ORIGINAL ARTICLE

DOI: 10.4274/jcrpe.galenos.2025.2024-12-1

J Clin Res Pediatr Endocrinol 2025;17(3):307-317

ACTION Teens Global Survey–Türkiye Report: More Worry and Less Motivation for Adolescents Living with Obesity

Abdullah Bereket[1], Neşe Perdahlı Fiş[2], Batu Gürser[3], Şükrü Hatun[4], Sibel Sakarya[5], Volkan Yumuk[6], Belma Haliloğlu[7]

[1]Marmara University Faculty of Medicine, Department of Pediatrics, Division of Pediatric Endocrinology and Diabetes, İstanbul, Türkiye
[2]Marmara University Faculty of Medicine, Department of Child and Adolescent Psychiatry, İstanbul, Türkiye
[3]Medical Affairs, Novo Nordisk, İstanbul, Türkiye
[4]Koç University Faculty of Medicine, Department of Pediatrics, Clinic of Pediatric Endocrinology, İstanbul, Türkiye
[5]Koç University Faculty of Medicine, Department of Public Health, İstanbul, Türkiye
[6]İstanbul University-Cerrahpaşa, Cerrahpaşa Faculty of Medicine, Department of Endocrinology, Metabolism and Diabetes, İstanbul, Türkiye
[7]Marmara University Faculty of Medicine, Department of Pediatrics, Division of Pediatric Endocrinology and Diabetes, İstanbul, Türkiye

What is already known on this topic?

Childhood/adolescent obesity rates have been rising in Türkiye so there is a need to identify local barriers to effective obesity care. The global ACTION Teens survey found that adolescents living with obesity (ALwO), caregivers, and healthcare professionals (HCPs) have different perceptions of obesity, and identified a need for greater education and enhanced communication.

What this study adds?

This subanalysis of ACTION Teens data from Türkiye found that, compared with the global analysis, a greater proportion of ALwO in Türkiye worried about weight impacting future health, although similar proportions had made a recent weight-loss attempt. Results suggest Turkish ALwO require greater weight-management support from HCPs.

Abstract

Objective: ACTION Teens (NCT05013359) surveyed adolescents living with obesity (ALwO), their caregivers, and healthcare professionals (HCPs) in 10 countries to identify attitudes, perceptions, behaviors, and barriers preventing effective obesity care. This subanalysis identified key findings from Türkiye.

Methods: In Türkiye, 700 ALwO (aged 12 <18 years), 700 caregivers, and 324 HCPs completed a cross-sectional survey (September-November 2021).

Results: ALwO had poor mean World Health Organization-5 Well-Being Index (36.7) and Rosenberg Self-Esteem Scale (14.6) scores. Most ALwO (85%) were worried about their weight, and many ALwO (92%) and caregivers (96%) worried about weight affecting their/their child's future health. Furthermore, many respondents agreed weight loss is completely the ALwO's responsibility (ALwO: 70%; caregivers: 47%; HCPs: 42%). Despite this, only 24% of ALwO reported being highly motivated to lose weight, although 59% reported a weight-loss attempt in the past year. Their most common weight-loss barrier was being unable to control hunger, according to ALwO (76%) and caregivers (73%). HCPs reported discussing weight with 42% of ALwO, on average, with 34% indicating insufficient time during appointments prevents them from discussing weight.

Conclusion: Compared with the global ACTION Teens analysis, a greater proportion of ALwO in Türkiye worried about weight impacting future health (92% vs. 85%), yet a similar proportion had made a recent weight-loss attempt (59% vs. 58%), perhaps due to lower

Cite this article as: Bereket A, Perdahlı Fiş N, Gürser B, Hatun Ş, Sakarya S, Yumuk V, Haliloğlu B. ACTION Teens Global Survey–Türkiye Report: more worry and less motivation for adolescents living with obesity. J Clin Res Pediatr Endocrinol. 2025;17(3):307-317

Address for Correspondence: Abdullah Bereket MD, Marmara University Faculty of Medicine, Department of Pediatrics, Division of Pediatric Endocrinology and Diabetes, İstanbul, Türkiye
E-mail: abdullahbereket@gmail.com **ORCID:** orcid.org/0000-0002-6584-9043

Received: 10.12.2024
Accepted: 23.01.2025
Epub: 24.01.2025
Publication date: 22.08.2025

motivation (24% vs. 45%). These results suggest ALwO in Türkiye require greater weight-management support, particularly support with controlling hunger and so, measures should be taken to reduce HCPs' time constraints.
Keywords: Adolescents, clinical care, family practice, obesity treatment, physician attitudes

Introduction

Childhood and adolescent obesity rates have been rising worldwide, including in Türkiye (1,2,3). This is concerning given the considerable mental health challenges experienced by children and adolescents living with obesity (ALwO) (4). In addition, early-onset obesity typically continues into adulthood, with severe health implications in later life (5,6,7). Furthermore, weight struggles at an early age are associated with more severe obesity class and feelings of hopelessness in adulthood, suggesting the enduring impact of early-onset obesity is more severe, relative to adult-onset obesity (8). Early intervention for obesity in children and adolescents is important as it is associated with improved long-term weight-loss outcomes (9).

An international survey evaluating attitudes, perceptions, and behavior among adults living with obesity and healthcare professionals (HCPs) found that initial weight-management conversations with HCPs were typically delayed by several years after the person first began struggling with their weight, and were often triggered by the presence of complications related to obesity (10). However, it is important to initiate weight-management conversations at an earlier stage before complications arise.

To improve obesity care for ALwO, there is a need to better understand the lived experience of, and challenges faced by, ALwO, plus their caregivers and HCPs. The global ACTION Teens study, which was performed in 10 countries, including Türkiye, identified differences between ALwO, caregivers, and HCPs in terms of their perceptions of obesity. General findings included caregivers under-appreciating the burden of obesity on ALwO, and HCPs misconceiving the major motivators and barriers for weight loss (11). The results indicated a need for greater education and enhanced communication between these groups. However, there is also a need to evaluate country-specific data to identify local barriers to effective obesity care.

Here, we present key findings from an ACTION Teens subanalysis that evaluated data from Türkiye, and highlight important differences from the global data set.

Methods

Study Design and Participants

Methods for the global, cross-sectional, survey-based ACTION Teens study (NCT05013359) have previously been reported (11). In Türkiye, participants completed the survey between September 24, 2021, and November 8, 2021.

Eligible participants were: (i) adolescents (aged 12 to <18 years) in Türkiye living with obesity, that is, those with a current body mass index (BMI; determined using self-reported weight, height, sex, and age) ≥95th percentile for sex and age according to charts appropriate for Türkiye (12); (ii) caregivers aged ≥25 years who resided (at least half of the time) with an ALwO in Türkiye and were involved in making decisions related to their ALwO's healthcare; and (iii) HCPs practicing in Türkiye with ≥2 years' clinical practice experience, who typically saw or treated ≥10 ALwO on a monthly basis, and spent at least half of their time caring for patients directly. ALwO who had (or caregivers whose ALwO had) experienced a significant change in weight resulting from illness or major injury in the previous six months were excluded from the study, as were ALwO who perceived themselves (or caregivers who perceived their ALwO) to be extremely muscular. Each respondent provided informed consent to participate in the study; informed consent was also obtained from the parent or legal guardian of each ALwO.

The study – which was approved by an independent ethics committee in Türkiye (Marmara University Ethics Committee, İstanbul, Türkiye; approval number: 09.2021.1080, date: 03.09.2021) – was conducted in line with the EphMRA Code of Conduct, the Declaration of Helsinki, and all relevant regulations for managing personal data.

Procedures

Three separate surveys (for ALwO, caregivers, and HCPs) with overlapping questions were developed and have been previously published (11). An international steering committee comprising HCPs and subject matter experts co-developed and approved the surveys.

Participants were recruited via online databases and panels. ALwO and caregivers were recruited from panels handled by Eksen. HCPs were recruited from panels handled by Dynata and databases handled by M-Motions. Caregivers of ALwO were identified by targeting and screening a stratified adult general population sample, with ALwO subsequently recruited via their caregivers. All caregivers were asked if their ALwO could participate to ensure the recruitment of as many matched pairs of caregivers and ALwO as possible. When enrollment of matched pairs had been maximized,

recruitment of caregivers and ALwO continued until the target sample size was achieved.

Data collection was carried out by KJT Group Inc. (Rochester, NY, USA), with data obtained via online surveys that were programmed using Decipher Survey Software (Forsta, Stamford, CT, USA). In Türkiye, the surveys were provided in Turkish and could be completed either online or via computer-assisted telephone or in-person interviews. All survey questions were mandatory to prevent missing data.

Outcomes

The primary objective of the ACTION Teens study was to identify attitudes, perceptions, behaviors, and barriers preventing effective obesity care.

Primary outcome measures across several categories were assessed: attitudes about obesity (including people living with obesity and the impact of living with obesity); weight loss (attempts to lose weight in the past year, motivating factors, barriers, definition of successful weight loss); weight-related conversations between ALwO/caregivers and HCPs (history, frequency, the initiator, responsibility for initiating conversations); interactions between HCPs and ALwO/caregivers (reasons for not discussing obesity, frequency of diagnosing obesity, frequency of scheduling obesity-related follow-up appointments); and sources for obtaining information on obesity, weight loss, weight management, and healthy lifestyles. These outcomes were evaluated through use of single or multiple item selection, Likert scales, or numeric responses.

Exploratory outcome measures included ALwO well-being and self-esteem, which were assessed using the World Health Organization-5 Well-Being Index (WHO-5) and Rosenberg Self-Esteem Scale (RSES), respectively (13,14,15,16). The Turkish versions of the WHO-5 and the RSES have previously been validated (17,18).

Statistical Analysis

The sample size targeted for Türkiye was 700 ALwO, 700 caregivers, and 300 HCPs with completed surveys; this considered the need to balance recruitment feasibility with statistical power.

De-identified data from all completed surveys were analyzed by KJT Group using Statistical Package for the Social Sciences (IBM, version 23.0), Stata (StataCorp LLC, version IC 14.2), and Excel (Microsoft 365), and data were reported using descriptive statistics. For continuous variables, outliers were removed from the data set where appropriate.

Data from surveys completed by caregivers were weighted to reflect demographic targets based on government and other public data (sex, age, region, education, and household income (19,20,21,22) that were representative of Türkiye, in order to reduce selection bias and enhance generalizability. ALwO data were not weighted because ALwO demographics were not publicly available for all countries included in ACTION Teens.

Results

Participant Characteristics

There were 700 ALwO, 700 caregivers, and 324 HCPs surveyed from Türkiye (Supplementary Figure 1). Half (52%) of the ALwO were female and most ALwO were aged 16-17 years (59%). The proportions of ALwO with obesity class 1 (BMI >95th percentile for age and sex), 2 (BMI >120th

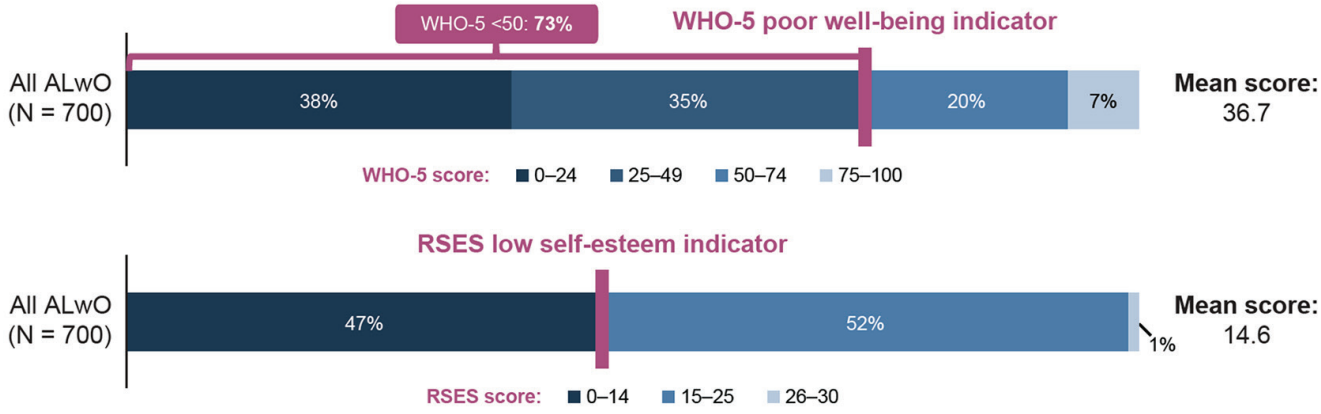

Figure 1. WHO-5 and RSES scores. Proportion of respondents with each score category and mean scores. The WHO-5 (ALwO Q102) ranges from 0 to 100; a score <50 indicates poor well-being (14). The RSES (ALwO Q103) ranges from 0 to 30; a score <15 suggests low self-esteem (16)

ALwO: adolescents living with obesity, RSES: Rosenberg Self-Esteem Scale, WHO-5: World Health Organization-5 Well-Being Index

percentile), and 3 (BMI >140th percentile) were 38%, 50%, and 12%, respectively (Table 1). Most HCPs (69%) were family physicians, 11% were general pediatricians, and the remaining 20% were specialists, including pediatric endocrinologists and nutrition specialists.

The proportion of HCPs who self-reported completing advanced weight management or obesity training after medical school was 18%, and only 6% of HCPs reported receiving training with evaluation/certification that lasted for >1 day. Furthermore, only 43% of HCPs were aware of any clinical guidelines for treating ALwO and of these, 92% considered the guidelines to be somewhat/very effective.

Information Sources

Only 26%, 23%, and 13% of ALwO reported using YouTube, search engines, and social media (such as Facebook, Instagram, X, TikTok), respectively, as an information source for weight management; they most commonly obtained information from doctors (53% of all ALwO). Information from doctors was also their most important source (selected by 45% of ALwO who had used information sources). Similarly, doctors were caregivers' most frequently used information source (56% of all caregivers) and most important source (selected by 59% of caregivers who had used information sources). The most frequently used sources of information on obesity for HCPs were journal articles, medical education or continuing medical education programs, and conferences (56%, 52%, and 52%, respectively).

Perceptions of Obesity

The proportions of ALwO who thought excess weight would make it somewhat/much harder to get a job, make friends, and do well in school were 78%, 64%, and 48%, respectively; similar proportions of caregivers felt the same (74%, 67%, and 51%, respectively). Overall, 93% of HCPs, 82% of caregivers, and 81% of ALwO thought that obesity has a strong impact on people's well-being and health. Furthermore, obesity was considered to be at least as serious as cancer by 70% of HCPs, 68% of caregivers, and 69% of ALwO.

Impact of Obesity

Scores on the WHO-5 (mean score: 36.7) and RSES (mean score: 14.6) indicated that poor well-being and low self-esteem were common among ALwO (Figure 1). Most ALwO indicated that they often/always feel unhappy because of their weight (70%) and feel insecure because of their body (63%). Similarly, most caregivers indicated that their child often/always feels unhappy (68%) and insecure (58%) because of their weight or body image, respectively. Few ALwO (6%) and caregivers (9%) reported that they/their child often/always feels comfortable with their body. Notably, nearly one-third of ALwO (32%) reported that they are often/always bullied because of their weight.

Almost all ALwO (95%) and caregivers (99%) felt their/their child's weight was slightly/a lot/extremely above normal, and approximately half (47% and 50%, respectively) rated their/their child's health as poor/fair. The majority of ALwO

Table 1. Demographics and characteristics of respondents from Türkiye

	ALwO (n = 700)	Caregivers (n = 700)	HCPs (n = 324)
Age in years, mean (SD)	15.3 (1.7)	40.3 (5.8)	44.9 (10.5)*
Sex			
Female, n (%)	363 (52)	432 (62)	121 (37)
Male, n (%)	337 (48)	268 (38)	203 (63)
ALwO obesity class†			
Obesity class 1 (BMI ≥95th percentile for age and sex)	38% (n = 264)	30% (n = 213)	57% (SD: 22)
Obesity class 2 (BMI ≥120% of 95th percentile for age and sex)	50% (n = 350)	50% (n = 347)	27% (SD: 13)
Obesity class 3 (BMI ≥140% of 95th percentile for age and sex)	12% (n = 86)	20% (n = 140)	17% (SD: 12)
BMI classification of caregivers and HCPs, n (%)‡			
Underweight (< 18.5 kg/m^2)	N/A	3 (< 1)	3 (1)
Healthy weight (18.5-24.9 kg/m^2)	N/A	280 (40)	104 (48)
Overweight (25.0-29.9 kg/m^2)	N/A	341 (49)	85 (40)
Obesity class 1-3 (≥30.0 kg/m^2)	N/A	76 (11)	23 (11)

Percentages may not sum to 100% due to rounding.
*Calculated for all HCPs, excluding one outlier (i.e., n = 323).
†Obesity class of ALwO respondents, the ALwO of caregiver respondents, and the ALwO patients of HCP respondents. Data are the percentage (number) of ALwO (for ALwO and caregivers) or the mean percentage (SD) of ALwO patients (for HCPs).
‡BMI classification of all caregiver respondents (n = 700) and the subset of HCP respondents who provided height and weight data (excluding one outlier: n = 215).
Table 1 adapted from reference 11.
ALwO: adolescents living with obesity, BMI: body mass index, HCP: healthcare professional, N/A: not applicable, SD: standard deviation

were somewhat/very/extremely worried about their weight (85%) and at least a little worried about weight impacting their health in future (92%) (Figure 2). Similarly, most caregivers thought their child was somewhat/very/extremely worried about weight (73%) and were personally at least a little worried about weight impacting their child's future health (96%) (Figure 2). Among HCPs, 68% agreed that obesity in adolescence has an impact on life expectancy.

Weight Loss

Two-thirds of ALwO (67%) and caregivers (66%) agreed that weight loss would be possible if they/their child really set their mind to it, but only 24% of ALwO and 27% of caregivers thought they/their child was highly motivated to lose weight (Figure 3). In addition, 30% of caregivers thought their child would slim down naturally over time (Figure 3). Notably, more ALwO (70%) than caregivers (47%) and HCPs (42%) agreed that weight loss was completely their/their child/their ALwO patients' responsibility.

Although 59% of ALwO reported making a weight-loss attempt in the past year, only 40% of caregivers reported an attempt by their child; however, most ALwO (74%) and caregivers (67%) indicated a weight-loss attempt over the next six months was at least somewhat likely.

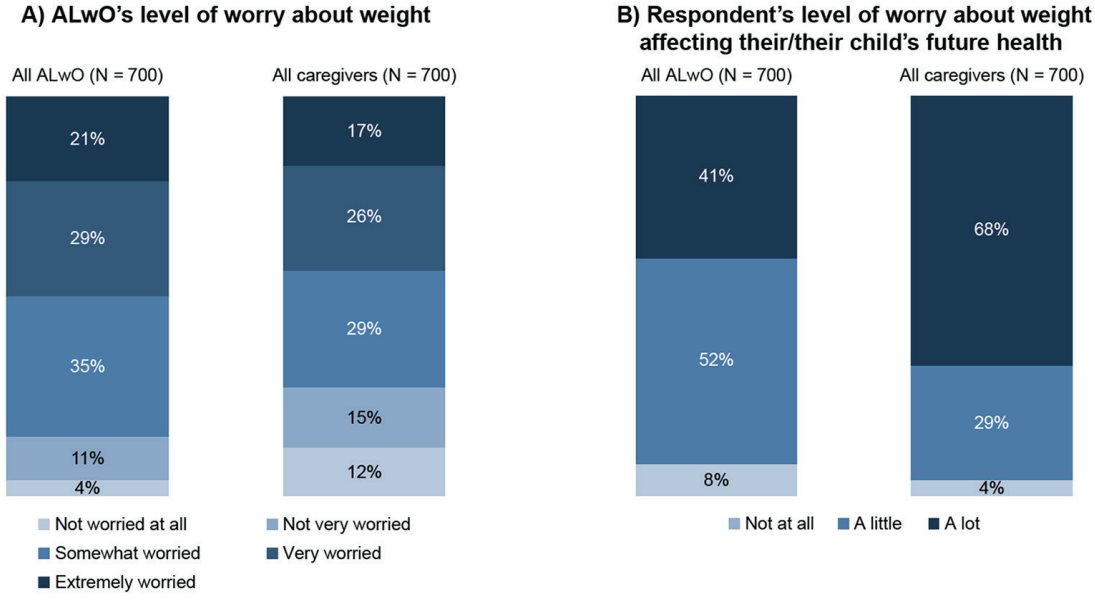

Figure 2. Level of worry about weight and its impact on future health. Proportion of respondents who selected each option (panel A: ALwO Q108 and caregiver Q112; panel B: ALwO Q512 and caregiver Q515). Percentages may not sum to 100% due to rounding. Figure 2 adapted from reference 11

ALwO: adolescents living with obesity

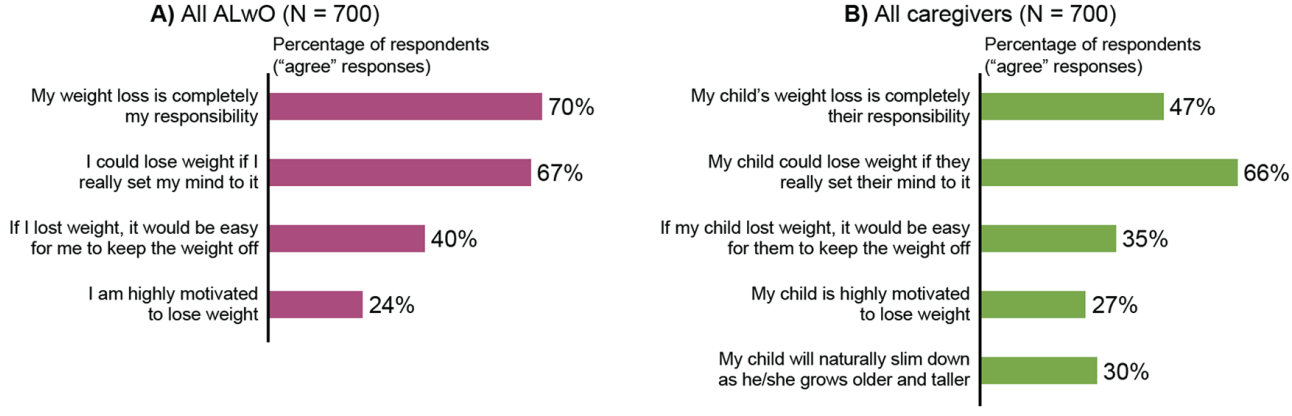

Figure 3. Attitudes toward ALwO weight loss. Proportion of respondents who selected either "somewhat agree" or "strongly agree" in response to each statement (panel A: ALwO Q113; panel B: caregiver Q113). Figure 3 adapted from reference 11

ALwO: adolescents living with obesity

ALwO and caregivers reported that the top four motivators for ALwO to lose weight were not being happy with their weight, wanting to look like their peers, a doctor's recommendation, and the desire to be in better shape/more fit (Figure 4). The top four motivators selected by HCPs were wanting to look like peers (73%), be in better shape/more fit (64%), be more confident (63%), and improve their social life/popularity (56%).

The top weight-loss barrier was ALwO being unable to control their hunger, according to ALwO and caregivers; other top barriers included lack of motivation and not liking exercise (Figure 5). By comparison, HCPs most often identified lack of exercise, unhealthy eating habits, and a preference for unhealthy food as weight-loss barriers for ALwO (93%, 93%, and 92% of HCPs agreed, respectively). Of note, although most ALwO reported typically having dinner with family (73%) and having fruit/vegetables available at home (61%), half reported sugary snacks (51%) and beverages (51%) were typically available at home.

Successful weight loss was most frequently defined as not gaining weight (ALwO: 70%; caregivers: 61%) or maintaining target weight for ≥6 months (HCPs: 61%) and having a better diet (ALwO: 60%; caregivers: 64%; HCPs: 66%). Many HCPs defined successful weight loss as improved psychological health (57%); this definition (improved mental health) was less common among ALwO (18%) and caregivers (14%).

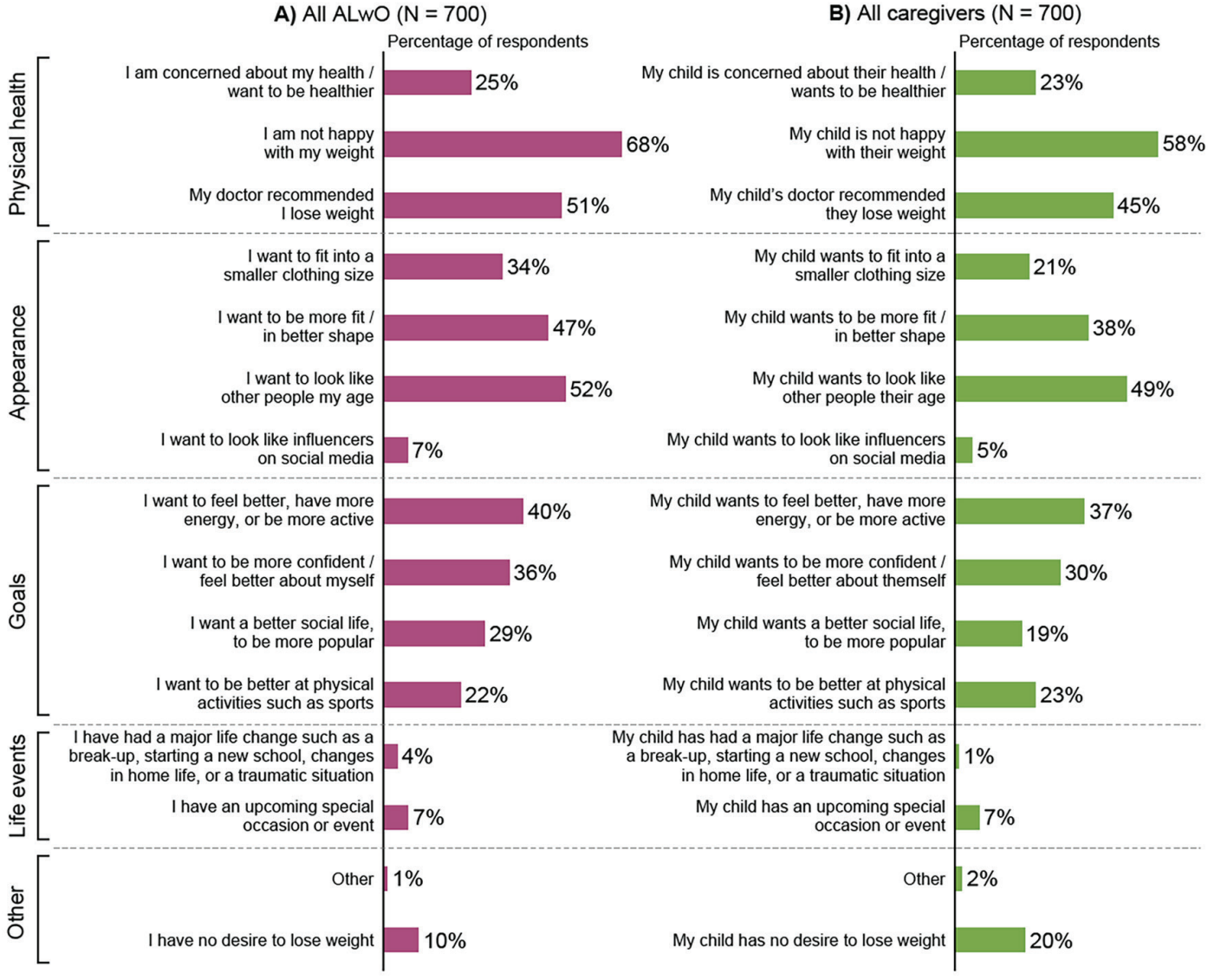

Figure 4. Motivators for ALwO to lose weight, according to ALwO (A) and caregivers (B). Proportion of respondents who selected each option (panel A: ALwO Q208; panel B: caregiver Q208). Figure 4 adapted from reference 11

ALwO: adolescents living with obesity

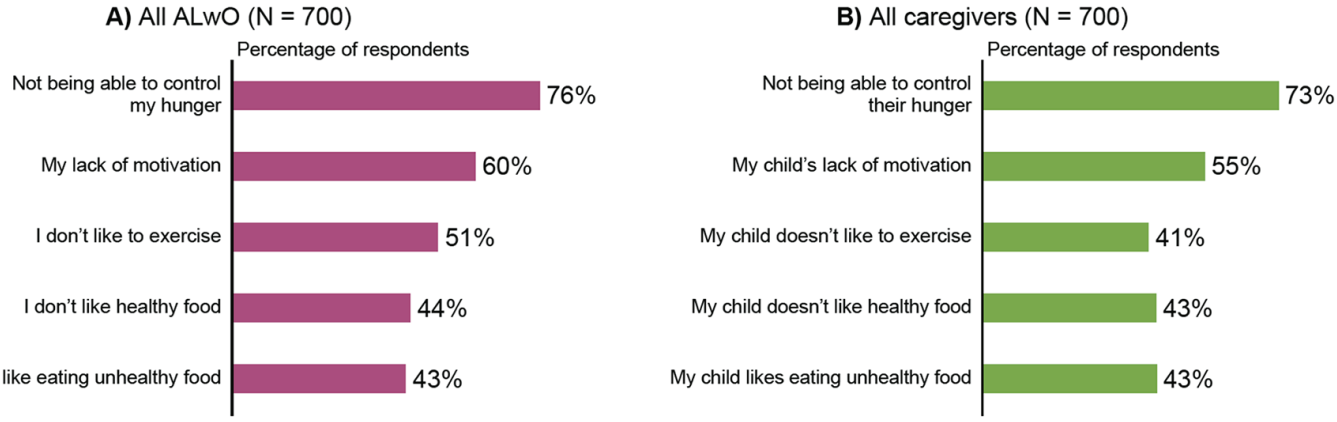

Figure 5. Top barriers to ALwO losing weight, according to ALwO (A) and caregivers (B). Proportion of respondents who selected each option (panel A: ALwO Q210; panel B: caregiver Q210); only the five most commonly selected barriers are shown. Figure 5 adapted from reference 11

ALwO: adolescents living with obesity

Conversations About Weight

Two-thirds of ALwO (69%) reported being able to talk honestly about their weight with either their mother or father. Most ALwO (70%) and caregivers (61%) reported talking to an HCP about their/their child's weight in the past year, but HCPs indicated they discuss weight with only 42% of their ALwO patients, on average. Among the subset of ALwO (n = 492) and caregivers (n = 481) who had discussed weight with an HCP in the past year, 26% of ALwO and 47% of caregivers reported they themselves usually initiated the discussions, while HCPs reported that they start discussions 48% of the time, on average.

Overall, 47% of ALwO, 20% of caregivers, and 26% of HCPs believed they themselves were responsible for raising the topic of weight during appointments. However, ALwO reported many barriers that prevented them from discussing weight with HCPs, most commonly not believing they were able to lose weight (39%) and not being comfortable raising the topic (27%). By comparison, most HCPs reported being at least somewhat comfortable having weight discussions with ALwO (85%) and caregivers (79%). However, like ALwO, HCPs identified many reasons why they might not initiate weight discussions, most commonly insufficient time, having more important health issues to discuss, and the patient's perceived lack of motivation (Supplementary Figure 2). Of note, the most common factors HCPs considered when contemplating raising the topic of weight with ALwO/caregivers were the ALwO's BMI-for-age-and-sex (63% of HCPs), weight (57%), obesity-related comorbidities (56%), and vital signs (56%).

Regarding the diagnosis of obesity, 68% of ALwO and 61% of caregivers had been informed by an HCP that they/their child has obesity, whereas HCPs indicated they informed 82% of ALwO/caregivers (on average) about the diagnosis.

Among those who had discussed their/their child's weight with an HCP in the previous year, 79% of ALwO and 83% of caregivers reported having ≥1 positive feeling after the most recent discussion (whereas 56% and 37% reported ≥1 negative feeling), and 76% of ALwO and 62% of caregivers agreed they felt comfortable discussing weight with the HCP.

Weight Management

Most HCPs considered obesity to be a chronic disease (75% agreed) and thought 5-10% body weight loss would be extremely beneficial for the health of ALwO (89% agreed).

The weight-management methods HCPs most often recommended to their ALwO patients were improving eating habits, increasing physical activity, following a specific diet, and reducing screen time; on average, HCPs recommended these to 54%, 53%, 41%, and 41% of their ALwO patients, respectively. HCPs also frequently indicated these were the weight-management methods that were most effective (selected by 84%, 77%, 57%, and 61% of HCPs, respectively).

The most common weight-management methods used by ALwO in the past year were improving eating habits (59%), following a specific diet (35%), seeing an obesity doctor (35%), increasing physical activity (31%), recording the foods they ate (25%), and seeing a nutritionist or dietitian (23%). The proportions of caregivers reporting their child had used these methods were 43%, 18%, 31%, 32%, 18%, and 16%, respectively. ALwO and caregiver responses suggest few ALwO started a formal exercise program (ALwO: 2%; caregivers: 3%) and reduced their screen time in the past year (ALwO: 11%; caregivers: 14%).

Discussion

The global ACTION Teens study contributed important data on the needs of ALwO, caregivers of ALwO, and HCPs involved in obesity management/treatment, and has provided valuable insights regarding their attitudes, perceptions, and behaviors, as well as barriers to the effective management of adolescent obesity (11). Here, we report findings from a subanalysis of the Turkish data and highlight important differences versus the global data set.

Regarding perceptions of obesity and its impact, relative to the global data set, a greater proportion of ALwO and caregivers in Türkiye recognized that obesity has a strong impact on well-being and health (81% and 82% in Türkiye vs. 72% and 67% globally) and reported that they/their child often/always feels unhappy because of their weight (70% and 68% vs. 44% and 37%) and insecure because of their body (63% and 58% vs. 37% and 27%). Moreover, a greater proportion of ALwO in Türkiye indicated they are often/always bullied because of their weight (32% vs. 24% globally), and a much lower proportion of caregivers in Türkiye reported that their child often/always feels comfortable with their body (9% vs. 42% globally). Furthermore, a greater proportion of adolescents and caregivers in Türkiye were worried about the impact of weight on their/their child's future health (92% and 96% vs. 85% and 80% globally). Taken together, these findings suggest that adolescents and caregivers in Türkiye are more cognizant of the negative impact of obesity than their global counterparts. This may be related to the higher obesity class of the ALwO surveyed in Türkiye versus globally; fewer ALwO in Türkiye had obesity class 1 (38% vs. 65% globally). Alternatively, it may be a natural consequence of ALwO and caregivers in Türkiye being more aware that their/their child's weight is above normal (95% and 99% vs. 76% and 66% globally).

Although ALwO and caregivers in Türkiye appeared to be more aware of their/their child's weight status and concerned about the impact of obesity than their global counterparts, this did not translate to a greater proportion reporting recent ALwO weight-loss attempts (59% and 40% in Türkiye vs. 58% and 41% globally) or likelihood of future ALwO weight-loss attempts (74% and 67% in Türkiye vs. 75% and 63% globally); there were no notable differences between Türkiye and the global data set in this regard. This suggests a relative lack of motivation among ALwO in Türkiye; indeed, ALwO and caregivers' responses indicate a lower proportion of ALwO in Türkiye were highly motivated to lose weight (24% and 27% vs. 45% and 38% globally). This could partially be due to ineffective communication with HCPs, as positive interactions with HCPs – in addition to having weight-loss goals and self-efficacy (i.e., confidence in one's own ability to achieve a goal) – are associated with increased weight-loss motivation among adults living with obesity (23). It has also been shown that adults living with overweight or obesity who increase their eating or physical activity self-efficacy during behavioral intervention programs experience greater weight loss (24). As such, ALwO who are ready to engage in weight management may benefit from HCP support (23).

Despite the apparent lack of weight-loss motivation among ALwO in Türkiye, more ALwO and caregivers in Türkiye believed that weight loss was entirely their/their child's responsibility (70% and 47% vs. 65% and 37% globally). More caregivers in Türkiye also recognized that weight loss is an active process; only 30% believed their child would slim down with age, versus 45% globally.

Encouragingly, although some ALwO in Türkiye reported using YouTube (26% vs. 34% globally) and social media (13% vs. 28% globally) to obtain weight-management information, their primary information source was doctors (53% vs. only 24% globally), and they considered doctors to be their most important information source (45% vs. only 14% globally). HCPs in Türkiye should therefore view weight-management discussions as opportunities to share trustworthy weight-management information with ALwO patients. Moreover, when discussing weight management with ALwO, HCPs in Türkiye should be mindful of the factors that motivate ALwO and those that act as weight-loss barriers. Relative to their global counterparts, a greater proportion of ALwO in Türkiye identified being unhappy with their weight (68% vs. 37%) and wanting to look like peers (52% vs. 28%) as motivators. This could be linked to surveying a slightly higher proportion of female ALwO in Türkiye (52%) versus globally (44%), as a study of adolescents in the USA found that obesity was associated with a significant decrease in self-esteem among White and Hispanic female adolescents, but only a mild decrease in self-esteem among male adolescents (25). Similarly, a survey of Turkish adolescents demonstrated that female gender was predictive of perceived overweight and body dissatisfaction, and these factors were associated with low self-esteem (26). In terms of weight-loss barriers, the top responses from ALwO in Türkiye were not being able to control hunger (76% vs. 38% globally), lack of motivation (60% vs. 34% globally), not liking exercise (51% vs. 28% globally), not liking healthy food (44% vs. 21% globally), and liking unhealthy food (43% vs. 32% globally). Caregivers in Türkiye were aligned regarding the top weight-loss barriers for ALwO. This suggests that strategies for managing adolescent obesity in Türkiye should prioritize increasing

opportunities to exercise and limiting access to unhealthy food. However, given that ALwO's top weight-loss barrier was their inability to control hunger, it appears that ALwO in Türkiye could benefit from greater weight-management support from HCPs, particularly support with controlling hunger.

Regarding the recent weight-management methods used by ALwO, a greater proportion of ALwO in Türkiye than in the global data set had improved their eating habits (59% vs. 41%) and followed a specific diet (35% vs. 17%), but a similar proportion had increased their physical activity (31% vs. 34%), and a lower proportion had started a formal exercise program (2% vs. 14%) and reduced their screen time (11% vs. 18%). HCPs in Türkiye should therefore emphasize the importance of increasing physical activity and reducing screen time when discussing weight management with ALwO patients.

Responses from HCPs in Türkiye also provided valuable insights. Compared with HCPs from the global data set, fewer HCPs in Türkiye had received advanced obesity training (18% vs. 43%) and were aware of clinical treatment guidelines for ALwO (43% vs. 67%), and a greater proportion believed their ALwO patients were entirely responsible for weight loss (42% vs. 27%). This suggests a need to offer additional obesity training to HCPs in Türkiye.

In terms of HCP–ALwO weight discussions, HCPs in Türkiye and the global data set indicated they typically initiate weight discussions half of the time (Türkiye: 48%; global: 54%) and inform approximately 80% of ALwO patients/their caregivers about the obesity diagnosis (Türkiye: 82%; global: 78%). They also concurred that the top three barriers preventing them from initiating weight discussions with ALwO were insufficient time during appointments, having more important health issues to discuss, and the ALwO not being motivated to lose weight. Aligned with this, time constraints have previously been highlighted as the main barrier to managing childhood obesity for family physicians in Türkiye (27). As such, measures should be taken to reduce HCPs' time constraints so that they can provide more weight-management support during appointments with ALwO. For example, the primary care setting may benefit from recruitment of additional HCPs who are trained exclusively in obesity management.

Study Limitations

Despite the robust design of the ACTION Teens surveys, potential limitations include the use of self-reported weight and height data, which can underestimate BMI, and the lack of data on body composition (11). The use of recruitment quotas (i.e., the non-probability sampling approach) may have introduced selection bias. However, the broad eligibility criteria enabled recruitment of respondents who were representative of ALwO, caregivers, and HCPs who see/treat ALwO across Türkiye. In addition, ALwO and caregivers were recruited via a stratified general population sample and caregiver responses were weighted on local demographic targets to reduce selection bias and enhance generalizability.

Further research is required to assess the impact of implementing strategies to overcome the identified barriers to effective adolescent obesity care in Türkiye.

Conclusion

This ACTION Teens subanalysis provides important insights into the attitudes and experiences of ALwO, caregivers and HCPs in Türkiye. Based on these insights, we propose the following strategies to improve adolescent obesity management in Türkiye: first, given that (relative to their global counterparts) fewer ALwO in Türkiye were motivated to lose weight despite being more worried about their future health, caregivers and HCPs should aim to encourage and support ALwO, with a view to increasing motivation and thus promoting engagement in weight-management programs. Second, based on ALwO's reported weight-loss barriers and recent weight-management methods, we recommend that weight-management programs place greater focus on increasing exercise, limiting access to unhealthy food, and reducing screen time; however, as hunger control was ALwO's top weight-loss barrier, it may also be beneficial for HCPs to offer medical assistance with controlling hunger. Third, HCPs' top barrier to initiating weight-management conversations with ALwO was insufficient time during appointments, suggesting that measures should be taken to reduce HCPs' time constraints so that they can provide more weight-management support. Finally, less than one-fifth of HCPs had received advanced obesity training indicating a gap in HCP training. Given the prevalence of adolescent and childhood obesity, additional obesity training should be offered to existing HCPs in Türkiye.

Ethics

Ethics Committee Approval: The study was approved by the Marmara University Ethics Committee, İstanbul, Türkiye (approval number: 09.2021.1080, date: 03.09.2021).

Informed Consent: Each respondent provided informed consent to participate in the study; informed consent was also obtained from the parent or legal guardian of each ALwO.

Acknowledgment

We gratefully acknowledge the study participants and all personnel involved. We thank Andrea Stoltz, Nick Henderson, Peg Jaynes, Rebecca Hahn, and Lynn Clement of KJT Group, especially, for data collection and analysis. Medical writing support was provided by Lauren McNally, MSci, and Abbie Richold, BSc, of Apollo, OPEN Health Communications, and funded by Novo Nordisk A/G, in accordance with Good Publication Practice (GPP) guidelines (www.ismpp.org/gpp-2022).

Footnotes

Authorship Contributions

Design: Abdullah Bereket is a member of the ACTION Teens Steering Committee and thus contributed to the design of the study. Analysis or Interpretation: Abdullah Bereket, Neşe Perdahlı Fiş, Batu Gürser, Şükrü Hatun, Sibel Sakarya, Volkan Yumuk, Belma Haliloğlu, Writing: Abdullah Bereket, Neşe Perdahlı Fiş, Batu Gürser, Şükrü Hatun, Sibel Sakarya, Volkan Yumuk, Belma Haliloğlu.

Conflict of Interest: Abdullah Bereket received consultancy fees from Novo Nordisk for his role as member of the ACTION Teens Steering Committee during the conduct of the study. One author of this article, Abdullah Bereket, is member of the Editorial Board of the Journal of Clinical Research in Pediatric Endocrinology. However, he was not involved in any stage of the editorial decision of the manuscript. The editors who evaluated this manuscript are from different institutions. Neşe Perdahlı Fiş reports no conflicts of interest in relation to this manuscript. Batu Gürser was employed by Novo Nordisk during development of this manuscript, however, at time of manuscript submission, he was employed by Lilly Gulf. Şükrü Hatun reports no conflicts of interest in relation to this manuscript. Sibel Sakarya reports no conflicts of interest in relation to this manuscript. Volkan Yumuk reports honoraria from Eli Lilly for providing a single advisory activity and from Novo Nordisk for providing educational sessions and attending advisory boards. Belma Haliloğlu is a consultant for Rhythm Pharmaceuticals and a member of the Rhythm Pharmaceuticals Scientific Committee.

Financial Disclosure: Novo Nordisk A/G funded the ACTION Teens study and the provision of medical writing assistance for this article.

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