



Practices of Family Health Professionals Regarding Chronic Disease Control and Prevention Programs

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ABSTRACT

Introduction: Chronic diseases are of the utmost importance, due to their impact on high death rates, excessive increases in health expenses, and sustainability of health services. Further, it is recommended for individuals, and society at large, to decrease exposure to modifiable risk factors, like tobacco use, nutrition, and lack of physical activity, and to encourage a lifestyle that supports the fight against chronic diseases. The aim of this study was to determine the practices of health professionals in terms of preventing chronic diseases and improving health.

Methods: Health professionals from family health centers participated in this survey study. The data collection tool was developed by the researcher, by considering the nationwide health programs applied in Turkey, namely the Tobacco Control Program, Healthy Nutrition and Active Life Program, Turkey Diabetes Prevention and Control Program, and Cancer Control Programs. **Results:** Those who received training on health promotion had higher rates of involvement in tobacco cessation guidance, directing individuals to smoking cessation centers, giving trainings to cancer patients and others at risk, following up on individuals with a risk of obesity, raising awareness of healthy individuals concerning obesity, and training patients/patient relatives on diabetes. **Discussion:** The level of training that health professionals offer to patients and their relatives is higher than the level of training given to healthy individuals in all control programs. This inclination is an indicator of a treatment-oriented service approach to health. The capacity of health professionals should be directed more towards preventive medicine and health improving practices.

Keywords: Family Health Center, Chronic diseases, Control and prevention programs

INTRODUCTION

As is widely known, chronic diseases pose a serious worldwide threat in the 21st century. Specifically, chronic diseases impact high death rates, excessive increases in health expenses, and the sustainability of health services [1,2]. The common factor which leads to these globally threatening diseases is that the majority of them are caused by preventable risk factors like nutrition, tobacco use, lack of activity or movement, and obesity [3-5]. In fighting against chronic diseases, it is recommended to decrease exposure to the determinants of common and modifiable risk factors, such as tobacco use, nutrition, and lack of physical activity, in individuals and in society at large, and to promote lifestyle behaviours that support making healthy choices [6]. Activating society towards improving overall health through empowerment can only be made possible by conveying accurate health knowledge and correct behavioural suggestions to a vast majority of people [7]. In this respect, the most basic step where health services are provided is health institutions. With the introduction of the Health Transformation Program in Turkey, first step health services started to be provided in Family Health Centers (FHCs) [8], and an average of 3.500 individuals could be registered per physician. Since they cater to the needs of large masses, FHCs have a vital role in preventing chronic diseases and improving health, in informing and guiding society, and in helping them acquire healthy living behaviours [9]. Health promotion is defined as a process whereby individuals establish more control over their health and ensure the continuation and promotion of their health [10]. Improving the health of individuals by empowering them can only be made possible by conveying accurate health knowledge and correct behavioural suggestions to a vast majority of people [11,12]. The first strategic objective in the Turkish Ministry of Health's 2013-2017 Strategic Plan was "to

protect the individual and the community from health risks and foster healthy lifestyles”, and that obtainment of this goal could only be made possible by “Health Promotion” [8,13]. Different studies have been conducted on health promotion, with different groups of people, including primary healthcare personnel [14-25]. These studies primarily focused on determining health-improving behaviors of individuals. However, there is not a wide body of research into the chronic disease prevention practices of health personnel in FHCs. As such, the current study sought to address this dearth of information through an examination of primary care services in Turkey. The research is made definitively to specify the practices of healthcare personnel working in family health centers on chronic disease prevention.

METHODS

Research conducted in Ankara. There are 8 metropolitan districts in Ankara which is the capital of Turkey. Among these districts, Yenimahalle was chosen as the oldest district in terms of foundation date, in terms of the number of FHCs and ease of transportation. All FHCs in Ankara, Yenimahalle district, constitute the population of this descriptive study. The number of health personnel registered in the Family Health Centers affiliated with the Yenimahalle district was reached from the Ankara Public Health Directorate’s Information Department. There are 37 Family Health Centers in Yenimahalle. The number of health personnel who are registered at these centers is 338. All of the physicians and family health workers in the family health centers were included in the sample. The number of FHCs that have agreed to participate in the study is 33. The total number of physicians and family health personnel in 33 FHC is 300. The number of persons who agree to participate in the survey is 144 persons. The data collection form, developed by the researcher, was formed by considering the practices in which the Ministry of Health has designated FHCs as stakeholders in applying for National Control Programs. The data collection form was shaped by considering the “Tobacco Control Program” “Healthy Nutrition and Active Life Program” “Turkey Diabetes Prevention and Control Program” and “Cancer Control Programs” and involved questions targeted at the practices of health professionals towards patients, individuals at risk, and healthy individuals (Table 1).

Table 1 National Prevention and Control Programs Applied in Turkey

Title of the Program	Expectations on Family Health Center Professionals
Tobacco Control Program (NTCPA, 2015-2018) [26]	Determining whether the individual uses tobacco, giving effective advice on quitting smoking, training, guidance
Healthy Nutrition and Active Life Program (HNALP, 2013-2017) [27]	Early detection of obesity, training, lifestyle change advice, medical protection, planning nutrition and physical activity. It was named as Obesity Prevention and Control Program
Diabetes Prevention and Control Program (DPCP, 2015-2020) [28]	Early detection of diabetes, training in ways to prevent or delay DM development in people at risk, lifestyle change advice, medical protection, planning on modifiable risk factors
Cancer Control Program (CCP, 2013-2018) [29]	Training and guidance for people diagnosed with or at risk for cancer, directing the suspected cases to the related institution, and active registration

The data obtained from the questionnaire, conducted in the field, were represented as numbers and percentages. In the biostatistical analysis, a chi-square test was used between professions to examine whether there were differences among groups as descriptive statistics. Variables and description and comparison results were presented in tables. A p-value <0.05 was considered to be statistically significant.

Ethics Approval and Informed Consent

Ethics approval was provided by the Hacettepe University Non-Invasive Ethical Committee and Turkey Ministry of Health. Each participant provided informed consent to participate in the study and was made aware that results from the study would be disseminated and published.

RESULTS

The research group consisted 94 nurses and 50 physicians. The mean number of years of professional experience was determined to be 18.5 ± 6.4 , with the mean number of years the participants had been working at their institution found to be 4 ± 4.4 (Table 2).

Table 2 Demographic characteristics of health professionals

Variables	n	%
Gender		
Female	122	84.7
Male	22	15.3
Professions		
Physicians	50	34.7
Family Health Personnel	94	65.3
Years of Professional Experience		
1-7 year	9	6.2
8-14 year	27	18.8
15-21 year	55	38.2
22-36 year	49	36.8
Years of Professional Experience in the Family Health Center		
Less than 1 year	23	16
1-4 year	84	58.3
5-8 year	11	7.6
9-12 year	13	9
13-22 year	13	9.1

Of the participants, 47.2% received previous training on health promotion, and 21.5% of those with previous training found the knowledge they had on the issue to be sufficient. In addition, 77.1% of the participants were found to have no knowledge of any of the proceedings published in international congresses or conferences on health promotion. A statistically significant difference was found between the occupations of the participants in terms of having knowledge of proceedings on health promotion. The rate of family health personnel having knowledge of international conference proceedings was lower than that of physicians (Table 3).

Table 3 The distribution of personnel according to knowledge on health promotion

Features	Physician		Family Health Personnel		Total	
	n	%	n	%	n	%
Whether They Have Received Training on Health Promotion*						
Yes	24	48	44	46.8	68	47.2
Whether They Find Themselves to Have Sufficient Knowledge on Health Promotion**						
Sufficient	14	28	17	18.1	31	21.5
Insufficient	13	26	31	33	44	30.6
Partly Sufficient	23	46	46	48.9	69	47.9
Whether Training Was Provided in Their Institution						
Yes	24	48	42	44.7	66	45.8
No	26	52	52	55.3	78	54.2
Their Acquaintance with Conference Proceedings on Health Promotion***						
None	31	38	80	85.1	111	77.1
Acquaintance with 1-4 Proceedings	19	62	14	14.9	33	22.9
Their Acquaintance with the Components of Health Promotion****						
Those with No Acquaintance	31	62	62	66	93	64.6
Those with Knowledge of the Components	19	38	32	34	51	35.4

*Percentages were calculated over n value. **More than one option was marked. ***Copenhagen Declaration, Ottawa Charter for Health Promotion, Adelaide Recommendations on Healthy Public Policy, Bangkok Charter for Health Promotion, Sundsvall Declaration, Jakarta Declaration Mexico Declaration, Tallin Charter for Health Promotion ****Healthy Life Style, Healthy Behavior Patterns, Healthy Environment, Health Education, Legal Regulations, Community Involvement

It was determined that 71.4% of the participants considered society at large as the primary implementation area within the scope of health promotion. In improving health, the main target group was shown to be school-age children by 61.1%. It was also discovered that the Healthy Nutrition and Active Life Program was viewed as the priority

program among all present national control programs Those that were found to have sufficient knowledge of the national programs constituted 14.7% of the participants, and 61.3% of them found the services provided to be partially sufficient. A statistically significant difference was found between occupations in terms of regarding the services provided in the scope of the programs to be sufficient (Table 4).

Table 4 The Distribution of the views of health professionals regarding National Control Programs

Features	Physician		Family Health Personnel		Total	
	n	%	n	%	n	%
Primary Implementation Area (n=126)						
Society	29	72.5	61	70.9	90	71.4
School	11	27.5	16	18.6	27	21.4
Workplace	0	0	3	3.5	3	2.4
Target Group						
School-age Children	35	24.3	53	36.8	88	61.1
Mature Females	25	17.4	36	25	61	42.4
Adolescents	13	9	29	20.1	42	29.2
Pregnant Women	14	9.7	28	19.4	42	29.2
Mature Males	17	11.8	23	16	40	27.8
Workplace Personnel	9	6.3	23	16	32	22.2
Infants	9	6.3	18	12.5	27	18.8
The Homeless	6	4.2	13	9	19	13.2
The Elderly	7	4.9	11	7.6	18	12.5
Primary National Control Program (n=90)						
Healthy Nutrition and Active Life Program	19	45.2	37	49.3	56	43.8
Cancer Control Program	10	23.8	19	25.3	29	22.7
Tobacco Control Program	10	23.8	13	17.3	23	18
Diabetes Prevention and Control Program	3	7.1	6	8	9	7
Level of Knowledge Regarding National Control Programs (n=143)*						
Sufficient	9	18.4	12	12.8	21	14.7
Partially Sufficient	26	53.1	49	52.1	75	52.4
Insufficient	14	28.6	33	35.1	47	32.9
Total	49	100	94	100	143	100
Services Provided as Part of National Control Programs (n=75)*						
Sufficient	4	13.3	15	33.3	19	25.3
Partially Sufficient	19	63.3	27	60	46	61.3
Insufficient	7	23.3	3	6.7	10	13.3

Tobacco Control Program

The percentage of physicians providing frequent counselling on tobacco cessation or reduction for smokers was found to be 76.1%; whereas 51.3% of the family health personnel stated they provided guidance on tobacco cessation. A significant relationship was found between receiving prior training on health promotion and providing counselling. Physicians provided more counselling and guidance compared to other family health personnel. While 74.5% of the physicians frequently directed smokers towards receiving help from smoking cessation centers, 62.0% of other family health members did so. The percentage of professionals directing smokers to cessation centers was higher in those who received prior training on health promotion (Table 5).

Table 5 Opinions of health personnel on the implementation of the Tobacco Control Program

Variables	Rarely		Often		Total		Significance
	n	%	n	%	n	%	
Consulting to Smokers About Tobacco Disposal/Reduction (n=122*)							
Physician	11	23.9	35	76.1	46	100	$\chi^2=7.368$

Family Health Personnel	37	48.7	39	51.3	74	100	p=0.007
Routing to Smoking Cessation Centers (n=126)*							
Physician	12	25.5	35	74.5	47	100	$\chi^2=2.053$
Family Health Personnel	30	38	49	62	79	100	p=0.152

* Percentages are calculated over n values

Cancer Control and Prevention Program

The percentage of physicians who frequently followed cancer patients was 73.3%; whereas 43.9% of the family health personnel stated they frequently followed cancer patients. Physicians and those with prior training followed cancer patients more frequently. A total of 66.7% of physicians stated they offered necessary training and knowledge to cancer patients frequently, and 56.9% of other family health personnel did so. Frequent training to those with a risk for cancer was provided by 73.3% of the physicians and 63.2% of family health personnel. The percentage of those providing training to those with a risk for cancer was found to be significantly higher in professionals who received prior training on health promotion (Table 6).

Table 6 Opinions of health personnel on the implementation of the National Cancer Control Program

Variables	Rarely		Often		Total		Significance
	n	%	n	%	n	%	
Regular Follow-up of Cancer Patient (n=111)*							
Physician	12	26.7	33	73.3	45	100	$\chi^2=9.376$
Family Health Personnel	37	56.1	29	43.9	66	100	p=0.002
Doing Training for Cancer Patient (n=117)*							
Physician	15	33.3	30	66.7	45	100	$\chi^2=1.097$
Family Health Personnel	31	43.1	41	56.9	72	100	p=0.295
Doing Training for People With Cancer Risks (n=113)*							
Physician	12	26.7	33	73.3	45	100	$\chi^2=1.254$
Family Health Personnel	25	36.8	43	63.2	68	100	p=0.263
Doing Cancer Training for Healthy People (n=122)							
Physician	25	54.3	21	45.7	46	100	$\chi^2=0.789$
Family Health Personnel	35	46.1	41	53.9	76	100	p=0.374

* Percentages are calculated over n values

Obesity Prevention and Control Program

The percentage of health professionals that frequently measured the body mass index (BMI) of each patient was 68.4%. The professionals with prior training on health promotion were found to measure BMI more. The percentage of physicians who frequently followed up with patients suffering from obesity was 57.8%; whereas 48.7% of the family health personnel stated they frequently followed up on patients with obesity. Professionals with prior health promotion training followed up on patients more. A total of 71.1% of the physicians were found to frequently offer necessary training and guidance to patients with obesity, while 40% provided training to healthy individuals. Furthermore, 57.3% of the family health personnel frequently provided training and guidance to patients with obesity, and 53.9% provided training to healthy individuals. Professionals with prior health promotion training provided more training and guidance on obesity (Table 7).

Table 7 Opinions of Health Personnel on the Implementation of the Obesity Prevention and Control Program

Health professionals	Percentage of frequently measuring the body mass index (BMI): 68.4%						Significance
	Rarely		Often		Total		
	n	%	n	%	n	%	

Regular Follow-up of Obesity Patients (n = 121)*							
Physician	19	42.2	26	57.8	45	100	$\chi^2= 0.937$
Family Health Personnel	39	51.3	37	48.7	76	100	p = 0.333
Regular Follow-up of People With Obesity Risky Behaviours (n=118)*							
Physician	19	43.2	25	56.8	44	100	$\chi^2= 0.514$
Family Health Personnel	37	50	37	50	74	100	p = 0.473
Doing Training for Obesity Patients (n=122)*							
Physician	13	28.9	32	71.1	45	100	$\chi^2= 2.795$
Family Health Personnel	34	44.2	43	57.3	77	100	p = 0.095
Doing Obesity Training for Healthy People (n=121)*							
Physician	27	60	18	40	45	100	$\chi^2= 2.201$
Family Health Personnel	35	46.1	41	53.9	76	100	p = 0.138

* Percentages are calculated over n values

Diabetes Prevention and Control Program

The percentage of those frequently measuring the blood sugar of each patient was found as 61.9%. The percentage of physicians who frequently followed up with diabetes patients was 93.5%; whereas 45.7% of the family health personnel stated they frequently followed up with diabetes patients. There was a statistically significant difference between professions. in that 91.3% of the physicians and 54.2% of the other family health personnel stated they provided training and information to diabetes patients. Physicians and professionals with prior health promotion training were found to provide more training and guidance on diabetes. The percentage of providing training to healthy individuals was found to be higher in physicians (Table 8).

Table 8 Opinions of Health Personnel on the Implementation of the Diabetes Prevention and Control Program

Health professionals	Percentage of frequently measuring the blood sugar of each patient: 61.9%						Significance
	Rarely		Often		Total		
	n	%	n	%	n	%	
Regular Follow-up of Diabetic Patients (n = 116)*							
Physician	3	6.5	43	93.5	46	100	$\chi^2= 27.712$
Family Health Personnel	38	54.3	32	45.7	70	100	p<0.001
Doing Training for Diabetic Patients (n = 118)*							
Physician	4	8.7	42	91.3	46	100	$\chi^2= 17.985$
Family Health Personnel	33	45.8	39	54.2	72	100	p<0.001
Doing Training for Relative Diabetic Patients (n = 117)*							
Physician	12	26.7	33	73.3	45	100	$\chi^2= 5.549$
Family Health Personnel	35	48.6	37	51.4	72	100	p = 0.018
Doing Diabetes Training for Healthy People (n = 115)*							
Physician	26	57.8	19	42.2	45	100	$\chi^2= 23.690$
Family Health Personnel	47	67.1	23	32.9	70	100	p<0.001

* Percentages are calculated over n values

DISCUSSION

A total of 52.4% of health professionals hold the belief that they have partially sufficient knowledge regarding control programs devised for the prevention of chronic diseases. Other studies have found that only one-quarter of the health professionals had received training on National Cancer Screening Standards [24]. and that their level of knowledge on breast, cervical, and colorectal cancer screenings, and that their early diagnosis and practice behaviours, were not at expected standards [30]. In terms of Screening Standards, health professionals can be considered to have low levels of knowledge. When we consider that it is among the long-term objectives of the National Cancer Program to train 80% of health professionals, it becomes obvious that amendments to the implementation of this program are needed to address the low level of knowledge on part of health professionals. Primary healthcare professionals viewed Healthy Nutrition and Active Life Program as the top priority program among others. Obesity, which was given the top priority in our study, had been shown among secondary health improving practices in a previous study [31]. In this study, initiatives against smoking were shown as the top priority, which reflects the change in priorities within

society in time. The fact that 17.2% of the total population over 15 years of age in Turkey are obese, and 34.8% are overweight, shows that seeing it as the top priority is in alignment with today's needs in society and that effective health promotion practices are required in this field [32]. Similar to Richard, et al., the current study, in which the primary implementation area and intervention venue was seen as the society at large by 71.4%, reveals that health professionals engage in health promotion practices targeted mainly at the general public, which corresponds to the expectations of primary health care institutions [33].

Tobacco Control Program

In the current study, the percentage of physicians providing frequent counselling on tobacco cessation or reduction for smokers was found to be a higher percentage (71%) than other family health personnel. Previous studies have found that 36.6% of participants stated they provided counselling to those who wanted to quit smoking, 21% of the patients consulting a physician received counselling [34], and that 50% of the physicians in England and Wales usually or always provided counselling to those who wanted to quit smoking [35]. In the current study, however, we found a higher rate of smoking cessation counselling. Rosell-Murphy, et al., found that, among health screenings conducted in primary healthcare facilities, the least frequently observed screening type was screening for smoking, at 36.6% [36].

Mevsim, et al., found in their study on the behaviours of primary healthcare professionals in fighting cigarettes in Turkey, that the percentage of those regularly following up with cigarette smokers was 2.1%, training smokers was 52.8%, and directing those who wanted to quit to smoking cessation centers was 25.4% [37]. The current study found, 8 years later, that the rate of directing the smokers to clinics was much higher in physicians (i.e., 74.5%). Turkey has taken considerable steps to reduce smoking and has been shown to be among the four most successful countries, worldwide, based on criteria set by World Health Organization (WHO). Although the rate of providing counselling to smokers is higher in physicians compared to family health personnel, we still see that about half of the family health personnel provide counselling [38].

It is well established that nurses, in particular, have very significant roles in fighting smoking and that they contribute to tobacco control considerably [39-41]. Globally, nurses constitute a major part of the health workforce, and they can spare more time to individuals and contact them regularly. In this respect, they can prove to be highly effective in regular follow-ups and counselling. When we consider that they also take an active part in conducting studies backed by scientific theories, like the Behaviour Change Model, the 5A's Behaviour Change Model, and other transtheoretical models, nurses need to be supported in a way to make it possible for them to apply their knowledge and experience, not just in treatment services, but also in prevention services [42,43].

Cancer Control Program

In our study, the percentage of physicians who frequently followed up with cancer patients regularly was found to be high (73.3%). In the literature on regular follow-up of cancer patients, Sisler, et al., found that 39.8% of cancer patients in the follow-up cycle visited a family physician always or usually [44,45]. Further, in a study concentrating on the number of screenings the family physicians conduct as part of a radiotherapy program, Barnes also found that family physicians regularly followed up with 28% of cancer patients [45]. It was found in our study that cancer patients, and those with cancer risk, were frequently given training, and received regular follow-ups; yet healthy individuals were only rarely given cancer training. Atun, et al., established that prevention of cancer and chronic diseases needs to be strengthened within the scope of community-based prevention and screening programs in Turkey [46]. To address this, awareness raising campaigns and activities can be performed with the coordination of Cancer Early Diagnosis and Screening Centers (CEDSCs) within Turkey. Furthermore, Community Healthcare Centers can also provide pieces of training in order to help public gain health awareness. Health professionals working in FHCs might think of CEDSCs and Community Healthcare Centers as the bodies primarily responsible to follow-up and train cancer patients. Although it has been targeted to ensure coordination in providing primary healthcare services at the Community Health Institution level, the separation of primary health care into FHCs and Community Healthcare Centers is still thought to have weakened teamwork and to have disintegrated the provision of services [47].

Obesity Control Program

The percentage of regular follow-ups in obese patients and those with obesity risk is lower in other family health personnel. Despite participants mentioning obesity as a high priority control program, the percentages of following

up with obesity patients are lower than expected. However, primary healthcare professionals are expected to follow the disorders and treatment procedures of all individuals registered to them [48]. Although family physicians are obliged to follow-up with morbidly obese patients confined to bed, it is also of utmost significance for them to follow-up with patients with obesity risk. The fact that FHCs take an active role, in coordination with obesity counselling centers within community healthcare centers, is highly significant in ensuring that no patient is left unfollowed by the physicians. The percentage of measuring the BMI of each patient has been previously reported at 68.4% [49] and approximately 42% [50].

The BMI measurement ratio was found to be extremely high in our study. In addition, it was also found that health professionals that received training on health promotion stated they followed the practice with a higher ratio. Along with obese patients, BMI is significant in determining and diagnosing weakness and achondroplasia, especially in children. The percentage of professionals providing training to obese patients in the current study was high, at 71.1%, while the rate of counselling obese patients in a previous study was reported as 62% [50]. The fact that the participants placed a higher importance on counselling and training in obesity, compared to other control programs, is in support of their designation of obesity as the primary area for health promotion. Furthermore, the percentage of those giving training to healthy individuals (40,0%) was significantly lower than those giving training to obese patients, suggesting that patients are given a higher importance, and thus it is recommended that the risk factor management skills of health professionals in healthy individuals be further researched [51].

There was no significant difference between physicians and other family health personnel in terms of obesity follow-up and obesity training. Bock, et al., found that 27% of the physicians in primary healthcare institutions stated, with regard to health promotion in physical activity, that they possessed insufficient knowledge for counselling, and 36.7% of them stated that they lacked motivation in directing the patients towards health promotion [52]. Furthermore, Florindo, et al., found in their study that, physicians, compared to nurses, engaged in more physical activity counselling [53]. In addition, Holmberg, et al., found that the physicians provided advice, especially on physical activity [54].

Diabetes Prevention and Control Program

There was a significant difference between physicians and other family health personnel regarding diabetes prevention and control. This can be thought to have stemmed from the fact that it is primarily the responsibility of physicians to follow-up with patients. Similarly, in terms of offering training to diabetes patients and their relatives, the rate of training carried out by physicians was higher than that of other personnel. It can be asserted that family health personnel require improvement in terms of fulfilling their counselling and training roles in preventive health services [55]. When the rate of provision of diabetes training to healthy individuals was taken into account, the ratio was found to be lower than that of other control programs. It can be asserted that providing support to obesity and tobacco control programs through public service announcements and ads, and thereby helping them to remain strong in the agenda, increases the interest in these control programs; whereas, the efforts to raise diabetes awareness falls rather short, considering that diabetes has reached epidemic levels and that the rough prevalence of diabetes was 16.5%, specifically diabetes mellitus in Turkey [56]. When we consider that obesity and increasing physical activity should especially be underlined in fighting against diabetes, our study results are in support of this view. In our study, the percentage of frequently measuring the blood sugar of each patient was found as 61.9%, while blood sugar was found to have been measured by 37.6% of individuals aged 15 and over within the last 12 months by the Turkish Statistical Institute [32].

Patients visiting family practice institutions mostly consist of adults and the elderly. In order for individuals with diabetes to be diagnosed early and treated properly, blood sugar measurements carry special importance. However, blood sugar measurements are conducted only in individuals that visit health institutions of their own volition, suggesting that health professionals fall far from providing the necessary comprehensiveness of measurement, in terms of risk group observations, of those not visiting the healthcare centers.

CONCLUSION

In our study, the level of training that health professionals offer to patients and their relatives is higher than the level of training given to healthy individuals in all control programs. This inclination is an indicator of a treatment-oriented service approach to health. In the health promotion perception, it is necessary to train not only patients but also healthy individuals, to raise individual awareness and to eliminate risk factors. The capacity of the health professionals should

be increased, and they should be directed more towards preventive medicine and health improving practices. In order to ensure the equal provision of services to each and every individual, with the aim of eliminating socioeconomic inequalities, it is important for family practice centers to allow for practices that involve the entire population, rather than addressing only the individuals applying to them. Since they spend more time with individuals than other health personnel, and they are most comprehensively responsible for health promotion activities due to their role in primary health care, nurses need to be held actively responsible for their counselling and training/educational roles in control programs. Public healthcare nurses play a significant role in shaping and applying health promotion policies in developed countries. In many countries, nurses in primary health care were reported to be more active in preventive medicine services, rather than in technical medical procedures. It is suggested that, especially nurses, along with other primary healthcare personnel, be provided with necessary training and certificates, by forming a service system in which nurses can perform their present roles effectively, and which can be recorded, evaluated, and improved.

DECLARATIONS

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Availability of Data and Materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Authors' Contributions

EK & GK are the guarantors of this article and conceived and designed the study. EK and GK undertook data extraction and analyses initial drafting of the manuscript. All authors had full access to all of the data and take responsibility for the integrity of the data and the accuracy of the analysis. All authors critically revised the manuscript and provided important intellectual content. All authors read and approved the final manuscript.

Competing Interest

All authors have completed the Unified Competing Interest form and declare that have no support from any organizations for the submitted work; have no relationships with any companies, their spouses, partners, or children have no financial relationships that may be relevant to the submitted work and have no non-financial interests that may be relevant to the submitted work.

This article contains a part of the master's thesis. The other findings are published in author's own another article [57].

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