Do not forget Diet and Exercise during Ramadan

Interest in Diet and Exercise

Ioannis Ilias, Athanasios Tselebis

Abstract
We analyzed internet search trends from January 2022 to June 2023 in the ten most populous Muslim countries, focusing on keywords such as "Ozempic" TM (the most popular GLP1 analog), "Diet," "Exercise," and "Diabetes." The results showed a significant increase in searches for the GLP1 analog in eight countries, while searches for "Diet" and "Exercise" were mostly declining in nine and four countries, respectively. Searches for "Diabetes" were positive in only two countries. These trends suggest a growing reliance on pharmaceutical interventions for diabetes and weight management at the expense of diet and exercise. Clinicians and healthcare workers in Muslim countries should emphasize the importance of diet and exercise for patients with diabetes, even during Ramadan.

Key Words: Diet; Exercise; Diabetes; Internet; Ramadan

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Core Tip: An analysis of internet searches in ten populous Muslim countries revealed a notable rise in searches for a popular GLP1 analog. Meanwhile, searches for "Diet" and
"Exercise" were mostly declining. This trend implies a growing preference for pharmaceutical solutions over diet and exercise in the management of diabetes or obesity, suggesting the need for healthcare professionals in Muslim countries to emphasize the importance of diet and exercise, including during Ramadan.

TO THE EDITOR

We read with interest the recent article by Ochani et al. The authors point to the need for diet and exercise in patients with diabetes, especially during Ramadan. They also soundly advocate the use of GLP1 analogs, particularly in subjects with diabetes on sulfonylurea drugs, who present with hypoglycemia. In a recent study, we found that worldwide interest in diet and exercise may be waning, with a concomitant rise in interest for GLP1 analogs, as shown by internet searches.

To further elaborate on this, we analyzed internet search trends using Google Trends (https://trends.google.com/trends/), spanning from January 1, 2022, to June 30, 2023. We honed on results obtained from the ten most populous Muslim countries (https://worldpopulationreview.com/country-rankings/muslim-population-by-country, with approximately two-thirds of the Muslim population worldwide), focusing on the specific keywords "Ozempic" (the world's best-selling GLP1 analog; Novo Nordisk A/S, Bagsvaerd, Denmark), "Diet," "Exercise," and "Diabetes". Our search was restricted to English keywords, as our previous research demonstrated that English-language searches significantly outweighed searches in other languages. Google Trends results are given as Relative Search Volumes (RSVs). It's a metric that Google uses to indicate the popularity or search interest of a particular keyword or topic relatively to the total search volume on Google during a specific period and in a specific location. RSVs are a relative measure. They show how popular a specific search term is compared to all the other searches happening on Google at the same time and place. RSVs are scaled from 0 to 100, with 100 representing the peak popularity of a term within the chosen time and location. Google Trends results are time- and location-specific: RSV values can vary based on the time range selected (e.g., day, week,
year) and the geographical location specified (e.g., country, state). We employed a linear model to examine time trends for the keyword parameters presented above (in RSVs per week) vs time (in weeks), separately for each country. The study data can be found at Zenodo (10.5281/zenodo.8334806).

During the study period, we observed an increase in internet searches for the GLP-1 analog in 8 countries, whereas the time trends for searches regarding "Diet" and "Exercise" were mostly negative (in 9 and 4 countries, respectively). Additionally, internet searches for "Diabetes" were negative in four countries and positive in only two (Table 1).

These observations may suggest a trend of neglecting certain essential aspects of healthy living, such as diet and exercise, in favor of reliance on pharmaceutical interventions for diabetes or weight management. Thus, the worldwide trend in waning interest in diet and exercise and the increasing trend in interest in GLP1 analogs is also evident in Muslim countries.

In conclusion, we believe that clinicians and healthcare workers, in Muslim countries, should stress the importance of diet and exercise to patients with Diabetes, making no exception during Ramadan.
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