



DIABETES
MANAGEMENT GUIDE

Simply
**DELICIOUS
RAMADAN**
RECIPES



SPECIAL MESSAGE TO THOSE WHO ARE FASTING

An estimated 61% of Malaysian population practice Islam as their religion¹. One of the five pillars of Islam is to fulfil the annual fasting during Ramadan. Fasting is exempted for those with medical conditions, but the majority of Muslims with diabetes are eager to fast.

With this understanding, we at **NESTLÉ HEALTH SCIENCE**, together with the dietitians from **INSTITUT JANTUNG NEGARA**, are delighted to share this educational-cum-recipe Ramadan booklet. This is our efforts to enlighten on the practical guide with regards to diabetes management during Ramadan month.

Our booklet also contains a range of nutritious and delicious recipes which you can prepare during Ramadan. We hope that you will enjoy our specially developed **NUTREN UNTUK DIABETIK** Ramadan Sahur and Iftar recipes.



Emilyn Loo

Business Executive Officer
NESTLÉ HEALTH SCIENCE MALAYSIA

Ramadan is an exclusive and special time for Muslims around the world. It is a time for them to draw faithfully closer to God and grow in their devotion and spirituality to fulfil one of the five pillars of their religion. Overcoming hunger and thirst during fasting is part of it. Therefore, it must be made easy for people with diabetes to manage the fast and their glycaemic control during this month.

With this in mind, we the dietitians from **INSTITUT JANTUNG NEGARA** are delighted to share this educational and recipe booklet with the cooperation from **NESTLÉ HEALTH SCIENCE**. The message is simple and practical. Thus, do benefit the knowledge given for your wellbeing. The recipes for Sahur and Iftar will nourish you during this period of the month.



Mary Easaw

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Ramadan is the

9th month

of the Muslim calendar where Muslims will fast from pre-dawn to dusk



Fasting during Ramadan in Malaysia ranges between 12 – 14 hours

FASTING DURING RAMADAN



Fasting goes beyond abstaining from eating and drinking. It teaches compassion, patience and breaking bad habits



Pre-dawn meal is Sahur, while breaking fast is Iftar



RESPONSE TO FASTING²

Fasting impacts everyone differently. The negative impact of fasting are more likely in those with **poor blood glucose control** due to many reasons.

During the transition from feeding to fasting, a **starvation-like response** involves extreme hunger, release of stress hormones and a change in metabolic rate.

The changes that occur in the body in response to fasting **depends on the length of the continuous fast.**

6 – 24 hours after beginning fasting

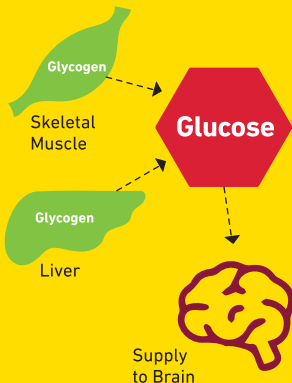
From 2 – 10 days of continuous fasting

Beyond 10 days of continuous fasting

Postabsorptive Phase

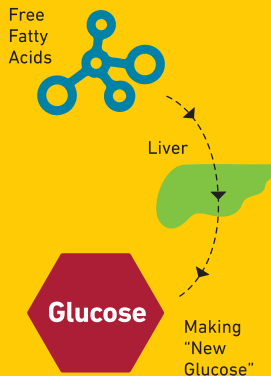
(Ramadan Fasting)

Insulin level starts to fall.
Breakdown of glycogen releases glucose for energy



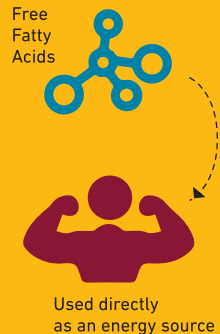
Gluconeogenic Phase

The liver manufactures new glucose, literally translated as "making new glucose"



Protein Conservation Phase

Energy met by the use of free fatty acids and ketones



RISK CATEGORIES FOR PEOPLE WITH DIABETES

Low Risk

Well-controlled diabetes treated with lifestyle therapy and oral tablet



Medium Risk

Well-controlled diabetes treated with short-acting insulin



RISKS ASSOCIATED WITH FASTING IN PEOPLE WITH DIABETES

HYPOGLYCAEMIA

1.6X higher during fasting³

Symptoms:



Rapid heart beat



Sweating



Shakiness

HYPERGLYCAEMIA

5X increase
requiring
hospitalization⁴
(Type 2 Diabetes)

3X increase
requiring
hospitalization⁴
(Type 1 Diabetes)

Symptoms:



Frequent urination



Excessive thirst



Numbness in the feet

DEHYDRATION

Happens as a result of inadequate fluid intake between Iftar and Sahur

High Risk

- Moderate hyperglycaemia (HbA1c 7.5 – 9.0%)
- Living alone and treated with insulin
- Old age with ill health



Very High Risk

- History of severe diabetes complication within 3 months prior fasting
- Hypoglycaemia unawareness
- Type 1 Diabetes
- Sustained poor glycaemic control (HbA1c >9%)
- Performing intense physical labour
- Pregnancy
- Advance kidney failure

D³M





**CAN PEOPLE
WITH DIABETES
FAST
DURING RAMADAN?**

Yes!

Fasting in Ramadan is safe for majority of Type 2 Diabetes patients with proper education and diabetes management⁵

3D TRIANGLE FOR DIABETES MANAGEMENT DURING RAMADAN

**Daily
Physical
Activity**



**3D
Triangle**

**Drug
Regimen
and
Self
Monitoring**



**Diet
Control**



PHYSICAL ACTIVITIES DURING RAMADAN⁶

These activities can be done shortly prior to breaking fast or 1-2 hours after breaking fast

Individuals with diabetes are encouraged to **perform appropriate physical activities to maintain optimal weight and glycaemic control**

Light to moderate intensity exercises are recommended. Rigorous exercises are discouraged

* Reconfirm with your health care professionals for type of exercise

SLOW WALK



STRETCHES



CYCLING



SELF-MONITORING OF BLOOD GLUCOSE DURING RAMADAN



Therapy	Oral Anti Diabetics	Insulin
Timing & Frequency of Self Monitoring	Monitor when symptomatic	<p>People with diabetes who are in moderate to high risk categories are recommended to monitor their blood glucose 6 times per day:</p> <ul style="list-style-type: none"> ● Pre Sahur & 2 hours post Sahur ● Midday ● Pre Iftar & 2 hours post Iftar ● Bedtime

Adapted from Practical Guide to Diabetes Management in Ramadan 2015

END FAST IMMEDIATELY WHEN



Blood sugar ≤ 3.3 mmol/L at any time of the day



Blood sugar < 3.9 mmol/L in the first few hours of fasting or before noon



Blood sugar > 16.7 mmol/L



Symptoms of low blood sugar (hypoglycaemia)



Presence of ketones (toxic acids) in the urine and blood

Adapted from Ibrahim MA, Managing Diabetes during Ramadan, Diabetes Voice 2007; 52 (2):19-22

DIET CONTROL DURING RAMADAN

DISCOURAGE

Limit intake of high-sugary foods e.g. kuih. However, 1 – 2 dates (Kurma) at start of Iftar may be taken

Limit fried or fatty foods

Limit intake of highly salted foods

ENCOURAGE



Always break fast or “berbuka” on time. Main meal is encouraged after Maghrib prayers



Supper after Tarawih can be taken as **replacement of pre-bed snack**



Sahur is important and **should never be skipped**



Include **fruits and vegetables** at both Sahur and Iftar



Consume adequate amount of **carbohydrate** to sustain for the fasting period



Adequate fluid intake between Iftar and Sahur. Choose sugar-free drinks



Fibre-rich food will release energy slowly and sustain you during fasting hours



Make sure to include protein sources, fruits, vegetables and plain water in your Sahur meal



Starchy carbohydrates that release energy slowly, such as:

Multigrain/ Whole wheat bread/
Cereal/ Oats/ Brown rice/
Basmati rice/ Legumes & lentils

HEALTHY FOOD OPTIONS

Sahur

Have a balanced meal, similar as recommended for Sahur

Drink as much water as possible between Iftar and bedtime to avoid dehydration

Always **'berbuka"** on time to keep your blood sugar stable

Avoid carbonated drinks, high sugar, high fat and salty food

Break your fast with 1 – 2 dates (Kurma)

Iftar

RAMADAN MEAL PLANNING WITH



SUGGESTED MEALS FOR THE DAY

5.00am
Sahur



1 serve
fresh fruits



2 slices of
sardine sandwich
with cucumber,
tomatoes
and lettuce



**NUTREN
UNTUK DIABETIK**
(4 scoops with
150ml water)

5.30am fasting begins

**7.10pm/
7.15pm**
Iftar



1 – 2 dates
(Kurma)



1 cup of cooked
brown rice



1 medium size
Ikan Assam
Pedas



1/2 cup of
stir-fried
beans



1 serve
Cendol
Agar-Agar

*Supper
after
Tarawih*



**NUTREN
UNTUK DIABETIK**
(4 scoops with
150ml water)

A top-down view of a wooden cutting board centered on a dark wooden surface. The board is surrounded by a variety of fresh vegetables and herbs. To the top left is a yellow bell pepper, partially sliced, and a small glass bowl of dressing. To the top right is a head of broccoli and a cauliflower. To the right are several potatoes and a zucchini. At the bottom right is a large red bell pepper. At the bottom are several carrots and baby corn. On the left side, there are cherry tomatoes, cucumbers, and a head of garlic. Various fresh herbs like parsley, thyme, and rosemary are scattered throughout the scene.

*Healthy
Meals*
for Ramadan



FOOD IMAGE FOR ILLUSTRATION PURPOSES ONLY



SERVING SUGGESTION

BROWN RICE CONGEE WITH VEGETABLES

INGREDIENTS:

- 1 cup brown rice
- 1 dried bay leaf
- 3 cloves garlic, bruised
- 6 cups water
- 2 teaspoons soy sauce
- 2 cups bok choy, chopped
- 1 cup carrots, cubed
- ½ cup potatoes, cubed
- 1 cup cherry tomatoes
- 3 scoops **NUTREN UNTUK DIABETIK**, diluted with 300ml water
- ¼ teaspoon salt, or to taste
- Black pepper, to taste
- 1 tablespoon spring onions, chopped

NUTRITIONAL INFORMATION (PER SERVING):

Energy	104 kcal
Protein	3.2g
Carbohydrate	20.2g
Fat	1.3g
Carb Exchange	1.4



15mins



30mins



6 – 8 Servings



Easy

METHOD OF PREPARATION:

1. In a rice cooker, add brown rice, bay leaf, garlic cloves and cover with water, then set to "COOK". Brown rice should be slightly mushy but chewy after 15 minutes (cooking time may vary).
2. Mix in soy sauce, bok choy, carrots, potatoes, cherry tomatoes and **NUTREN UNTUK DIABETIK** mixture. Stir occasionally.
3. Let congee cook for another 20 – 30 minutes in the rice cooker.
4. After congee is cooked, change setting to "KEEP WARM".
5. Season it with salt and pepper.
6. Garnish with spring onions and serve while hot.



MORNING BUZZ COFFEE SMOOTHIE

INGREDIENTS:

- ½ cup cashew nuts, soaked in water
- 1L unsweetened soy milk
- 16 scoops **NUTREN UNTUK DIABETIK**
- 2 tablespoons **NESCAFÉ GOLD**
- 1 cup quick oats
- 2 bananas
- Ice cubes, crushed (as required)

NUTRITIONAL INFORMATION (PER SERVING):

Energy	198 kcal
Protein	7.8g
Carbohydrate	24.3g
Fat	8g
Carb Exchange	1.6



10mins



8 Servings



Easy

METHOD OF PREPARATION:

1. Drain cashews and place in a blender with unsweetened soy milk and **NUTREN UNTUK DIABETIK**.
2. Blend ingredients on high speed until smooth and creamy.
3. Add **NESCAFÉ GOLD**, oats, bananas and ice cubes into the mixture.
4. Blend on high speed until well combined.
5. Pour into glasses and serve immediately.



YOGURT CURRY MARINATED FISH

INGREDIENTS:

- 4 fish fillets (about 120g each)

Marinade:

- 1 medium onion, thinly sliced
- 5 scoops **NUTREN UNTUK DIABETIK**, diluted with 210ml water
- 1 cup **NESTLÉ GREEK STYLE YOGURT Natural**
- 1½ tablespoons fish curry powder
- 2 cloves garlic, minced
- 2 tablespoons turmeric powder
- ¼ teaspoon black pepper
- ½ teaspoon salt

NUTRITIONAL INFORMATION (PER SERVING):

Energy	193 kcal
Protein	20.2g
Carbohydrate	14.9g
Fat	4.8g
Carb Exchange	1



10mins



30mins



6 Servings



Moderate

METHOD OF PREPARATION:

1. Preheat oven at 190°C.
2. Line a medium-sized baking sheet with aluminium foil and place fish fillets side by side on the baking sheet.
3. In a bowl, mix all marinade ingredients together, then pour it over the fish.
4. Bake for 30 minutes. Remove from oven and let sit for about 15 minutes.
5. Serve with brown rice or basmati rice and a side of vegetables.



BUBUR LAMBUK

INGREDIENTS:

- 2 cups basmati rice, soak for 10 mins then drain
- 1.75L water
- Paste (to blend):
 - ¼ cup dried shrimps; soak in hot water for 10 minutes, then drain
 - 2 large onions, chopped
 - 6 cloves garlic
- 2 large chicken breasts, diced
- ½ inch length fresh ginger, finely sliced
- 1 teaspoon fenugreek seeds
- 1 cup cabbage, sliced
- 1 cup carrots, cubed
- ½ cup potatoes, cubed
- ½ cup coriander leaves, chopped
- 4 scoops **NUTREN UNTUK DIABETIK**, diluted with 250ml water
- 3 teaspoons salt
- ½ tablespoon white pepper

METHOD OF PREPARATION:

1. In a large pot, add in rice and water then bring to a simmer for about 30 minutes, or until the rice is thickened to desired consistency. Stir occasionally and add more water if necessary.
2. Mix in paste, chicken cubes, sliced ginger, fenugreek seeds and cook for 10 minutes.
3. Add sliced cabbage, carrots, potatoes and coriander leaves.
4. Stir well, cover and simmer for 5 minutes.
5. Stir in **NUTREN UNTUK DIABETIK** mixture and season with salt and pepper.
6. Allow congee to cook for another 2 minutes.
7. Serve hot (or warm) and enjoy.

NUTRITIONAL INFORMATION (PER SERVING):

Energy	146 kcal
Protein	11.5g
Carbohydrate	22.3g
Fat	1.6g
Carb Exchange	1.5



15mins



45mins



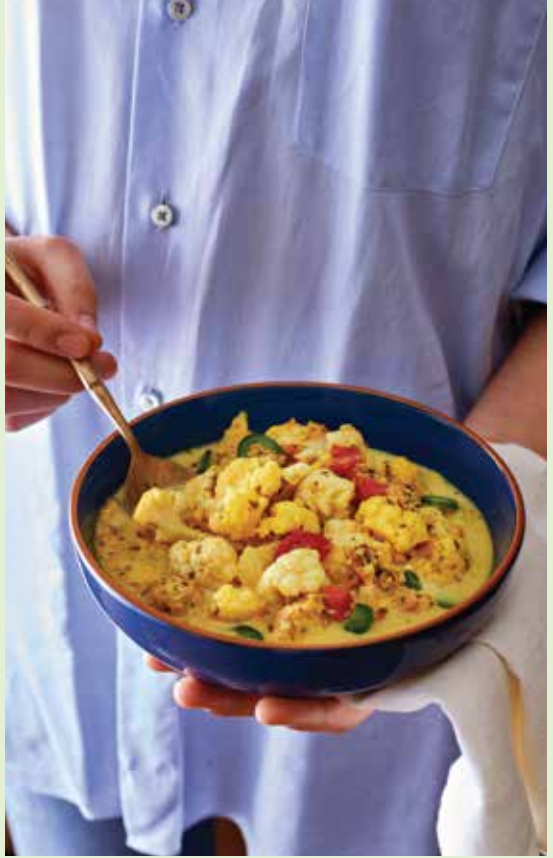
8 Servings



Moderate



FOOD IMAGE FOR ILLUSTRATION PURPOSES ONLY



SERVING SUGGESTION

CAULIFLOWER TIKKA MASALA

INGREDIENTS:

- 1 tablespoon canola oil
- ½ teaspoon mustard seeds
- 2 teaspoons garam masala
- ¼ teaspoon turmeric powder
- 1 cinnamon stick
- ½ inch ginger, finely grated
- 6 cloves garlic, minced
- 1 small green chili, sliced (optional)
- 1 large onion, chopped
- Tomato coriander paste (blended)
 - 5 medium tomatoes, deseeded and cut into wedges
 - ½ cup fresh coriander, roughly chopped
- 7 scoops **NUTREN UNTUK DIABETIK**, diluted with 210ml water
- ½ head of cauliflower, cut into florets
- ½ teaspoon salt, add more to taste

NUTRITIONAL INFORMATION (PER SERVING):

Energy	90 kcal
Protein	2.8g
Carbohydrate	8.5g
Fat	5.2g
Carb Exchange	0.6



10mins



30mins



8 Servings



Moderate

METHOD OF PREPARATION:

1. In a large frying pan, heat canola oil over medium heat.
2. Add in the mustard seeds and fry for 30 seconds. As soon as they start to pop, immediately mix in garam masala, turmeric powder, cinnamon stick, finely grated ginger, minced garlic, sliced green chilies and chopped onions.
3. Cook for a few minutes until the onions turn translucent and fragrant, then reduce heat to low.
4. Stir in the tomato coriander paste and simmer for 5 minutes.
5. Add in **NUTREN UNTUK DIABETIK** mixture and cauliflower florets, stir to evenly combine.
6. Cover and simmer for 8 – 10 minutes until the cauliflower florets are tender. Adjust seasoning, if needed as preferred.
7. Serve hot and enjoy with basmati rice, naan or whole wheat bread.



CENDOL AGAR-AGAR

INGREDIENTS:

- "Gula Melaka" layer:
 - 375ml low-fat milk
 - 150ml water
 - 15g agar-agar sheets
 - 10 scoops **NUTREN UNTUK DIABETIK**, diluted with 300ml water
 - 3 teaspoons vanilla extract
 - ½ teaspoon brown food coloring
- Cendol layer:
 - 500ml water
 - 2 pandan leaves, rinsed & knotted
 - 15g agar-agar sheets
 - 10 scoops **NUTREN UNTUK DIABETIK**, diluted with 300ml water
 - ½ teaspoon vanilla extract
 - ½ cup cendol, cooked

NUTRITIONAL INFORMATION (PER SERVING):

Energy	88kcal
Protein	5.7g
Carbohydrate	6.9g
Fat	3.9g
Carb Exchange	0.5



20mins



10mins



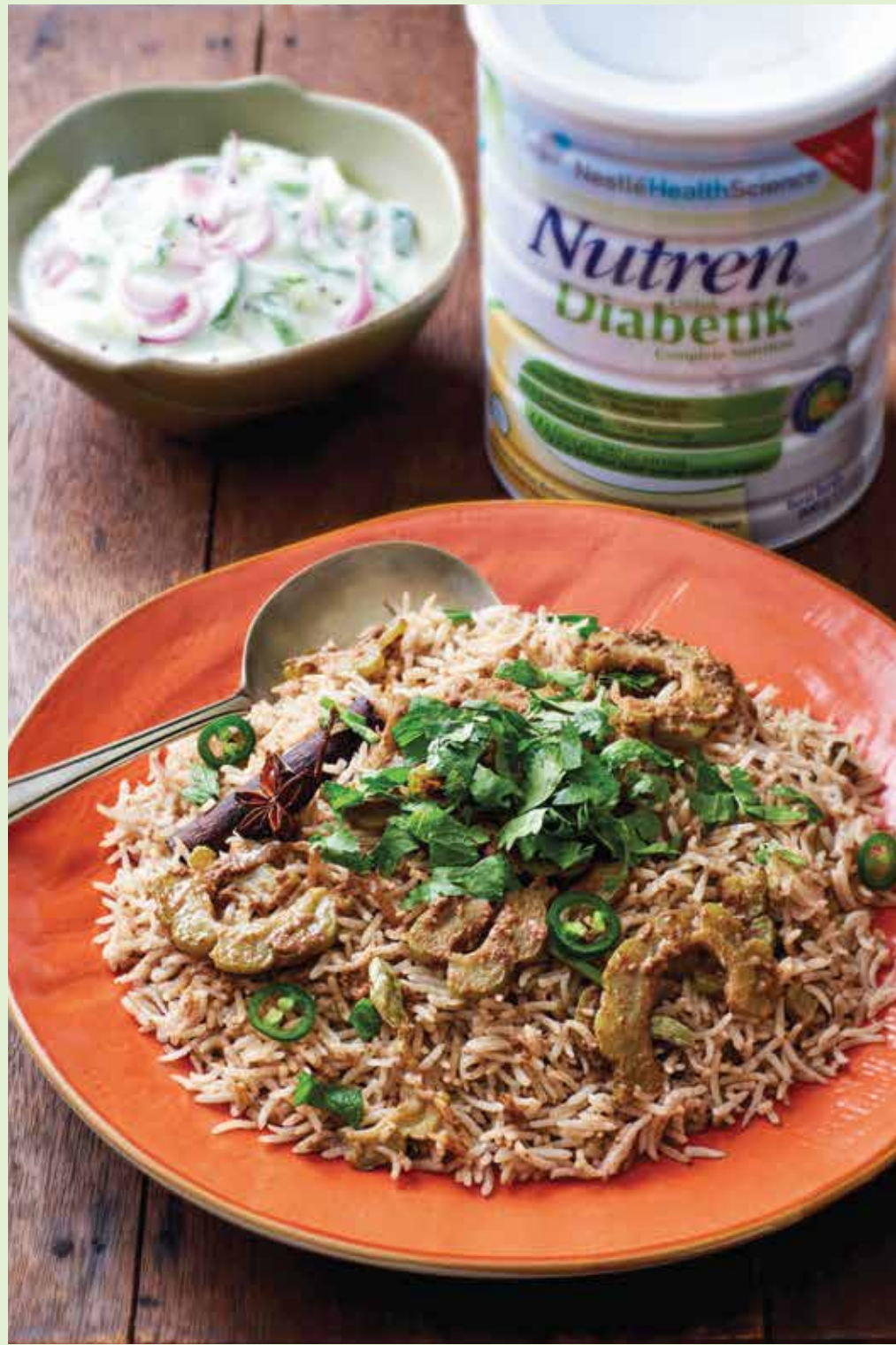
Makes 16



Easy

METHOD OF PREPARATION:

1. For "Gula Melaka" layer, mix water, low-fat milk, and agar-agar sheets in a saucepan and bring to a boil over medium heat. Stir until the agar-agar sheets dissolve completely.
2. Add **NUTREN UNTUK DIABETIK** mixture, simmer over low heat for 2 minutes and stir often.
3. Remove from heat and stir in vanilla extract and brown food colouring then pour into mould. Allow mixture to cool slightly before transferring into the fridge.
4. While "Gula Melaka" layer is setting, prepare the cendol layer. Mix water, pandan leaves, and agar-agar sheets in a saucepan and bring to a boil over medium heat. Stir until the agar-agar sheets dissolve completely.
5. Add **NUTREN UNTUK DIABETIK** mixture, simmer over low heat for 2 minutes and stir often. Remove from heat and take out pandan leaves. Stir in vanilla extract and cooked cendol.
6. Test "Gula Melaka" layer by touching the surface. It should be wobbly and have slightly cooled. Pour in the cendol layer slowly. Let it set and cool down.
7. Chill in fridge and allow to set. Cut into desired shapes and serve chilled.



BITTER GOURD BIRYANI

INGREDIENTS:

- 1 bitter gourd, deseeded and thinly sliced
- ½ tablespoon vinegar
- 1 teaspoon salt
- 3 cups basmati rice
- 2 tablespoons canola oil
- 1 cinnamon stick
- 5 whole cloves
- 2 dried bay leaves
- 4 whole cardamoms
- 2 star anise
- 2 tablespoons biryani powder
- ¼ teaspoon turmeric powder
- 1 large onion, sliced
- 7 cloves garlic, grated
- 2 inches ginger, grated
- 5 scoops **NUTREN UNTUK DIABETIK**, diluted with 1L water
- ½ cup mint leaves, chopped
- ½ cup coriander leaves, chopped
- 3 teaspoons salt, or as needed

METHOD OF PREPARATION:

1. Place vinegar and salt in a small bowl and mix well. Soak bitter gourd in mixture for 30 minutes to reduce the bitterness. Rinse, drain and squeeze to remove excess liquid from the bitter gourd. Set aside.
2. Wash basmati rice with water and soak for at least 10 minutes. Then rinse, drain and set aside.
3. Heat canola oil in a pan, add cinnamon stick, cloves, bay leaves, cardamoms, star anise, biryani powder and tumeric powder and fry till fragrant. Then, add onion, ginger and garlic and sauté for 2 minutes until the onions turn translucent and fragrant. Lastly, add sliced bitter gourd and sauté for another 2 minutes on medium heat until it shrinks a little.
4. Place rice, **NUTREN UNTUK DIABETIK** mixture, mint and coriander leaves into the rice cooker. Transfer the sautéed ingredients into the rice cooker and combine thoroughly. Cover and let the rice cook until fluffy.
5. Serve hot and enjoy with cucumber raita or cucumber pineapple salad.

NUTRITIONAL INFORMATION (PER SERVING):

Energy	143 kcal
Protein	3.5g
Carbohydrate	21.5g
Fat	4.2g
Carb Exchange	1.4



30mins



50mins



10 Servings



Moderate



FOOD IMAGE FOR ILLUSTRATION PURPOSES ONLY



SERVING SUGGESTION

KUIH SIPUT

INGREDIENTS:

Dry Ingredients:

- 50g whole-wheat flour
- 40g self-rising flour
- 5 scoops **NUTREN UNTUK DIABETIK**
- 1 teaspoon salt
- ½ teaspoon chili powder (optional)
- 1 tablespoon curry powder
- 1 teaspoon fennel seeds, pounded
- 1 tablespoon cumin seeds, pounded
- 1½ tablespoons dried shrimps, soaked, cleaned & pounded

Wet Ingredients:

- 50ml water
- 2 tablespoons margarine

Egg Wash:

- 1 egg, lightly beaten

NUTRITIONAL INFORMATION (PER SERVING):

Energy	40 kcal
Protein	1.6g
Carbohydrate	4g
Fat	2g
Carb Exchange	0.3



10mins



30mins



Makes 20



Moderate

METHOD OF PREPARATION:

1. Preheat oven to 165°C.
2. Add dry ingredients into a mixing bowl and stir well to incorporate the ingredients together.
3. Then, mix in wet ingredients and combine well until it forms a dough.
4. Knead dough for 2 minutes. If dough is too wet, add a bit more self-rising flour.
5. Continue to knead for another minute until surface is smooth and does not stick to the bowl. Transfer the dough to a clean bowl.
6. Pinch a small portion of the dough and spread a thin layer on the teeth of the fork, with the right side up. Press gently and roll upward to form a pattern of a snail, then brush it with egg wash.
7. Bake for 20 to 25 minutes, or until golden brown. Oven temperatures may vary, so start checking the kuih siput 5 minutes before the suggested baking time to prevent overbaking.
8. Allow to cool completely on a wire rack before serving.

Tracking

BLOOD SUGAR READINGS DURING FASTING



1st Week

DAY	Date	Pre-Sahur	2 hours post Sahur	Midday	Pre-Iftar	2 hours post Iftar	Bed-time
Mon							
Tue							
Wed							
Thu							
Fri							
Sat							
Sun							

2nd Week

DAY	Date	Pre-Sahur	2 hours post Sahur	Midday	Pre-Iftar	2 hours post Iftar	Bed-time
Mon							
Tue							
Wed							
Thu							
Fri							
Sat							
Sun							

3rd Week

DAY	Date	Pre-Sahur	2 hours post Sahur	Midday	Pre-Iftar	2 hours post Iftar	Bed-time
Mon							
Tue							
Wed							
Thu							
Fri							
Sat							
Sun							

4th Week

DAY	Date	Pre-Sahur	2 hours post Sahur	Midday	Pre-Iftar	2 hours post Iftar	Bed-time
Mon							
Tue							
Wed							
Thu							
Fri							
Sat							
Sun							

5th Week

DAY	Date	Pre-Sahur	2 hours post Sahur	Midday	Pre-Iftar	2 hours post Iftar	Bed-time
Mon							
Tue							
Wed							
Thu							
Fri							
Sat							
Sun							



Fasting Tips For Diabetes



Increase consumption of fibre foods such as vegetables



Break fast with smaller portions and **not overly sweet food**



Control blood sugar levels and identify signs of level rise to learn the body's reaction to changes in diet during fasting

A complete and balanced nutritional beverage



Unique low glycaemic fibre blend to stabilise blood sugar level



Contains beneficial fat blends of monounsaturated fatty acids to reduce cardiovascular risk*



Formulated according to International Diabetes Guidelines

www.nestlehealthscience.my

*Source: Dietary Fats and Cardiovascular Disease. A Presidential Advisory From the American Heart Association.

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- Over 30 years of experience in nutrition & dietetics in Malaysia and internationally
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DISCLAIMER: This is a nutrition educational material for public. Information in this material does not constitute an endorsement by the authors on any brand, product or services. People with diabetes are advised to seek professional help for their treatment and management of diabetes.

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