

Diabetes Management Self-Efficacy Scale (DMSES)

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CAPTION: Nurse educators going through the eCORFIS web application

In the CORFIS study[1], various evidence-based interventional strategies and system changes are introduced with the aim of bringing about improved outcomes for patients with cardiovascular risk factors. To achieve the study objective, the patients must incorporate changes into their daily lives, such as taking regularly various drugs, make appropriate food choices and other lifestyle changes (e.g. exercising, checking and responding to fluctuating blood sugar and blood pressure readings). The interaction with doctors, nurses, pharmacists and dietician are important but still may not effect change unless the recommendations were implemented by the patients consistently. The patients' belief in their capacity to make appropriate changes in responding to their illness, i.e. their self-efficacy or empowerment, is the key to successful self-management.[2]

There is a wide variety of scales that purport to measure patient self-efficacy, most of them are developed in the Western setting and are disease-specific (especially for diabetes). We are unable to identify any scales that cater to cardiovascular risk factors as a whole. The Diabetes Management Self-Efficacy Scale (DMSES)[3] developed by van der Bijl appears to be most promising. The psychometric analysis of the 20-item DMSES was found to have acceptable reliability and validity.[3] It has been validated in English-speaking countries (UK[personal communication, Prof Jackie Stuart <Jackie.Sturt@warwick.ac.uk>, University of Warwick, United Kingdom], Australia[4]) and also in non-English-speaking countries (Turkey[5] and Hong Kong[6]). The shorter 15-item DMSES also has acceptable reliability and validity (personal communication: Prof Lillie Shortridge-Baggett <lshortridgebaggett@pace.edu>, Pace University, USA).

We have pilot tested the 15-item DMSES in Malaysian diabetic patients found it to be acceptable (it is much easier to understand than Diabetes Empowerment Scale[7]). The MCCR and Nurses propose to use the 15-item DMSES UK English version (courtesy of Prof Jackie Stuart) unmodified for all patients in the CORFIS study but will request non-diabetic patients not to fill up first three questions that focus on blood sugars. This scale will be administered twice to all patients: at enrolment and at the end of six months pilot phase. The total score for each question varies from 15-150 and will be treated as continuous variable. We will analyse for score improvement at the end of six month follow up and compare this with other outcome variables.

References

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4. McDowell J, Courtney M, Edwards H, Shortridge-Baggett L. Validation of the Australian/English version of the Diabetes Management Self-Efficacy Scale. *International Journal of Nursing Practice*. 2005; 11(4):177-84.
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[DMSES-15 follows]

DIABETES MANAGEMENT SELF-EFFICACY SCALE (DMSES)

Directions

Below is a list of activities you have to perform to manage your diabetes. Please read each one and then put a line [/] through the number which best describes how **confident** you usually are that you could carry out that activity.

For example, if you are completely confident that you are able to check your blood sugar levels when necessary, put a line through 10. If you feel that most of the time you could not do it, put a line through 1 or 2.

I am confident that

	<i>Cannot do at all</i>				<i>Maybe yes Maybe no</i>				<i>Certain can do</i>			
1	I am able to check my blood sugar if necessary											
	0	1	2	3	4	5	6	7	8	9	10	
2	I am able to correct my blood sugar when my sugar level is too high											
	0	1	2	3	4	5	6	7	8	9	10	
3	I am able to correct my blood sugar when the sugar level is too low											
	0	1	2	3	4	5	6	7	8	9	10	
4	I am able to choose the correct foods											
	0	1	2	3	4	5	6	7	8	9	10	
5	I am able to keep my weight under control											
	0	1	2	3	4	5	6	7	8	9	10	
6	I am able to examine my feet for cuts											
	0	1	2	3	4	5	6	7	8	9	10	
7	I am able to adjust my eating plan when ill											
	0	1	2	3	4	5	6	7	8	9	10	
8	I am able to follow a healthy eating pattern most of the time											
	0	1	2	3	4	5	6	7	8	9	10	
9	I am able to take more exercise if the doctor advises me to											
	0	1	2	3	4	5	6	7	8	9	10	
10	When taking more exercise I am able to adjust my eating plan											
	0	1	2	3	4	5	6	7	8	9	10	
11	I am able to follow a healthy eating pattern when I am away from home											
	0	1	2	3	4	5	6	7	8	9	10	
12	I am able to follow a healthy eating pattern when I am eating out or at a party											
	0	1	2	3	4	5	6	7	8	9	10	
13	I am able to adjust my eating plan when I am feeling stressed or anxious											
	0	1	2	3	4	5	6	7	8	9	10	
14	I am able to take my medication as prescribed											
	0	1	2	3	4	5	6	7	8	9	10	
15	I am able to adjust my medication when I am ill											
	0	1	2	3	4	5	6	7	8	9	10	

Nurse Advisory Protocol

The main objectives of the nurse intervention arm of CORFIS are to coordinate the care of chronic diseases and provide counselling to improve self-management skills. This is achieved by setting up central nurse advisory group and diabetic nurse educators group. These two groups will function by complimenting each other to achieve the objectives above. Basically the nurse advisory group will function from research center and call station whereas the nurse educators will meet patients in selected primary care clinics. The main role of nurse advisory group is to standardise the coordination and quality of counselling provided by the nurse educators.

The advisory group is provided by SigmaRN group of nurses and will be responsible for

1. Development of skill personnel and relevant teaching materials for the intervention arm, which are:
 - a. recruitment of nurse educators.
 - b. provision of training for nurses recruited to play the role as counsellor and educators. This is done through workshops and role-play with assistant by primary care doctors from M CCS.
 - c. development of teaching manuals for diabetes, hypertension and dyslipidaemia. The teaching manuals will be in the form of flip charts. The content of the flip charts is provided by the CORFIS team comprises dietician, pharmacist and nurses and subsequently validated by doctors from M CCS based on current clinical practice and recommendation guidelines.
2. Supporting the nurse educators during implementation of interventions to the intervention arm of CORFIS through:
 - a. coordinate their work schedule and allocation of patients recruited from general practices. The nurse educators will schedule monthly visits to each patients for 6 months.
 - b. advice nurse educators on problems raised from counselling and teaching sessions with patients.
3. Support and advice of medical equipments to the patients enrolled. This is done through telephone from research center which is equipped with call stations. The specific roles are:
 - a. Answer to patients' enquiries. The patients are given hot line phone numbers. This is guided by a question and answer booklet develop together with doctors from M CCS.
 - b. Remind patient of their appointments with general practice (GP), nurses, dietician and pharmacist.
 - c. Remind patients of the procedure they need to follow before attending the appointment with GP, dieticians, nurses and pharmacists.
 - d. Issue blood pressure measurement machine, pedometer and glucometer to the relevant patients through nurse educators. Hypertension patients will be provided with blood pressure machine and diabetic patients with glucometer. All patients will be given pedometer.

4. Assist in the enrolment of GPs who are interested to be part of intervention arm. [need to refer to Dr. Wilson on how this is done, also need to clarify, how do you support the GP]