

## Study of Knowledge, Attitude and Practice (KAP) about Self-care in Diabetic Patients

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### Abstract

**Introduction:** Diabetes is one of the most common chronic conditions and a major public health concern in Iran. Increasing awareness regarding diabetes can reduce mortality and economic burden on health systems.

**Objective:** To determine the level of diabetes related health knowledge, attitude and practice (KAP) among diabetic patients residing in west of Mazandaran Province.

**Materials and Methods:** This descriptive cross-sectional study was carried out on the patients with type-2 diabetes, referred to Ramsar 13Aban Pharmacy and Shafa outpatient clinic from May 2016 to Feb 2017. 240 patients were enrolled in the study and a questionnaire was filled through face-to-face interview. Level of KAP was evaluated by calculating the scores and the data were analyzed by SPSS software.

**Results:** The mean age of patients was 58.27 (159 females and 81 males). The level of patients' Knowledge, attitude and performance about diabetes were 59.36%, 38.5% and 51.35%, respectively. There was a positive significant relationship between patients' level of knowledge and their educational level. The attitude score was lower in patients without family history. Moreover, better performance level was observed in females and in patients treated with insulin plus oral antidiabetic agents.

**Conclusion:** Results of the present study indicate the low level of KAP among diabetic patients about self-care and proper education of diabetic patients by regular programs can lead to better control, prevention of disease progress and decrease in health system costs.

**Conflict of interest:** non declared

**Key words:** Diabetes Mellitus\ Knowledge, Attitude, Practice

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## Extended Abstract

**Introduction:** Chronic and non-communicable diseases, such as diabetes, have become the major cause of death in many countries, including developed and developing ones (1). Estimation in Iran is about seven million people with the disease, of which about four and a half million are unaware of their disease and do not receive any care (2). The importance of self-patient control of chronic diseases, including diabetes, has been highlighted in various studies, and today, it has been recognized as a vital way to confront such conditions (3).

**Objective:** Since there is no research in the west of Mazandaran province on the knowledge, attitude and practice of diabetic patients, we decided to design a study to evaluate diabetic patient's knowledge, attitude and practice in self-care to investigate whether diabetic patients in Ramsar were in good health condition or not.

**Materials and Methods:** In this descriptive cross-sectional study, a simple random sampling was performed to select patients with type 2 diabetes referred to Ramsar 13 Aban pharmacy and Shafa outpatient Clinic from May 2016 to Feb 2017. After validation and reliability of the questionnaire, 240 patients entered the study. Patients responded to the questionnaire after signing the consent forms and their details were kept confidential. Similar sources were used to develop the questionnaire, the validity of which was confirmed by endocrine specialists (4).

Inclusion criteria were the presence of type 2 diabetes over the age of 18 years with at least one year of diagnosis of type 2 diabetes referred to Aban 13 pharmacy and Shafa outpatient Clinic. Exclusion criteria included gestational diabetes, under 18 years of old patients, patients with less than one year duration diabetes, and patients not willing to participate after

hearing the applicant's statements and requesting participation in the research design. The questionnaire consisted of four sections including questions about demographic information, knowledge, attitude and performance. Most of the questions were multiple-choice and in some cases the patient was asked to respond in the affirmative. The number of years from the initial diagnosis was considered as the duration of the disease. Blood glucose level was measured by an accu-check glucometer (Roche, Germany).

The data were analyzed by SPSS software (version 19). The mean for all continuous data was averaged and the data categorizing variables were represented by number and percentage. Quantitative variables were checked for normality. Continuous variables were compared between groups using t-test for Gaussian data and Man-Whitney test for non-Gaussian data. In addition, the chi-square test was used to compare the binomial variables expressed as a percentage. Correlation between Gaussian and non-Gaussian variables was also assessed using Pearson test and two-tailed spearman's test.

**Results:** Among 240 patients, 50 (20.8%) were treated with insulin, 171 (71.3%) with oral medications and 19 patients (7.9%) with insulin in combination with hypoglycemic agents. Also, 158 cases (65.8%) had positive family history of diabetes. 169 (70.4%) without any history of specific disease, 12 (5%) with hypertension, 17 (7.1%) with hyperlipidemia, 7 (2.9%) with coronary artery disease, 12 (5%) had kidney disease, 8 (3.3%) had eye disease and 15 cases (6.3%) had other comorbidities. The mean age of the patients in our study was  $58.27 \pm 10.37$  years and the mean age in women was  $58.13 \pm 9.70$ , and in men was  $58.53 \pm 11.64$ . There was no significant difference in mean age between the two groups.

The scores of patients' knowledge, attitude and practice questions are shown in Table 1.

Table 1. Scores of patients' knowledge, attitude and practice questions

Questions subject	Maximum obtainable score	Minimum obtainable score	Average obtained score	Standard deviation
Knowledge	+22	+1	13.06	3.32
Attitude	+12	-12	4.62	3.26
Practice	+20	0	10.27	3.91

There was a positive and significant relationship between the scores of patients' knowledge of diabetes and their educational level ( $r = 0.221$ ,  $p = 0.001$ ), indicating that as the level of education increases, the knowledge of patients increases. Knowledge score of patients with equal to and above 60 years old was  $15.71 \pm 0.57$ , among men  $15.58 \pm 1.04$ , among staff  $17.44 \pm 0.96$ , among patients with undergraduate and higher education  $18.11 \pm 1.55$ , patients treated with

insulin plus oral medications  $15.68 \pm 1.36$  and patients with positive family history  $15.58 \pm 0.52$ .

In this study, 158 cases (65.8%) had a positive family history of diabetes. There was a little significant relationship between the scores of patient's attitude toward diabetes with family history ( $r = -0.11$ ,  $p = 0.08$ ), so that in patients without family history the attitude score was lower.

There was a statistically significant relationship between patient's performance score with treatment

type ( $r = -0.128$ ,  $p = 0.04$ ) and gender ( $r = -0.157$ ,  $p = 0.015$ ), thus patients treated with combined insulin and oral medications, and female patients, performed significantly better.

**Conclusion:** Overall, the results of our study showed a significant and positive statistical relationship between the level of patient's knowledge about diabetes and the level of education. There was also a significant relationship between patient's performance and treatment type and gender. Therefore, as reportedly the positive role of education in increasing knowledge,

attitude, practice and ultimately blood sugar control is emphasized, planning for using new methods can lead to resolving the patient's educational needs in our country.

The study also has some limitations such as outpatient cases who did not answer the questions calmly and did not receive any necessary assistance. To overcome this problem, the hospitalized patients can be used in future studies. Also, the number of studied patients was low, so the final results may not be reliable enough and larger population is suggested in future studies.

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