Research Article

Modification of Diabetic Management Self Effication Scale for the Indonesian Type 2 Diabetes Patient

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Received: 28.11.19, Revised: 24.12.19, Accepted: 11.01.20

ABSTRACT

self efficacy is the most dominant aspect among thus psychological aspects. Self-efficacy is contributing to the successful adoption of health behaviors. DMSES is the instrument mostly used to identified the patient self efficacy to diabetic management. Adjustment of DMSES instruments is needed in order to be able to describe the real conditions of Indonesian people. A two-stage design was used for this study. First stage to developed adapted instrument into indonesian, including bilingual people, person with type 2 diabetes, and academik and clinical practicioner of diabetes. Stage 2 used to identified the validity and reliability of the developed instrument to 77 person with type 2 diabetes using pearson product moment and alpha cronbach. The result showed that adapted DMSES are valid and reliabel and can be used to identified pasien self efficacy.

Key words : Indonesian, diabetes, self efficacy, type 2

INTRODUCTION

Diabetes is a complex, chronic illness[1], known as silent killer. The amount of diabetes cases is tend to increase in the world. The amount of diabetes cases in 2015 were 387 million cases[2]. it were increased in 2017 reached 424.9 million cases[3] and it is estimated to increase to 628.6 million people in 2045[3]. Indonesia is the 6th country with DIABETES patients. There were 10.3 million cases in 2017[3]. It's higher rank than before in 2014, 7th country with total number 8,7 million cases[2]

uncontrolled DIABETES will cause various complications, include retinopathy, nephropathy, stroke, coronary heart disease, diabetic foot, and other complications [1], [3]–[5]. The most common complication experienced by type 2 DIABETES patients is peripheral neuropathy which will cause diabetic ulcers [6][7][8]. In many cases, diabetes often causes death. Proportion (%) of people in south east asia who died from diabetes in 2017 before the age of 60 is 51,8% [3].

Various complications, basically can be prevented by client involvement in controlling blood sugar through lifestyle changes such as diet, activity and exercise, rational use of drugs, and regular control. diabetes patients with good sugar control can live healthy as normal patients [9][10]. Patient involvement in daily living arrangements including eating arrangements, controlling blood sugar and regular exercise require high independence. Therefore, diabetes self-management ability (diabetes self management) becomes an important aspect in the management of diabetes in the community. Although difficult, basically the patient is able to control his own behavior[11].

Psychological aspects are very dominant influencing the behavior of diabetes patients. Psychological aspects such as locus of control, self-confidence, outcome expectancy and selfefficacy are factors that play a role in selfregulation behavior [12]. self efficacy is the most dominant aspect among thus psychological aspects [13]. Self-efficacy is contributing to the successful adoption of health behaviors. Self efficacy as central to self-regulation behavior contributes to self-management and disease control [13], [14]. Several studies have shown that self efficacy is the dominant variable associated with adherence to type 2 diabetes patients. High self efficacy is associated with increased adherence. A person with good self efficacy has an 8.9 times better chance than someone who has poor self efficacy [13] Diabetic management self efficacy as a psychological aspect is a main predictor for the patient adherence of diabetes self management.

Some experts have developed instruments to assess self-efficacy related to diabetes self management. These instruments include Perceived Diabetes Self-Management Scale [15], Perceived Therapeutic Efficacy Scale (PTES) and Diabetes Management self efficacy scale (DMSES) [16]. DMSES mostly used to identified the patient self efficacy to diabetic management.

Each country has different characteristics and conditions of society. Such is the case in Indonesia. Indonesia have different characteristics and programs to manage diabetes such as Posbindu PTM and prolanis. Adjustment of DMSES instruments is needed in order to be able to describe the real conditions of Indonesian people.

MATERIAL AND METHODS

A two-stage design was used for this study. Stage 1 was developed the modified DMSES by adapting the Australian- English version of the DMSES ([17] and tested the instrument for content validity. The DMSES-Australia instrument will be translated bilingual from the original English version. The bilingual translation process is carried out by the Brislin translation method (1986), because it is the most reliable methode for developing an equivalent translation instrument [18][19]. The step of the methode were : 1) translation of the instrument from the English version into Indonesian by the first person bilingual who is an English lecturer; 2) review for difficult and ambigous sentences by several people; 3) the translated instrument is backtranslation to a bilingual second person who is also an English lecturer (without including the original version) to be translated back into English; 3) comparing the original English version with the English version translated by the second person; 4) compile the Indonesian version based on the results of the comparison. A few modifications were made to adjust the conditions of the people in Indonesia. The results of the modification were discussed to test the content with several diabetes academics and diabetes nurse practitioners both in the hospital and in the public health center. Face validity done to assess the ease of the instrument understood by respondents. Performed on some diabetes patients who were met in the Central Cilacap 1 publik health center. Stage 2, The construct validity test was conducted on 77 diabetes type 2 patients in the Central Cilacap Public Helth center area using the Pearson Product Moment test. Reliability tests were performed using Cronbach's alpha.

RESULT & DISCUSSION

DMSES was first developed by the research team Internasional Partnership in Self Management and Empowerment (IPSE)[16], and has been adapted into 28 languages from 25 countries. The selection of the most appropriate instruments is needed to get the best description of self efficacy management. DMSES-Australia / English was chosen because the instrument is easier to understand and has been enriched with explanatory sentences. Stage 1.

The preparation of the DMSES instrument is carried out through several stages of translation involving people with English-Indonesian bilingual abilities. In this case the we involved English lecturers who had teaching experience in the field of Health so more or less understood the terms used in health sciences. Two English lectures at Al Irsyad STIKES were involved. In addition to English language lecturers, some academics and clinic practitioners are involved to ensure that the contents of the instrument are in accordance with the conditions encountered in the practice area.

Considering the culture and level of knowledge of Indonesian people that are different from Australians, the instruments that have been translated are tested for understanding on several people. The addition of a few sentences is done so that the instrument is easily understood by respondents. Although in the Australian version there have been additional explanations but for the people of Indonesia especially with limited levels of knowledge there needs to be additional explanations. Some additions made include question no. 2 we added the sentence "which contains low sugar levels". In question no. 3 we added the word "which contains sufficient sugar".

In addition to knowledge considerations, there are some community habits need to be adapted to the DSMES. The Indonesian people's habits that are in line with government programs, are monitoring the condition of public health through several community-based health service posts in areas such as the posyandu for the elderly and posbindu PTM. The elderly Posyandu and Posbindu PTM are held once a month and are held by community under the monitoring of publik health centers[8], [20]. To make sure that the health condition of the public, especially the elderly and the contagious condition of chronic non-communicable diseases, is monitored, they are motivated to routinely come and check themselves. The habit of independently monitoring health conditions has not yet developed in Indonesian society. Instead they will check their health condition through the elderly Posyandu or Posbindu PTM that has been formed. Related to these conditions question no. 18 was modified to "follow the activities organized by the Puskesmas regularly to monitor my diabetes"

The majority of Indonesia's population is Muslim[21], so they are not accustomed to walking with dogs. Then questionnaire No. 8 slightly changed with the word "healthy walk" Another question that was changed was question No. 14. There is the impression of duplication of question No. 13 and 14. On the other hand there are conditions in Indonesian society that have not been accommodated in DMSES, which is the custom of most Indonesian people who are Yuni Sapto Edhy Rahayu et al / Modification of Diabetic Management Self Effication Scale for the Indonesian Type 2 Diabetic Patient

Muslim, namely fasting. fasting is to refrain from manything including eating and drinking, one day from sunrise to sunset[22]. In addition there are habits of people who are still practiced by some older people who hold ancestral values among other things or avoid the consumption of salt in their diet for several days[23]. Modifications made to question No. 14 is "maintaining to follow a healthy eating plan when certain conditions such as fasting or special diet (eg ngasrep)"

Tabel 1. Item modification of Australian Version of DMSES

No	Item modified from Australian version of DMSES
1	saya mampu memeriksakan kadar gula darah jika diperlukan
8	saya cukup berolahraga (misal jalan sehat , berkebun, bersepeda, latihan peregangan)
14	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep)
18	saya mampu mengikuti kegiatan yang diselenggarakan Puskesmas secara teratur untuk memonitor diabetes saya

Stage 2.

After the instruments are prepared and adjusted to the conditions of the Indonesian people, then the validity and reliability tests are carried out. The test was conducted on 77 people in the Cilacap Tengah 1 pblic health center area that had been identified as diabetes. An overview of the characteristics of respondents can be seen in table

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Tabel 2. Responden characteristics

No	Variable	Responden(n =77)	
		(f)	(%)
1	Age		
	Pre elderly	45	42
	elderly	62	58
2	sex		
	man	35	33
	woman	72	67
3	mariage		
	maried	90	84
	widow/er	17	16
4	Education		
	Basic	55	51
	High	52	49
5	Work		
	Employe	22	21
	Retired/unemploye	85	79

Face validity is done to assess the ease of the instrument understood by respondents. Performed on several DM patients found in the Central Cilacap health center. The construct validity test was carried out on 77 patients with type 2 DM in the Cilacap Tengah Public health center using the Pearson Product Moment test. The results of the Pearson Product Moment correlation value for each item are 0, 469 til 0.825. This value shows that all items of statement in the instrument are considered valid.

The validity and reliability test results show that the DMSES questionnaire can be adapted and applied to patients with type 2 diabetes in Indonesia.

NO	Indonesia	English	Validity
	Saya yakin bahwa	I Believe that	,,
1	saya mampu memeriksa kadar gula darah/urin jika diperlukan	I am able to check the blood sugar level/urine when it is need	.506** .000
2	saya mampu mengoreksi kadar gula darah saya saat kadarnya terlalu tinggi (misal dengan mengkonsumsi makanan berbeda yang mengandung kadar gula rendah)	I am able to correct my blood sugar when the blood sugar level is too high (such as consuming the different food wich is contain low sugar level)	.724** .000
3	saya mampu mengoreksi kadar gula darah saya saat kadarnya terlalu rendah (misal dengan mengkonsumsi makanan berbeda yang mengandung kadar gula mencukupi)	I am able to correct my blood sugar when the level is too low (such as by consuming the different food wich is contain enough sugar level)	.578** .000

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Tabel 3.	I ne	moainea	Diabetes	Manageme	ent Self Ef	ncacy	Scale

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4	saya mampu memilih makanan yang terbaik untuk kesehatan saya	I am able to choose the best food for my health	.616** .000
5	saya mampu memilih makanan yang berbeda dan mempertahankan perencanaan makan sehat	I am able to choose different foods and keep healthy food planing	.657** .000
6	saya mampu menjaga berat badan tetap terkontrol	I am able to keep my weight controled	.634** .000
7	saya mampu memeriksa kaki	I am able to examine my feet	.561**
	saya (misal memeriksa adanya luka atau melepuh)	(such as examine for wound or blister)	.000
8	saya cukup berolahraga (misal	I am able to do enough	.658**
	jalan sehat, berkebun, yoga, latihan peregangan)	exercise (such as walking , gardenging, yoga, streching)	.000
9	saya mampu mempertahankan	I am able to keep my food	.684**
	perencanaan makan saya saat sakit	planing when lam sick	.000
10	saya mampu mengikuti	I am able to follow a healthy	.804**
	perencanaan makan sehat	tood planing every time	.000
	sepanjang waktu	Level able to de level ab start	/ 0.0 **
11	saya mampu melakukan lebin	I dm dble to do more physical	.092**
	menyarankan	recomends	.000
12	saat melakukan aktifitas fisik lebih	When doing more physical	825**
	banyak, saya mampu	activity, I am able to	.000
	menyesuaikan perencanaan makan saya	costumise my food planing	
13	saya mampu mengikuti	I am able to follow my healthy	.734**
	perencanaan makan sehat saat	food planing when staying	.000
	jauh dari rumah	away from home	
		/	
14	saya mampu memilih makanan	I am able to choose different	.469**
14	saya mampu memilih makanan yang berbeda dan	I am able to choose different foods and keep the food	.469** .000
14	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti	I am able to choose different foods and keep the food planing when I am doing	.469** .000
14	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting and taking specifik	.469** .000
14	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Naasrep)	.469** .000
14	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep)	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep)	.469** .000
14	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep)	.469** .000 .672**
14	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in	.469** .000 .672** .000
14	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays	.469** .000 .672** .000
14 15 16	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya saya mampu memilih makanan	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays I am able to choose different	.469** .000 .672** .000 .669**
14 15 16	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya saya mampu memilih makanan yang berbeda dan	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays I am able to choose different foods and keep the healthy	.469** .000 .672** .000 .669** .000
14 15 16	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya saya mampu memilih makanan yang berbeda dan mempertahankan perencanaan	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays I am able to choose different foods and keep the healthy food program planing when I have meal outside or in a	.469** .000 .672** .000 .669** .000
14 15 16	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya saya mampu memilih makanan yang berbeda dan mempertahankan perencanaan makan sehat saya saat saya	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays I am able to choose different foods and keep the healthy food program planing when I have meal outside or in a party	.469** .000 .672** .000 .669** .000
14 15 16	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya saya mampu memilih makanan yang berbeda dan mempertahankan perencanaan makan sehat saya saat saya makan diluar atau pada sebuah pesta	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays I am able to choose different foods and keep the healthy food program planing when I have meal outside or in a party	.469** .000 .672** .000 .669** .000
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14 15 16 17	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya saya mampu memilih makanan yang berbeda dan mempertahankan perencanaan makan sehat saya saat saya makan diluar atau pada sebuah pesta saya mampu mempertahankan perencanaan makan sehat saya meski saya merasa stress dan	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays I am able to choose different foods and keep the healthy food program planing when I have meal outside or in a party I am able to keep my healthy food planing when I feel stress or anxious	.469** .000 .672** .000 .669** .000
14 15 16 17	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya saya mampu memilih makanan yang berbeda dan mempertahankan perencanaan makan sehat saya saat saya makan diluar atau pada sebuah pesta saya mampu mempertahankan perencanaan makan sehat saya meski saya merasa stress dan cemas	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays I am able to choose different foods and keep the healthy food program planing when I have meal outside or in a party I am able to keep my healthy food planing when I feel stress or anxious	.469** .000 .672** .000 .669** .000 .678** .000
14 15 16 17 18	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya saya mampu memilih makanan yang berbeda dan mempertahankan perencanaan makan sehat saya saat saya makan diluar atau pada sebuah pesta saya mampu mempertahankan perencanaan makan sehat saya meski saya merasa stress dan cemas	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays I am able to choose different foods and keep the healthy food program planing when I have meal outside or in a party I am able to keep my healthy food planing when I feel stress or anxious	.469** .000 .672** .000 .669** .000 .678** .000
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14 15 16 17 18	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya saya mampu memilih makanan yang berbeda dan mempertahankan perencanaan makan sehat saya saat saya makan diluar atau pada sebuah pesta saya mampu mempertahankan perencanaan makan sehat saya meski saya merasa stress dan cemas saya mampu mengikuti kegiatan yang diselenggarakan Puskesmas secara teratur untuk memonitor	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays I am able to choose different foods and keep the healthy food program planing when I have meal outside or in a party I am able to keep my healthy food planing when I feel stress or anxious I am able to visit the program provide by community health center continuesly to control my diabetes	.469** .000 .672** .000 .669** .000 .678** .000 .521** .000
14 15 16 17 18	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya saya mampu memilih makanan yang berbeda dan mempertahankan perencanaan makan sehat saya saat saya makan diluar atau pada sebuah pesta saya mampu mempertahankan perencanaan makan sehat saya meski saya merasa stress dan cemas saya mampu mengikuti kegiatan yang diselenggarakan Puskesmas secara teratur untuk memonitor diabetes saya	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays I am able to choose different foods and keep the healthy food program planing when I have meal outside or in a party I am able to keep my healthy food planing when I feel stress or anxious I am able to visit the program provide by community health center continuesly to control my diabetes	.469** .000 .672** .000 .669** .000 .678** .000 .521** .000
14 15 16 17 18 19	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya saya mampu memilih makanan yang berbeda dan mempertahankan perencanaan makan sehat saya saat saya makan diluar atau pada sebuah pesta saya mampu mempertahankan perencanaan makan sehat saya meski saya merasa stress dan cemas saya mampu mengikuti kegiatan yang diselenggarakan Puskesmas secara teratur untuk memonitor diabetes saya saya mampu mengkonsumsi obat sesuai anjuran	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays I am able to choose different foods and keep the healthy food program planing when I have meal outside or in a party I am able to keep my healthy food planing when I feel stress or anxious I am able to visit the program provide by community health center continuesly to control my diabetes I am able to take the medication as suggested	.469** .000 .672** .000 .669** .000 .678** .000 .521** .000 .564**
14 15 16 17 17 18 19 20	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya saya mampu memilih makanan yang berbeda dan mempertahankan perencanaan makan sehat saya saat saya makan diluar atau pada sebuah pesta saya mampu mempertahankan perencanaan makan sehat saya meski saya merasa stress dan cemas saya mampu mengikuti kegiatan yang diselenggarakan Puskesmas secara teratur untuk memonitor diabetes saya saya mampu mengkonsumsi obat sesuai anjuran	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays I am able to choose different foods and keep the healthy food program planing when I have meal outside or in a party I am able to keep my healthy food planing when I feel stress or anxious I am able to visit the program provide by community health center continuesly to control my diabetes I am able to take the medication as suggested I am able to keep my	.469** .000 .672** .000 .669** .000 .678** .000 .521** .000 .564** .000 .563**
14 15 16 17 17 18 19 20	saya mampu memilih makanan yang berbeda dan mempertahankan mengikuti perencanaan makan sehat saya saat kondisi tertentu seperti berpuasa atau diet khusus (misal ngasrep) saya mampu mengikuti perencanaan makan sehat saat saya sedang tamasya saya mampu memilih makanan yang berbeda dan mempertahankan perencanaan makan sehat saya saat saya makan diluar atau pada sebuah pesta saya mampu mempertahankan perencanaan makan sehat saya meski saya merasa stress dan cemas saya mampu mengikuti kegiatan yang diselenggarakan Puskesmas secara teratur untuk memonitor diabetes saya saya mampu mengkonsumsi obat sesuai anjuran saya mampu mempertahankan pengobatan saat saya sakit	I am able to choose different foods and keep the food planing when I am doing several kondtian such as fasting, and taking spesifik tradisional diet (ex. Ngasrep) I am able tofollow a healthy food planing when I am in holidays I am able to choose different foods and keep the healthy food program planing when I have meal outside or in a party I am able to keep my healthy food planing when I feel stress or anxious I am able to visit the program provide by community health center continuesly to control my diabetes I am able to take the medication as suggested I am able to keep my medication when I am feel	.469** .000 .672** .000 .669** .000 .678** .000 .521** .000 .564** .000 .563** .000

Reliability tests were performed using Cronbach's alpha. The reliability test results showed a high value that is r = 0.923 which means the instrument is reliable. This result is not much different from the DMSES reliability results which have been translated into several countries, such as Australia r = 0.91 and China r = 0.93. The results of the study showed that DMSES is valid and reliable proving that selfefficacy assessment is able to measure selfmanagement activities in DM patients. Diabetes Management Self Efficacy Scale is an assessment that can be used by nurses or health professionals to educate patients in achieving goals on one of the subscales to achieve changes in DM disease repair behavior [24].

CONCLUSSION

DMSES is an instrument that is often used to assess the self-efficacy of diabetes patients. Modifications are made in accordance with the characteristics and habits of the Indonesian people. The results of this study prove that DMSES modification can be applied and can measure with validity the level of efficacy of diabetic patients. This study also shows that the instruments developed are reliable

ACKNOWLEDGEMENT

This paper based on the instrument developed and used in Thesis[25] of Yuni Sapto Edhy Rahayu when take his master's degree at the Faculty of nursing, Padjadjaran University. Thankyou to Stikes Al Irsyad Al Islamiyyah Cilacap for the funding.

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