

Investigation of diabetes self-management behavior and its influencing factors

PATIENT KNOWLEDGE

Question	Answer	Score
1. Diabetes can be cured	① True, ② False, ③ Unknow	① True=1, ② False=0, ③ Unknow=0
2. Parents suffer from diabetes. children are susceptible to diabetes	① True, ② False, ③ Unknow	
3. According to the food exchange method of diabetic diet treatment, 1 medium-sized apple is approximately equivalent to the total energy of 1 serving of rice (about 25g).so in order to eat more apples, you can eat less rice.	① True, ② False, ③ Unknow	
4. The blood glucose monitoring results show that the blood sugar is too high, and the patient can increase the amount of medicine by himself.	① True, ② False, ③ Unknow	
5. As long as you keep taking hypoglycemic drugs and keep your blood sugar stable. you don't need to control your diet.	① True, ② False, ③ Unknow	
6. For diabetic patients, exercise with greater energy consumption is more suitable for patients.	① True, ② False, ③ Unknow	
7. The patient goes to the hospital for monitoring regularly, so there is no need for self-monitoring at home.	① True, ② False, ③ Unknow	
8. Diabetics have high blood sugar. hypoglycemia is unlikely.	① True, ② False, ③ Unknow	
9. When hypoglycemia occurs, the individual must have symptoms such as palpitation, cold sweats, and pale complexion.	① True, ② False, ③ Unknow	
10. Diabetes patients do not need to perform fundus examination if blood sugar control is up to standard.	① True, ② False, ③ Unknow	

FAMILY KNOWLEDGE

Question	Answer	Score
basic knowledge		
1. Diabetes is a common chronic disease, but it usually can not be cured.	① True, ② False, ③ Unknow	① True=1, ② False=0, ③ Unknow=0
2. The dietary treatment of diabetes is mainly to control the intake of sugar or staple food (rice, flour, etc.)	① True, ② False, ③ Unknow	

3. Exercise for diabetics is best to start after 1 hour after meals.	①True, ②False, ③Unknow	
4. Patients with diabetes who have normal fasting glucose measurements do not need to be measured after meals.	①True, ②False, ③Unknow	
Complications knowledge		
1. What do you think of your understanding of the complications of diabetes?	①Cardiovascular disease ②Retinopathy ③Diabetic foot ④Neuropathy ⑤Hypoglycemia coma ⑥Ketoacidosis ⑦Diabetic nephropathy ⑧Hyperosmolar nonketotic diabetic coma ⑨Lactic acidosis	①≤2=1, ②3~4=2, ③5~6=3, ④≥7=4

*The total score of family knowledge is the sum of basic knowledge and complication knowledge and then take the average score. The value ranges from 1 to 4.

PATIENT-SELF-EFFICACY

Question	Answer	Score
1. My own efforts can help control my risks of getting diabetes complications.	① Strongly agree, ② Agree, ③ Disagree, ④ Strongly disagree	① Strongly agree=4, ② Agree=3, ③ Disagree=2, ④ Strongly disagree=1
2. If I make a good effort to control the risks of diabetes complications, I am much less likely to get complications.	① Strongly agree, ② Agree, ③ Disagree, ④ Strongly disagree	① Strongly agree=4, ② Agree=3, ③ Disagree=2, ④ Strongly disagree=1
3. I feel that I have little control over risks to my health.	① Strongly agree, ② Agree, ③ Disagree, ④ Strongly disagree	① Strongly agree=1, ② Agree=2, ③ Disagree=3, ④ Strongly disagree=4
4. If I am going to get complications from diabetes, there is not much I can do about it.	① Strongly agree, ② Agree, ③ Disagree, ④ Strongly disagree	① Strongly agree=1, ② Agree=2, ③ Disagree=3, ④ Strongly disagree=4

* Patients' self-efficacy refers to their ability to control diabetes and its complications, similar to personal risk control. These items are adopted from Risk Perception Survey–Diabetes Mellitus Scale.

FAMILY-SELF-EFFICACY

Question	Answer	Score
1. You are concerned about the	① Strongly agree,	① Strongly agree=4,

complications of diabetes in your family and are willing to take positive action to help her.	②Agree, ③Disagree, ④Strongly disagree	②Agree=3, ③Disagree=2, ④Strongly disagree=1
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* The self-efficacy of family members expressed their willingness to help patients, showing a strong motivation.

PATIENT-RISK-PERCEPTION

Question	Answer	Score
1. Compared to other people with diabetes of my same age and sex, I am less likely than they are to get diabetes complications.	①Strongly agree, ②Agree, ③Disagree, ④Strongly disagree	①Strongly agree=4, ②Agree=3, ③Disagree=2, ④Strongly disagree=1
2. Compared to other people with diabetes of my same age and sex, I am less likely to have serious health problems.		
3. I am very concerned about getting diabetes health problems.	① Strongly agree, ② Agree, ③ Disagree, ④Strongly disagree	①Strongly agree=4, ②Agree=3, ③Disagree=2, ④Strongly disagree=1
4. I worry about getting diabetes complications.	① Strongly agree, ② Agree, ③ Disagree, ④Strongly disagree	①Strongly agree=4, ②Agree=3, ③Disagree=2, ④Strongly disagree=1
5. Medical tests (e.g., X-rays, MRI)	①Almost No Risk, ②Slight Risk, ③Moderate Risk, ④High Risk	①Almost No Risk=1, ②Slight Risk=2, ③Moderate Risk=3, ④High Risk=4
6. Violent crime		
7. Extreme weather (hot or cold)		
8. Driving/riding in an automobile (car)		
9. "Street" drugs (illegal drugs)		
10. Air pollution		
11. Pesticides		
12. Household chemicals (cleaners)		
13. Cigarette smoke from people smoking around you		
14. Heart attack		
15. Foot amputation	②Slight Risk,	②Slight Risk=2,
16. Cancer	③Moderate Risk,	③Moderate Risk=3,

17. Vision problems	④High Risk	④High Risk=4
18. High blood pressure		
17. Numb feet		
18. Stroke		
19. Blindness		
20. Kidney failure		

FAMILY-RISK-PERCEPTION

Question	Answer	Score
1.Are you worried about complications for diabetic patients at home.	① Strongly agree, ② Agree, ③ Disagree, ④Strongly disagree	①Strongly agree=4, ②Agree=3, ③Disagree=2, ④Strongly disagree=1
2.Heart attack	①Almost No Risk, ②Slight Risk, ③Moderate Risk, ④High Risk	① Almost No Risk=1 , ② Slight Risk=2, ③Moderate Risk=3, ④ High Risk=4
3. Foot amputation		
4. Cancer		
5. Vision problems		
6. High blood pressure		
7. Numb feet		
8. Stroke		
9. Blindness		
10. Kidney failure		

POSITIVE FAMILY SUPPORT PATIENT PERCEIVED

Question	Answer	Score
DIET		
1. Praise you for following your diet.	①None	①None=1
2. Eat at the same time that the patient does.	②Once a month	②Once a month=2
	③Once a week	③Once a week=3
3. Buy you things containing sugar to carry with you in case of an insulin reaction.	④Several times a week	④Several times a week=4
	⑤At least once a day	⑤At least once a day=5
EXERCISE		
1. Encourage the patient to participate in sports activities.	①None	①None=1
2. Exercise with you.	②Once a month	②Once a month=2
	③Once a week	③Once a week=3
	④Several times a week	④Several times a week=4
	⑤At least once a day	⑤At least once a day=5
self-monitoring of blood glucose (SMBG)		
1. Help you decide if changes should be made based on glucose testing results.	①None	①None=1
	②Once a month	②Once a month=2
	③Once a week	③Once a week=3

	④Several times a week ⑤At least once a day	④Several times a week=4 ⑤At least once a day=5
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POSITIVE FAMILY SUPPORT FAMILY PERCEIVED

Question	Answer	Score
DIET		
1. Praise him/her for following your diet.	①None ②Once a month ③Once a week ④Several times a week ⑤At least once a day	①None=1
2. Eat at the same time that the patient does.		②Once a month=2
3. Buy him/her things containing sugar to carry with him/her in case of an insulin reaction.		③Once a week=3 ④Several times a week=4 ⑤At least once a day=5
EXERCISE		
1. Encourage the patient to participate in sports activities.	①None ②Once a month ③Once a week ④Several times a week ⑤At least once a day	①None=1
2. Exercise with him/her.		②Once a month=2 ③Once a week=3 ④Several times a week=4 ⑤At least once a day=5
self-monitoring of blood glucose (SMBG)		
1. Help him/her decide if changes should be made based on glucose testing results.	①None ②Once a month ③Once a week ④Several times a week ⑤At least once a day	①None=1 ②Once a month=2 ③Once a week=3 ④Several times a week=4 ⑤At least once a day=5

NEGATIVE FAMILY SUPPORT PATIENT PERCEIVED

Question	Answer	Score
DIET		
1. Nag you about following your diet.	①None ②Once a month ③Once a week ④Several times a week ⑤At least once a day	①None=1
2. Eat foods that are not part of the patient's diabetic diet.		②Once a month=2 ③Once a week=3 ④Several times a week=4 ⑤At least once a day=5
EXERCISE		
1. Criticize you for not exercising regularly.	①None ②Once a month ③Once a week ④Several times a week ⑤At least once a day	①None=1
2. Does your family prefer to let you sleep more than exercise.		②Once a month=2 ③Once a week=3 ④Several times a week=4 ⑤At least once a day=5
self-monitoring of blood glucose (SMBG)		
1. Nag you about testing your	①None	①None=1

blood glucose level.	②Once a month	②Once a month=2
2. Criticize you for not recording the results of glucose tests.	③Once a week ④Several times a week ⑤At least once a day	③Once a week=3 ④Several times a week=4 ⑤At least once a day=5

NEGATIVE FAMILY SUPPORT FAMILY PERCEIVED

Question	Answer	Score
DIET		
1. Nag him/her about following his/her diet.	①None ②Once a month	①None=1 ②Once a month=2
2. Eat foods that are not part of the patient's diabetic diet.	③Once a week ④Several times a week ⑤At least once a day	③Once a week=3 ④Several times a week=4 ⑤At least once a day=5
EXERCISE		
1. Criticize him/her for not exercising regularly.	①None ②Once a month	①None=1 ②Once a month=2
2. Does his/her family prefer to let him/her sleep more than exercise.	③Once a week ④Several times a week ⑤At least once a day	③Once a week=3 ④Several times a week=4 ⑤At least once a day=5
self-monitoring of blood glucose (SMBG)		
1. Nag him/her about testing his/her blood glucose level.	①None ②Once a month	①None=1 ②Once a month=2
2. Criticize him/her for not recording the results of glucose tests.	③Once a week ④Several times a week ⑤At least once a day	③Once a week=3 ④Several times a week=4 ⑤At least once a day=5

SELF-MANAGEMENT BEHAVIOR

Question	Answer	Score
1. How many of the last SEVEN DAYS have you followed a healthful eating plan?	0 1 2 3 4 5 6 7	0~7
2. On average, over the past month, how many DAYS PER WEEK have you followed your eating plan?		
3. On how many of the last SEVEN DAYS did you eat five or more servings of fruits and vegetables?		
4. On how many of the last SEVEN DAYS did you eat high fat foods such as red meat or full-fat dairy products?		

5. On how many of the last SEVEN DAYS did you participate in at least 30 minutes of physical activity? (Total minutes of continuous activity, including walking).		
6. On how many of the last SEVEN DAYS did you participate in a specific exercise session (such as swimming, walking, biking) other than what you do around the house or as part of your work?	0 1 2 3 4 5 6 7	0~7
7. On how many of the last SEVEN DAYS did you test your blood sugar?		
8. On how many of the last SEVEN DAYS did you test your blood sugar the number of times recommended by your health care provider?	0 1 2 3 4 5 6 7	0~7
9. On how many of the last SEVEN DAYS did you check your feet?		
10. On how many of the last SEVEN DAYS did you inspect the inside of your shoes?	0 1 2 3 4 5 6 7	0~7
11. Have you smoked a cigarette (even a puff) in the past week?	①no ②yes	①no=1 ②yes=0