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Insulin initiation status of primary care physicians in Turkey, barriers to insulin initiation and knowledge levels about insulin therapy: A multicenter cross-sectional study

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ABSTRACT

Aims: Our aim was to evaluate the insulin initiation status, barriers to insulin initiation and knowledge levels about treatment administered by primary care physicians (PCP).
Methods: We conducted our study in accordance with a multicenter, cross-sectional design in Turkey, between July 2015 and July 2016. A questionnaire inquiring demographic features, status of insulin initiation, obstacles to insulin initiation and knowledge about therapy of the PCPs was administered during face-to-face interviews.
Results: 84 PCPs (19%) (n = 446, mean age = 41.5 ± 8.4 years, 62.9% male and 90.0% ministry certified family physicians) initiated insulin therapy in the past. Most of the stated primary barriers (51.9%, n = 230) were due to the physicians. The most relevant barrier was "lack of clinical experience" with a rate of 19% (n = 84 of the total). The average total knowledge score was 5.7 ± 2.0 for the family medicine specialist, and 3.8 ± 2.1 for the ministry certified family physicians (p = 0.000, maximum knowledge score could be 10).

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Conclusions: The status of insulin initiation in Turkey by the primary care physicians is inadequate. Medical education programs and health care systems may require restructuring to facilitate insulin initiation in primary care.

1. Introduction

Diabetes mellitus is a common chronic disease all over the world and a major public health problem. Prevalence of diabetes is growing, especially in developing countries. Worldwide, this prevalence has increased from 4.5% to 8.5% in the period between 1980 and 2014 [1].

According to the nationwide studies conducted in Turkey, the prevalence of diabetes has increased two-fold in the 12 year period from 1998 to 2010 and has reached 13.7%. Data from 2010 shows inadequate glycemic control (Hemoglobin A1C > 6.5%) for 45.7% of the patients. Insulin therapy carries an important role in achieving glycemic control. Delay in starting insulin therapy despite clear indication will increase the morbidity and mortality rates due to illness [2,3].

In Turkey, there are three different categories of physicians working at primary care facilities, based on training received after medical school; 1. Family Medicine Specialists (FMSs): physicians trained within a family medicine specialty program for 3 years full-time and in a face to face manner with the patients, 2. Ministry Certified Family Physicians (MCFPs): physicians with no specialized training who received certificates of practice issued by the Ministry of Health following a 10-day compliance training program and 3. Other Specialists (OSs): other branch specialists who received family medicine practice certificates from the Ministry of Health following the same program mentioned in item 2 and they are approximately 1% of the physicians working in primary care. Today, only 5.4% of the health care providers are FMSs [4].

Family physicians have an important role in the management of diabetes mellitus (DM). We have carried out a pilot study over a small sample size to monitor family physicians' rate of starting insulin therapy. The rates of insulin therapy initiation for indicated patients were 60.6% among family medicine specialists (FMS) and 21.4% among ministry certified family physician (MCFP) [5].

There is resistance against insulin therapy within the primary and other health care systems according to the medical literature. This resistance arose mostly from the patients, sometimes from the doctors and also from the systems [6–14]. The patients' fear of side effects and the unwillingness to submit to injection are the known obstacles [15]. The identified barriers commonly originate from the patients [7]. Currently, drug payments for only human insulin prescribed by primary care physicians are paid by Social Security Institution. And FMS can provide "Drug use and exemption report" for only human insulin differently from MCFPs. When analog insulin formations prescribed by primary care physicians, they are not paid by Social Security Institution because of notification of budget implementation. Analog insulin forms should be paid by patients when prescribed by primary care physicians.

Characterizing the barriers impeding the start of insulin therapy is a must for our country if glycemic goals are to be achieved. In this study, we aimed to assess insulin therapy initiation status, barriers faced when initiating the therapy and the knowledge levels about insulin therapy of the family physicians working at primary care facilities in Turkey.

2. Methods

2.1. Study design

We performed a cross-sectional study between July 2015 and July 2016. The study subject group for this research was chosen from among doctors working in the family medicine field in Turkey. Samples for the study were selected from cities at different geographical regions of Turkey. These cities are Trabzon, Istanbul, Izmir, Rize, Ankara, Malatya, Sanliurfa and Samsun. We selected participants randomly from among the family physicians who accepted to participate. We excluded physicians who see less than two diabetic patients per week.

2.2. Data collection

Our research team developed a questionnaire inquiring about physicians' demographic data, conditions to be met for insulin initiation, barriers they face when initiating insulin therapy and the level of knowledge about starting the insulin therapy.

We probed insulin initiation condition by a direct "yes/no" question. To determine the barriers faced when insulin is to be administered, we provided ten written statements as options plus an "other" option to account for unexpected reasons. We asked them to specify one option as the most relevant barrier. To identify the level of knowledge about the insulin treatment, we furnished multiple choice questionnaires consisting of 10 questions (Table 1). We prepared these questions according to guidelines and made them evaluated by an expert in endocrinology. The knowledge score was obtained by assigning '1' point to each correct answer and a '0' for each wrong answer. The total over the 10 questions determined the knowledge score. We evaluated scores under 6 as insufficient.

Researchers tried to access the family health centers in their province for this study. They carried out face-to-face interviews to complete enough samples for the survey. A total of 446 physicians were included in our study.

2.3. Main outcomes

The primary outcome of interest was the rate at which the primary care physicians working at primary healthcare centers initiated insulin therapy when indication exists.

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