



Postgraduate Diploma in Diabetes Management and Education (ODL)

Diabetes Self-Management Education in Psychosocial Context DME7102

5 credits

Module Guide

TITLE: DIABETES SELF-MANAGEMENT EDUCATION IN PSYCHOSOCIAL CONTEXT
MODULE CODE: DME7102
PROGRAMME: Postgraduate Diploma in Diabetes Management and Education

CONTENT SYNOPSIS:

Diabetes management requires complex behavioural changes which involves elements of diabetes self-management and understanding of psychosocial impacts. This module covers the essentials of diabetes self-management education and support that incorporate the knowledge of behavioural sciences to empower the individuals with diabetes in managing daily self-care. This module also explores various aspects of psychosocial care which includes diabetes illness perception, stress, and depression that can affect the quality of life. The skills gained from this module will enable diabetes educators to facilitate and plan a patient-centred management with people with diabetes and their caregivers.

LEARNING OUTCOMES:

On completion of this module, the students should be able to:

1. review, analyse and discuss the evidence on diabetes self-management and issues with daily living with diabetes for improved clinical outcome
2. identify and discuss therapeutic evidence/strategies to address psychosocial barriers (e.g. stress, distress and clinical depression) to self-care
3. explain a diabetes educator's professional and mentorship roles within a multi-disciplinary approach to diabetes management
4. demonstrate the ability to provide individualized care that includes assessment, interpretation and provision of intervention related to self-management behaviours within a supportive and therapeutic relationship

LEARNING HOURS:

Teaching Modality	Online Learning (Hours)		Student Independent Learning (Hours)	Notional hours
	Synchronous	Asynchronous		
Online Lectures	-	22	55	77
Guided reading	-	17	-	17
Online Tutorials	4	2	12	18
Online Practical	4	7	18	29
e-PBL	4	-	8	12
Written assignment	-	35	-	35
Case study report	-	15	-	15
TOTAL	12	98	93	203
Credits	5			

ASSESSMENTS:**Assessment type**
Formative**Weightage (%)**

-

Summative

Written assignment
Case study report

40%
60%

MODULE LEADER: Dr. Tan Ming Yeong**ASSOCIATED LECTURERS:**

Prof. Dr. Winnie Chee, Dr. Lee Ching Li, Dr. Harvinder Kaur A/P Gilcharan Singh, Assoc. Prof. Dr. Wong Pei Se, Dr. Hariyati Sharima Abdul Majid, Ms. Michelle Robins, Dr. Devamalar Selvi Naicker A/P Subramaniam Dr. Serena In, Ms Cheryle Tan Sin YI.

SYLLABUS

Introduction to module (*Asynchronous Online lecture: 1 hour*) Dr. Tan Ming Yeong

- Describe the module learning outcomes and assessments

1. **Diabetes Self-Management Education (DSME)**

Introduction to DSME and roles of diabetes educator, team management and mentorship (*Asynchronous Online Lecture: 1 hour*) Dr. Tan Ming Yeong

- Define DSME
- Discuss evidence-based DSME and the AADE 7 self-care practices
- Discuss the role of diabetes educators in their particular settings
- Discuss the educator role in the professional practice of each team member
- Discuss the expanding clinical role, as well as the advanced practice role of diabetes educators
- Discuss the mentorship role and its importance in the development of new educators
- Discuss the importance of continuous professional and self-development and methods of updating skills and knowledge in the field
- Discuss methods of collaboration with the interdisciplinary healthcare team and why an interdisciplinary and/or a multidisciplinary approach is needed in the management of diabetes
- Discuss how to become a diabetes educator
- Discuss the characteristics of an effective diabetes education program including the educator (therapeutic relationship and individualised care), patient, and healthcare system
- Discuss the issue of recognition or certification of diabetes educators as it applies in their country

Diabetes self-management education process – video session

(*Asynchronous Online Lecture: 2 hours*) Ms. Michelle Robins (*Guest Lecturer*)

- Discuss aspects of the DSME process including assessment, goal setting, planning, implementation, evaluation, and the importance of continuous support

Community awareness, promotion and prevention

(*Asynchronous Online Lecture: 2 hours*) Dr. Tan Ming Yeong

- Discuss the general public's knowledge of and attitudes towards diabetes
- Discuss the health priorities and resources needed for diabetes in the country
- Discuss community resources available for people with diabetes/family members
- Discuss the use and applicability of various intervention activities in relation to promoting diabetes health, such as screening programmes educational programmes, counselling, telephone hotlines, the media, school- and workplace-based programmes
- Discuss the concepts of primary, secondary and tertiary prevention
- Discuss the value of screening programmes and school and workplace awareness programmes
- Interpret research relating to the primary prevention of type 2 diabetes

- Discuss the levels of health promotion in individuals communities and organizations, and public policy and practice
- Discuss approaches to health promotion – medical, behavioural change, educational, client-centred, and societal change
- Discuss the role of advocacy and communication skills in influencing policy making
- Discuss the use epidemiological data to justify preventive strategies
- Interpret country-specific surveillance data on the prevalence of diabetes and risk factors for the development of diabetes in the community

Peer support in diabetes management (*Asynchronous Online Lecture: 1 hour*) Dr. Tan Ming Yeong

- Define peer support in diabetes care
- Discuss core functions of peer support
- Discuss the different approaches of offering peer support
- Discuss evidences of peer support in diabetes management and education

2. Medication intake

Medication adherence in Diabetes (*Asynchronous Online Lecture: 1 hour*) Assoc. Prof. Dr. Wong Pei Se

- Discuss the prevalence of medication non-adherence
- Discuss medication adherence assessments and strategies to overcome medication non-adherence

Insulin therapy and pump (*Asynchronous Online Lecture: 1 hour*) Dr. Tan Ming Yeong

- Discuss the health professional's barriers to initiating insulin
- Discuss the person with diabetes' barriers to commencing insulin
- Discuss strategies to encourage insulin treatment
- Discuss the indications of insulin pump usage
- Discuss provision of education prior to pump commencement and education and support during pump usage
- Discuss trouble shooting of problems related to insulin pump usage

Medication intake during changing schedules and special events

Guided reading (1 hour)

- Discuss medication intake during changing schedules and special events including Ramadan or fasting for religious purpose, shift work, travelling, sport days, and surgery and investigation

Insulin and non-insulin injectable therapy (*Synchronous Online Practical: 2 hours*) Dr. Tan Ming Yeong

- Demonstrate the ability to provide individualized care with insulin and non-insulin injectable therapy including provision of initial education, correct insulin and non-insulin injection technique, trouble-shooting of problems related to insulin and non-insulin injection, infection control, and evaluation, within a supportive and therapeutic relationship

Insulin pump (*Asynchronous Online Practical: 2 hours*) Dr. Tan Ming Yeong

- Demonstrate the ability to provide education prior to pump commencement and education and support during pump usage

- Demonstrate the ability to trouble-shoot problems related to insulin pump usage

3. **Self-monitoring**

Introduction to self-monitoring in diabetes management and barriers

Guided Reading (1 hour)

- Discuss the essentials of self-monitoring in diabetes care
- Discuss the evidence behind self-monitoring of blood glucose (SMBG), ketone monitoring, home blood pressure and weight monitoring in improving clinical outcomes
- Explore barriers to SMBG and identify solutions to barriers of SMBG

Continuous glucose monitoring (CGM) *Guided reading (1 hour)*

- Define continuous glucose monitoring (CGM)
- Discuss the indications for CGM, care during CGM, and trouble-shooting of problems from use of CGM

SMBG Interpretation and Intervention *Guided reading (1 hour)*

- Discuss guidelines for glycaemic targets
- Discuss SMBG recommendations
- Discuss pattern management and factors affecting accuracy of results

Facilitating patient in Self-monitoring Blood Glucose (SMBG)

(Asynchronous Online Practical: 2 hours) Dr. Tan Ming Yeong

- Demonstrate facilitation of SMBG in a patient including assessment for needs of SMBG, planning, operational skills, infection control, and evaluation, within a supportive and therapeutic relationship

Continuous glucose monitoring (CGM) *(Asynchronous Online Practical: 2 hours) Dr. Tan Ming Yeong*

- Demonstrate the ability to provide care during CGM, and trouble shoot problems that arise from use of CGM

Facilitating patient in ketone monitoring *(Asynchronous Online Practical: 1 hour) Dr. Tan Ming Yeong*

- Demonstrate the ability to facilitate the patient in ketone monitoring including indications for ketone monitoring, operational skills, infection control, and evaluation and intervention to prevent complications, within a supportive and therapeutic relationship

Monitoring during changing schedules and special events

(Asynchronous Online Lecture: 1 hour) Dr. Tan Ming Yeong

- Discuss self-monitoring during changing schedules and special events including Ramadan or fasting for religious purpose, shift work, travelling, and sport days

Home blood pressure and weight monitoring *Guided reading (1 hour)*

- Discuss the indications, operational skills, evaluation and interpretation of results, and intervention to prevent complications in relation to home blood pressure monitoring

- Discuss the indications, operational skills, evaluation and interpretation of results, and intervention to prevent complications in relation to home weight monitoring

4. Risk reduction

Introduction to diabetes risks (*Asynchronous Online Lecture: 1 hour*) Dr. Tan Ming Yeong

- Define risk reduction in diabetes care
- Discuss the identification of diabetes risk factors

Principle of risk reduction (*Asynchronous Online Lecture: 1 hour*) Dr. Tan Ming Yeong

- Discuss the principles of risk reduction in terms patients, healthcare provider, and healthcare system

Sick day management (*Asynchronous Online Lecture: 1 hour*) Dr. Tan Ming Yeong

- Discuss medication management, nutrition management, self-monitoring of blood glucose, and ketone testing (where appropriate) in relation to sick day management

5. Nutrition therapy

Healthy eating for diabetes I *Guided reading (1 hour)*

- Discuss the basic principles of a healthy eating plan
- Discuss the components of a healthy diet for glycaemic control and cardiovascular risk reduction – food groups, macronutrients

Healthy eating for diabetes II *Guided reading (1 hour)*

- Discuss the use of Glycaemic Index, alcohol, and fasting for religious purposes in the context of healthy eating for diabetes
- Discuss effective nutritional information by considering common dietary beliefs and misconception about nutrition and diabetes in people of various ethnicity, culture, age and lifestyle background

Assessment of nutritional intake of a person with diabetes that is age appropriate (*Asynchronous Online Lecture: 1 hour*) Dr. Harvinder Kaur A/P Gilcharan Singh

- Discuss the age-appropriate assessment of nutritional intake including assessment of meal pattern and food choices, dietary balance in terms of food groups and nutritional adequacy, alcohol consumption, and beliefs or misconceptions about diet and diabetes

Educational methods for recommending a meal plan (*Asynchronous Online Lecture: 1 hour*) Dr. Lee Ching Li

- Discuss the use of food guide pyramid and plate method for recommending meal plans

Carbohydrate Counting *Guided reading (1 hour)*

- Describe the types of carbohydrates, food sources of carbohydrates and carbohydrate content of food

- Discuss reading of nutrition labels and estimation of carbohydrate content of commonly consumed foods – cooked and uncooked weights, common household food portions, using food nutrition labels

Carbohydrate Counting (*Synchronous Online Practical: 2 hours*) Dr. Lee Ching Li

- Demonstrate the ability to provide carbohydrate counting education within a supportive and therapeutic relationship

Monitoring dietary progress (*Asynchronous Online Lecture: 1 hour*) Prof. Winnie Chee

- Discuss aspects of monitoring dietary progress including follow-up frequency, dietary review, and dietary adherence

5. **Physical activity and exercise**

Physical activity and diabetes *Guided reading (1 hour)*

- Discuss the characteristics of aerobic physical activity and resistance training, and give examples of each
- Discuss the benefits of physical activity in people with type 1 diabetes and people with type 2 diabetes
- Discuss the different types of exercises and effect on diabetes
- Discuss the risks of exercising with diabetes
- Discuss the nutritional management around low, medium and intense forms of exercise
- Discuss the physiological consequences of exercise training in people with type 1 diabetes and people with type 2 diabetes
- Discuss the effects of exercise in relation to insufficient and excessive circulating insulin
- Discuss the differences between metabolic and cardiovascular fitness targets
- Discuss the risk, prevention and treatment of exercised-induced hypoglycaemia in people on insulin or oral blood glucose lowering agents

Recommendations for exercising (*Asynchronous Online Lecture: 1 hour*) Dr. Devamalar Selvi Naicker A/P Subramaniam (Guest Lecturer)

- Discuss recommendations (intensity, duration and frequency) of exercise in people with type 1 diabetes and people with type 2 diabetes
- Discuss the importance of correctly adjusting energy expenditure (frequency, intensity, duration of exercise) with the individual's clinical status and personal preferences
- Discuss alternatives to exercise for people with micro- or macrovascular complications of diabetes
- Discuss alternatives to exercise in people with current or previous foot disease, ulceration, Charcot's arthropathy
- Discuss alternatives to exercise in people with physical limitations, such as arthritis, amputation

Pre-exercise assessment (*Asynchronous Online Lecture: 1 hour*) Dr. Devamalar Selvi Naicker A/P Subramaniam (Guest Lecturer)

- Identify the appropriate investigations to be completed by people at risk prior to starting an exercise programme

- Discuss aspects of pre-exercise assessment including history and physical examination, strength and flexibility for elderly and people with diabetes

Monitoring physical activity and exercise *Guided reading (1 hour)*

- Discuss various monitoring methods during exercise
- Appreciate and understand the monitoring of exercise targets
- Discuss the barriers people experience when initiating and continuing to exercise and overcoming barriers to exercise
- Discuss the prolonged effects of exercise in people with type 1 diabetes and the subsequent risk of hypoglycaemia many hours after the activity
- Discuss strategies to assist people to help increase the amount of daily activity
- Discuss strategies to assist people to help them continue exercising over the long term

6. Psychosocial care

Introduction to Psychosocial Care *Guided reading (1 hour)*

Discuss psychosocial care in diabetes management

- Discuss the psychosocial impact of diabetes and its treatment on the person and individual's family members
- Discuss cognitive, emotional, behavioural and social barriers to self-care, and strategies to address these

Diabetes Illness Perception and becoming Ill and Reactions to Illness

Guided reading (1 hour)

- Define health and illness
- Discuss the clinical iceberg and symptom perception, interpretation and response
- Discuss illness perception and ways of coping with illness in diabetes

Diabetes, Stress, Distress and Depression *(Asynchronous Online Lecture: 1 hour) Ms Cheryle Tan Sin YI*

- Define stress
- Discuss the 'Fight or Flight Model' of stress, General Adaption Syndrome, 'Transactional Model' of Stress
- Discuss stress measurement
- Discuss Stress-Illness Link and factors influencing Stress-Illness Link
- Define depression and discuss the diabetes and depression link
- Discuss effective coping with distress and depression-recognize that diabetes-related stress is common, particularly fear of hypoglycaemia and long-term complications
- Discuss strategies for non-psychologists to assist people with diabetes to reduce diabetes distress

Illness Perception, Diabetes and Stress, Distress and Depression

(Synchronous Online Tutorial: 2 hours) Dr. Hariyati Sharima Abdul Majid (Guest Lecturer)

- Demonstrate the ability to evaluate illness perception in people with diabetes
- Demonstrate the ability to assess stress, distress and depression using appropriate methods in people with diabetes

Self-efficacy and diabetes care *Guided reading (1 hour)*

- Define self-efficacy
- Discuss measuring self-efficacy and the importance of self-efficacy within diabetes management

Predicting Health Behaviour- Health Belief Model (HBM) and Transtheoretical Model of Change (TTM) *(Asynchronous Online Lecture: 1 hour) Ms Puvesha A/P Jegathisan*

- Define the HBM and discuss its application for behavior modification in diabetes management based on current evidence
- Define the TTM and discuss its application for behavior modification in diabetes management based on current evidence

Impact of Illness on Quality of Life and Impact of Illness on Patients and their Families *Guided reading (1 hour)*

- Define Quality of Life (QOL) and discuss QOL as a multidimensional, dynamic and subjective construct
- Discuss the measurement of QOL and the benefits of assessing QOL in people with diabetes
- Discuss the emotional consequences (such as depression and anxiety) of the illness on patients and their families
- Discuss the impact of patient illness on well-being of family and carers
- Distinguish whether being ill or caring for the sick a positive/negative experience

Fear and Anxiety Reduction *(Asynchronous Online Lecture: 1 hour) Assoc. Prof. Dr. Fresrick Alesna Boholst*

- Discuss aspects of fear and anxiety reduction including relaxation training, systematic desensitization and in-vivo desensitization

Behavioural Skill Training Procedures (BST) and Behavioural Contracts *(Asynchronous Online Lecture: 1 hour) Dr. Serena In*

- *Discuss the components of BST procedure*
- *Discuss the application of BST for behaviour modifications in diabetes management based on current evidence*
- *Discuss the application of BST for behaviour modification in group-based approach*
- *Discuss the benefits and drawbacks of BST in relation to behaviour modification*
- *Discuss the components of a behavioural contract*
- *Discuss the types of behavioural contract*
- *Discuss the strategies of negotiating a behavioural contract in diabetes management based on current evidence*
- *Discuss the benefits and drawbacks of behavioral contract in relation to behavior modification*

Fear and anxiety reduction, behavioural skills training procedure and behavioural contracts *(Asynchronous Online Tutorial: 2 hours) Dr. Hariyati Sharima Abdul Majid (Guest Lecturer)*

- Demonstrate the ability to measure fears and anxiety using appropriate tools in people with diabetes

- Demonstrate the use behavioural skills training procedure and behavioural contracts to facilitate behaviour modification for diabetes management in people with diabetes

Habit reversal procedure, problem solving and healthy coping *Guided reading (1 hour)*

- Define habit behaviours and habit reversal procedure
- Discuss the components of habit reversal procedures and their applications in behaviour modification for diabetes management
- Discuss the benefits and drawbacks of habit reversal procedure in behaviour modification
- Discuss the principals of problem solving
- Discuss the application of problem solving skills in relation to diabetes management
- Define healthy coping
- Discuss the skills and strategies to enhance healthy coping in diabetes management

Cognitive behaviour modification *Guided reading (1 hour)*

- Define cognitive behaviours
- Discuss the components of cognitive behaviour including the framework of thinking errors
- Discuss the components of cognitive restructuring for behaviour modification
- Discuss the cognitive coping skills application within diabetes management
- Discuss the evaluation cognitive techniques within diabetes management

Motivational Interviewing *Guided reading (1 hour)*

- Define Motivational Interviewing
- Discuss the principals of Motivational Interviewing and its application within diabetes management

Cognitive behaviour modification and motivational interviewing

(Synchronous Online Tutorial: 2 hours) Dr. Hariyati Sharima Abdul Majid (Guest Lecturer)

- Demonstrate practical skills in cognitive behaviour modification and motivational interviewing within diabetes management

SMBG interpretation and intervention, sick day management, habit reversal procedure, problem solving and healthy coping

(Synchronous e-PBL: 4 hours) Dr. Tan Ming Yeong

- Discuss the diabetes self-care management taking into consideration psychosocial barriers (e.g. stress, distress and clinical depression)
- Discuss individualized care that includes assessment, interpretation and provision of intervention, peer support related to self-management behaviours by employing appropriate behavioural strategies

7. Summative Assessment (Written assignment to critique on given video)

Video A: Interpretation of SMBG +CHO Counting *Written assignment (2000 words)*

- Demonstrate the ability to interpret SMBG results in a video-recorded education session with type 2 diabetes patient

- Demonstrate the ability to educate carbohydrate counting in a video-recorded education session with type 2 diabetes patient
- Demonstrate the ability to problem solve issues related to carbohydrate counting in a video-recorded education session with type 2 diabetes patient on follow-up consultation

Video B: Self-management of Insulin *Written assignment (2000 words)*

- Demonstrate the ability to educate insulin initiation techniques in a video-recorded education session for a patient with Type 2 diabetes
- Demonstrate the ability to problem solve issues related to insulin injection in a video-recorded education session with type 2 diabetes patient on follow-up consultation

Report on diabetes self-management education provided for a given case study (initial and follow-up) *Case study report (2000 words)*

- Describe the diabetes self-management education provided to the patient in relation to lifestyle, medication adherence, self-monitoring and psychosocial aspects
- Explain the psychosocial needs and psychosocial well-being of people with diabetes and their family
- Explain the behavioural approaches, and emotional support in self-management education provided to the patient during case follow-up

READING LIST:

1. Cornell S. and Halstenson C, Miller D. The Art & Science of Diabetes Self-Management Desk Reference. 4th edition. Chicago: American Association of Diabetes Educators; 2017
2. Dunning T. Care of people with diabetes: a manual of nursing practice. 4th edition. West Sussex: Wiley-Blackwell; 2014.
3. International Diabetes Federation-Consultative Section on Diabetes Education. International Curriculum for Diabetes Health Professional Education. 2nd edition. Belgium: International Diabetes Federation; 2008.
4. International Diabetes Federation. International Standards for Education of Diabetes Health Professionals. Belgium: International Diabetes Federation; 2015.
5. International Diabetes Federation. Self-Monitoring of Blood Glucose in Non-Insulin Treated Type 2 Diabetes. Belgium: International Diabetes Federation; 2009.
6. Malaysian Endocrine and Metabolic Society. Practical Guide to Insulin Therapy in Type 2 Diabetes Mellitus. Ministry of Health; 2010.
7. Ministry of Health Malaysia. Clinical Practice Guideline. Management of Type 2 Diabetes Mellitus. 6th edition; 2020.
8. Ministry of Health Malaysia. Diabetes Education Manual. 2nd edition; 2020.

9. Malaysian Dietitians' Association. Medical Nutrition Therapy Guidelines for Type 2 Diabetes Mellitus. 2nd Edition; 2013.
10. Back J., Greenwood DA., Blanton L., Bollinger ST. et al. 2017 National Standard for Diabetes Self-Management Education and Support. The Diabetes Educator 2018; 44(1): 35-50.
11. Powers MA., Bardsley JK., Cypress M, et al. Diabetes Self-management education and support in adults with Type 2 Diabetes. A consensus report of the American Diabetes Association, the Association of Diabetes Care & Specialists, the Academy of Nutrition and Dietetics, The American Academy of Family Physicians, The American Academy of PAs, the American Association of Nurse Practitioner, and the American Pharmacists Association. 2020. Website: <https://journals.sagepub.com/doi/suppl/10.1177/2309499020926790> Accessed on 14th July 2020.
12. Bandura A. Self-efficacy, the exercise of control. New York: WH Freeman and Company; 1997. Miltenberger RG. Behaviour Modification: Principles and Procedures; 2015.
13. Mason P. and Butler CC. Health Behavior Change. Elsevier Health Sciences; 2010.