarised as a concept map in Fig. 1. We did not come across similar literature previously describing strong beliefs on different carbohydrate sources, underutilisation of food labels and the impact of the financial crisis on PLWD.

We report some misconceptions held by participants. For example, some believe any food item cooked as a curry for a side dish can be considered a vegetable. As a result, they did not realise that they consumed less non-starchy vegetables in their meals and staples such as rice were eaten together with legumes and yams. This misconception prevented them from having a balanced meal. At the same time, some believed that yams such as potatoes and starchy vegetables produce worse glycaemic effects than rice. While non-starchy vegetables are encouraged for PLWD, the belief that vegetables such as beetroot or carrot cause more glycaemic excursions than grains is not evidence-based. Some studies done in the South Asian region have revealed similar negative views on potatoes [3, 11]. Another observation was on the ability of some grains to control blood glucose. Finger millet flour was thought to help control blood glucose but has no scientific basis. Some participants believed that jaggery or brown sugar were good alternatives to white sugar. There is no evidence that they have significantly different glycaemic effects [12].

A positive observation in our study was the awareness of our participants on the importance of diet in diabetes and understanding of the plate concept as an approach to a healthy meal. The plate method has been used for many years throughout the world as guidance to healthy eating and has shown benefits in short-term glycaemic control [13–15]. However, the impression of some people that they should eat differently from other people can negatively impact their quality of life and the concept of a healthy meal should be promoted [1]. South Asians and Sri Lankans consume more carbohydrates compared to Western population [16–20]. There are some differences in composition in the healthy plate suggested in different countries [21], and the model plate introduced by the Ministry of Health Sri Lanka contains half a plate



of carbohydrate-rich food [22]. Though this seemed to have created some confusion among participants, the overall concept might be a simple and practical visual guide to improve diet in many PLWD.

Undue restrictions in the diet make eating less pleasurable [5, 23]. Some believed that sweets and sugar should be completely avoided and 'prohibited'. Though it is important to minimise the consumption of sweets as a routine, occasional consumption is acceptable. A cross-sectional study done in Pakistan in 2014, revealed that more than 80% of patients with diabetes believed that sugar/sweets were prohibited for them [11]. We also observed that overestimating the effects of minor differences in carbohydrate content or glycaemic index has led to undue concerns. For example, people were very much conscious about the type of rice they consumed. While different rice varieties have different glycaemic indexes [24, 25], there is no clinically meaningful difference in glycaemic changes when consumed in a mixed meal [26, 27]. Similarly, people strongly discouraged bread/wheat flour-based products as a carbohydrate source. Since most of the bread available in Sri Lanka is made from refined wheat flour, there can be some basis for this belief. However, this scientific knowledge was not observed among any of the participants. There is no evidence that rice is superior to wholegrain wheat products [28]. Positive impressions on red rice and long grain rice varieties and negative views on wheat flour and potatoes have been observed in another qualitative study in Sri Lanka [29]. Participants held different impressions of different yam varieties and had heterogeneous views even

for the same yam variety. Similar heterogeneous beliefs were evident regarding legumes and banana varieties. However, patients' impressions of different flour varieties and heterogeneous views on different yams, legumes and banana varieties have not been described elsewhere.

Food labels provide necessary information for the consumer to make decisions on their selection and lead to more healthful food choices [30]. The study population underused food labels and especially the nutrition fact tables. Whenever they referred to the label for nutrition information, it was mostly limited to colour code. The two main barriers identified for the use of the food labels were small prints, which have been discussed in the literature [31, 32] and the lack of confidence in the credibility of information, which has not been widely described before. Food fraud has been observed across many countries including Sri Lanka [33–35] which would be a root cause for this. Lack of interest, time and knowledge are the most common barriers identified in the previous studies [31, 36–39].

The participants' diet has been affected by the economic crisis. They found it difficult to afford legumes, vegetables and fruits following the downturn in the economy. Reduction of quality and quantity of the diet was evident even in a national-level online survey in Sri Lankans though the impact on PLWD has not been specifically looked at before [40]. In addition, two other main factors that determined participants' dietary practices were the varieties of abundantly available food in the home garden and the influence of the family members. Family members' involvement and positive and

negative impacts on diabetes self-management have been described [41–44]. However, pressure from the family members to force the dietary changes on adult patients has not widely been discussed. Studies have pointed out the positive impact of home gardening on diet, however, our study revealed a different aspect, and we observed that abundantly available food in the home garden can make the diet unbalanced [45–47].

Diabetes-focused medical nutrition therapy at the diagnosis and during follow-up has been recommended by the American Diabetes Association [1]. Proper guidance on diet will enable people to enjoy a variety of healthy foods, avoiding unnecessary dietary restrictions. However, our study and several other studies have observed that patients are not getting proper guidance on diet and need healthcare personnel to be more involved with it [5, 48–51]. Social media platforms were one of the sources of information used by the study subjects to access dietary information. Around 25% of the YouTube videos in the English language on diabetes treatment and diabetes diet were found to contain misleading information [52]. There are no published similar studies evaluating Sinhala language videos.

Our study was strengthened by participants with varying experiences in living with diabetes. Study participants included newly diagnosed patients with diabetes and those diagnosed for over two decades. We conducted multiple sessions while reviewing the new information in the interim to ensure data saturation. We acknowledge several limitations in our study. Participants of our study were recruited from a single outpatient setting. Dietary practices vary among different ethnic groups in Sri Lanka and all our study participants were Sinhalese. However, this might have positively affected the group dynamic due to sharing similar dietary practices. Therefore, conducting separate studies to cover the unstudied population would be necessary.

Conclusion

Our qualitative study explores the dietary approach among PLWD from a low-middle-income South-Asian community recently impacted by an economic crisis. Several misconceptions and undue restrictions related to diet and minimal utilisation of food labels and information sources indicate the need for more support by healthcare workers to guide them to have healthy food choices without undue restrictions. The impact of several external factors including economic restrictions warrant more individualised and cost-effective approaches to healthy eating.

Abbreviations

FGD Focus group discussion
PLWD People living with diabetes

T2D Type 2 diabetes

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s40795-024-00968-1>.

Additional file 1. Discussion guide. English translation of the semi-structured discussion guide developed for the study.

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Authors' contributions

HD conceptualised the study. HD, DG and NL designed the study. HD and RH collected data. HD and NL analysed data. HD wrote the initial manuscript. NL, RH and DG revised the manuscript. All authors reviewed and agreed on the final version of the manuscript.

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Data availability

The datasets used and analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

The study was conducted in accordance with Declaration of Helsinki. Ethics approval was obtained from the Ethics Review Committee, Faculty of Medicine, General Sir John Kotelawala Defence University. Informed consent was obtained for participation and audio recording.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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