Abla Mehio-Sibai[1], **Nabil Kanaan**[2], **Monique Chaaya**[1], **Boushra Rahal**[1], **Ahmad Abdullah**[1], **Tarek Sibai**[3]

[1] *Department of Epidemiology and Population Health, Faculty of Health Sciences, American University of Beirut*

[2] *Department of Family Medicine, Faculty of Medicine, American University of Beirut-Medical Centre*

[3] *Department of Biology, Faculty of Arts and Sciences, American University of Beirut*

Ethnic differences in weight loss behavior among secondary school students in Beirut: the role of weight perception

Summary

Objectives: Assessing the prevalence of weight loss attempts in Beirut, Lebanon, a country characterized by a diversity of ethnic and religious groups and examining the interplay between ethnicity, body mass index (BMI) and weight perception and their relationship to weight loss behavior.

Methods: A school-based survey of risk behaviors conducted among secondary students (grade 10–12) in 1997. Subjects consisted of 827 boys and girls, aged 15 to 23 years, the majority of whom were Moslems (65.4 %). Multiple logistic regression was used to estimate the association between ethnicity and weight perception with the likelihood of trying to lose weight controlling for BMI and a number of potential covariates.

Results: The prevalence of weight loss attempts was 19.1 % and 42.6 % in boys and girls respectively. Christians were more likely to perceive themselves as overweight and to attempt weight loss than Moslems across all BMI levels, however this trend was significant in the underweight category. While controlling for BMI did not change appreciably the results observed, after controlling for weight perception, ethnic differences in weight-loss behavior disappeared.

Conclusion: Findings of the study suggest that whereas actual weight may constitute only partially the driving force for differentials by ethnicity, the perception of body weight acts as a mediating factor in the relationship between ethnicity and weight loss behavior. Understanding the disparities in weight management behavior across various adolescent groups is key to develop culturally appropriate educational and intervention programs for the youths.

Keywords: **Behavioral risk factor – Weight loss – Ethnicity – Religion – Urban health – Lebanon.**

Soz.- Präventivmed. 48 (2003) 234–241
0303-8408/04/030234–08
DOI 10.1007/s000038-003-2061-3

More than any other period in life, the transition from childhood to adulthood is contingent on the interplay of physical, psychological and cultural forces (Casper & Offer 1990). One cultural expectation of adolescence is physical attractiveness, which, in many parts of the developed world, is partially defined as being thin (Anderson 1994). Excessive apprehension about body weight and body image has become a common concern among most adolescents (Duncan et al. 1985) creating an environment that encourages them to engage in a variety of weight change activities, most notably, weight loss behaviors (Kilpatrick et al. 1999).

Prevalence rates for trying to lose weight in developed countries vary between 15 % and 60 % in adolescents, with higher values among females than males (Field et al. 1999; Kilpatrick et al. 1999; Pesa & Turner 1999; YRBS 2000). Recent findings from the Youth Risk Behavior Survey in the U.S. revealed that 59.4 % of female secondary students were attempting weight loss at the time of the survey in contrast to 26.1 % of males (YRBS 2000). Moreover, studies indicate that weight loss behaviors and associated eating disorders are not isolated within certain cultures or ethnic groups, but rather cut across ethnic boundaries to include minorities of different social backgrounds (Arriaza & Mann 2001; Miller & Pumariega 2001; Pesa & Turner 1999), with the risk being greater among the latter group due to economic and social factors (Root 1990). The trigger for weight loss seems to be actual weight, i.e., body mass index (BMI), among overweight adolescents and perceived weight, i.e., body image, among normal and underweight adolescents (Pesa & Turner 1999). Questions remain, however, whether such relations apply to ethnic groups in cultures other than the Western where most of the studies have been conducted.

To date, surveys assessing factors related to differences in weight loss behaviors among adolescents in several Arab

countries are scarce. The handful behavioral risk factor surveys mostly conducted among college students are based on rather a small sample size (Ford et al. 1990; Nasser 1986; Rasheed 1999). Furthermore, none has examined cultural factors in weight management behaviour among teenagers, at such a critical age when weight concerns and ideals are being established (Wardle & Marsland 1990).

Lebanon, a small (3.4 million) middle-income country in the Middle-Eastern Crescent with its diversity of ethnic backgrounds and religious groups, presented an opportunity to study the relationship between ethnicity and weight management, specifically, weight loss behavior, in an Arab culture. We report in this paper, from the first multidimensional study on behavioral risk factors among secondary school adolescents in an urban area in Lebanon, on the interplay between ethnicity, BMI and weight perception and their relationship to weight loss behavior.

Materials and methods

Study design and subjects

Data in this paper come form a school-based survey of risk behaviors, conducted in 1997, among adolescents attending secondary classes (grades 10 through 12) in Greater Beirut area. This survey was commissioned by the WHO, UNICEF, and UNAIDS and was sponsored by the Ministry of Public Health and the Ministry of Education, Youth and Sports in Lebanon. The survey used a two-stage sampling design: a probability sample of schools proportionate to the size of students, followed by a random sample of sections within each school. A school was considered eligible in study sample if it included at least a 10^{th} grade and had a minimum enrollment of 25 students. Consent to particpate in the survey was obtained from the school officials, teachers and the students themselves. Refusal at the school level was low (one out of 12 schools) and teachers as well the students were very receptive to the survey. With only six questionnaires left mostly blank and four others had incomplete data on variables pertinent to this analysis, the final study population included 823 youths attending both private (75%) and public schools (25%).

Survey instrument

The questionnaire was adopted from the Youth Risk Behavior Survey (YRBS) questionnaire used by the Center for Disease Control in the U.S. (www.cdc.gov) with minor modifications in both content and style to make it suitable for local culture. In comparison to the YRBS questionnaire, filtering methods were introduced when touching such culturally sensitive subjects as sexual activity, alcohol and drug abuse. Other issues, such as hubble-bubble smoking and the extent of television watching were added. Prior to start of the study, the questionnaire was pilot tested in one school on around 100 students, and revised accordingly. The final version of the instrument included 110 questions covering six broad areas of behavioral factors: intentional and unintentional injuries, tobacco smoking, alcohol and substance use, sexual behavior, dietary variables and physical activity, in addition to the socio-demographics. The questionnaire was self-administered, voluntary and anonymous. It took less than an hour for completion.

Measures

Demographic data included age, gender, school type (private vs public), school mix (males only, females only, and mixed) and section (scientific vs literary). Measures of socio-economic status relied on father and mother's education. Subjects were classified into two ethnic groups based on their own primary identification of religious affiliation (Moslems vs Christians). Self-reported height and weight were used for calculation of BMI (kg/m^2). BMI values were normally distributed with a mean equal to 21.6 kg/m^2 and standard deviation (SD) 3.3 kg/m^2. BMI, expressed as a standard deviation score, was converted into a three-category variable (Cole et al. 1995). Participants with BMI below the mean were considered underweight, mean-to-one SD as normal (21.6–24.9 kg/m^2), and above one SD to the mean as overweight ($\geq$25 kg/m^2). Subjects were asked whether they perceived themselves as extremely overweight (n = 22), overweight (n = 190), normal (n = 440), underweight (n = 142) or extremely underweight (n = 29). Because of the small numbers in the extreme categories, weight perception was collapsed into three groups: overweight, normal, and underweight. Also subjects were asked what they were doing about their weight (trying to lose weight, gain weight, maintain the same weight or doing nothing). Because the latter two responses are functionally the same in relation to weight management behavior, these were collapsed together, and referred to hereafter as "not trying to change weight".

In addition to the above, the following variables were assessed and used in this report. Current smoking was considered present if the student reported smoking at least one cigarette for one day or more during the 30 days prior to the survey. Engaging in physical exercise was considered present if the student was involved in any of the following activities for at least 20 minutes for three or more days (running, stretching, strengthening, walking, practicing football or others) during the past seven days preceding the survey.

Table 1 Percent distribution of baseline characteristics of students attending secondary schools by weight management, Beirut, 1997

Variable	Total		Weight management			
	N	%	Trying to lose weight (n = 255) %	Trying to gain weight (n = 138) %	Not trying to change weight (n =4 30) %	P-value[a]
Total			31.0	16.8	52.2	
Socio-demographic characteristics						
Age (years)						
mean (SD)	17.4 (1.2)		17.3 (1.2)	17.4 (1.2)	17.4 (1.2)	0.766
range	15–23		15–22	15–20	15–23	
Gender						
boys	412	50.1	19.1	24.0	56.9	< 0.001
girls	411	49.9	42.6	9.5	47.9	
School type						
private	614	74.6	28.5	17.9	53.5	0.026
public	209	25.4	38.1	13.3	48.6	
School mix						
females only	166	20.2	41.3	11.4	47.3	0.001
males only	143	17.4	19.6	21.7	58.7	
mixed	514	62.5	30.8	17.2	52.0	
Section						
scientific	542	65.9	26.1	19.2	54.7	< 0.001
literary	280	34.1	40.6	12.1	47.3	
Ethnicity						
Moslem	532	65.4	28.7	18.9	52.4	0.019
Christian	282	34.6	36.3	12.5	51.2	
Father's education						
less than elementary	265	34.3	34.6	17.5	47.9	0.315
elementary to intermediate	322	41.7	31.2	18.7	50.2	
secondary and above	186	24.1	28.6	14.1	57.3	
Mother's education						
less than elementary	299	37.6	34.3	16.5	49.2	0.825
elementary to intermediate	374	47.0	30.3	16.9	52.8	
secondary and above	123	15.5	30.3	18.0	51.6	
Weight-related variables						
Body mass index (kg/m^2)						
mean (SD)	21.6 (3.3)		23.2 (3.5)	19.5 (2.1)	21.3 (2.9)	
underweight	442	55.5	20.1	25.6	54.3	< 0.001
normal	250	31.3	39.8	6.4	53.8	
overweight	106	13.2	55.7	1.9	42.5	
Weight perception						
underweight	170	207	7.1	50.6	42.4	< 0.001
normal	440	53.5	20.7	11.6	67.7	
overweight	212	25.8	71.7	0.5	27.8	
Other health-related variables						
Current cigarette smoking						
no	722	88.4	31.3	15.8	52.9	0.088
yes	95	11.6	30.1	24.7	45.2	
Physical exercise						
no	325	40.2	30.3	18.0	51.7	0.729
yes	484	59.2	31.8	15.9	52.3	

[a] P-values are based on chi^2 and ANOVA tests across the three categories of weight management behavior for categorical and continuous variables, respectively

Data analysis

Frequencies and means (± SD) were used to describe the sample, and differences in baseline characteristics across the three categories of weight management were examined using chi^2 test and ANOVA, for categorical and continuous variables respectively. Significant associations between ethnicity and both weight perception and weight management were tested in each BMI category. Using maximum likelihood methods (Norusis 1994), two separate multiple logistic regressions were carried out, with trying to lose weight compared to not trying to change weight as the dependent variable. Besides BMI, ethnicity was examined as the main predictor variable in the first model, and additionally weight perception, in the second. A number of potential co-variates were included (age, gender, school type, school mix, section, mother and father's education, current smoking, and physical exercise). The prevalence odds ratios (ORs) and their 95% confidence intervals (CIs) were estimated. Differences were considered significant for $p < 0.05$. All analysis was conducted using SPSS software (Norusis 1990).

Results

Table 1 shows percent distribution of baseline characteristics of study subjects by weight management behavior. Overall, around one third of our study sample (31%) reported trying to lose weight, and 52% were not trying to change weight. Half of the school children were girls, and the majority were of Moslem ethnicity (65%). The proportion of parents who had attained secondary education (equivalent to 12 years of schooling) did not exceed 24% among fathers and 16% among mothers. The prevalence of trying to lose weight was significantly higher among girls than boys, in the public schools compared to private as well as among school children attending literary sections where a high concentration of girls was noticed. Compared with Moslems, Christians were significantly more likely to report weight loss behavior (36% vs 29%). No significant differences were found between weight management behavior and education of either parent. The proportion reporting trying to lose weight was positively associated with both BMI and weight perception categories ($p < 0.001$).

The association between ethnicity and both weight perception and weight management is presented, stratified by BMI categories, in Table 2. While perception of overweight status was positively related to higher BMI, some adolescents with BMI in normal category perceived themselves as overweight. This was also the case for a few in the underweight category. Overall, Christians were more likely to perceive themselves as being overweight as well as to attempt weight

Table 2 Weight perception and weight management by ethnicity and Body Mass Index (BMI) among students attending secondary schools, Beirut, 1997

Variable	BMI													
	Underweight				*P*-value	Normal				*P*-value	Overweight				*P*-value
	Moslems		Christians			Moslems		Christians			Moslems		Christians		
	n	%	n	%		n	%	n	%		n	%	n	%	
Weight perception															
underweight	93	33.0	49	31.6	0.022	9	5.8	7	8.0	0.091[a]	2	2.9	–	–	0.217[a]
normal	170	60.3	83	53.5		100	64.1	46	52.3		16	23.5	5	13.9	
overweight	19	6.7	23	14.8		47	30.1	35	39.8		50	73.5	31	86.1	
Weight management															
trying to gain weight	82	29.1	29	18.7	0.025	10	6.4	5	5.7	0.156[b]	1	1.5	1	2.8	0.918[b]
not trying to change weight	151	53.5	87	56.1		88	56.4	42	47.7		28	41.2	15	41.7	
trying to lose weight	49	17.4	39	25.2		58	37.2	41	46.6		39	58.2	20	57.1	

[a] To meet chi^2 assumption (expected value >5), the test was performed excluding the category "underweight"
[b] To meet chi^2 assumption (expected value >5), the test was performed excluding the category trying to gain weight

Table 3 Results of multiple logistic regression: estimates of Odds Ratios (ORs) and their 95% Confidence Interval (CI) associated with trying to lose weight vs not trying to change weight

Variable (reference category)	Model 1		Model 2	
	OR[a]	CI	OR[b]	CI
Co-variates				
Gender (boys)				
girls	5.05	2.87–8.91	3.67	1.97–6.82
School type (private)				
public	1.61	0.50–5.20	1.95	0.55–6.94
School mix (males only)				
females only	0.76	0.24–2.45	0.74	0.21–2.65
mixed	1.74	0.83–3.65	1.65	0.75–3.66
Section (scientific)				
literary	1.41	0.88–2.26	1.59	0.95–2.68
Main predictor variables				
Ethnicity (Moslem)				
Christian	1.67	1.08–2.58	1.34	0.83–2.19
Body mass index (underweight)				
normal	4.17	2.63–6.59	2.35	1.40–3.93
overweight	11.5	6.12–21.6	2.45	1.14–5.26
Weight perception (Underweight)				
normal	–	–	1.87	0.88–4.00
overweight	–	–	15.8	6.67–37.4

[a] Controlling for age, father and mother's education, current cigarette smoking, and physical exercise
[b] Controlling for all above, and additionally for weight perception

loss than Moslems across all levels of BMI. However, this trend was significant in the underweight BMI category.

The results of the logistic regression analyses are shown in Table 3 and prevalence OR and their 95% CI are presented for variables that showed significant associations with weight management behavior in the bi-variate analysis (Tab. 1). In the first model, the association between gender, ethnicity and BMI with the likelihood of trying to lose weight remained significant. When weight perception was added to the model (model 2), the strength of the association with ethnicity decreased and became not significant (OR = 1.67, 95% CI = 1.08–2.58 vs OR = 1.34, 95% CI = 0.83–2.19). Relative to not trying to change weight, the prevalence OR of weight loss behavior was stronger for those who perceived themselves as overweight (OR = 15.8) than the BMI would indicate (OR = 2.45).

Discussion

Findings of the present study indicate that around one third of adolescents in our sample are trying to lose weight with girls showing greater prevalence rates than boys. These results are consistent with other studies conducted in the U.S. and Europe (CDC 1991; King et al. 1996; Rosen & Gross 1987; Wardle & Marsland 1990; YRBS 2000) as well as in a recent health risk behavior survey of entering students at the American University of Beirut in Lebanon (Shidiac et al. 2001). Christians appeared to have more weight concerns and to be attempting weight loss at lower BMI values than Moslems. Controlling for BMI and other potential co-variates did not change the results appreciably. Variations of weight loss by ethnicity, however, disappeared after controlling for weight perception and the effect measures (ORs) were stronger for weight perception than for BMI. This suggests that whereas actual weight may constitute only partially the driving force behind such differentials, the perception of body weight acts as a mediating factor in the relationship between ethnicity and weight loss behavior.

Previous reports have shown ethnic differentials in weight-loss behaviors (Arriaza & Mann 2001; Miller & Pumariega 2001; Pesa & Turner 1999). Overall, Anglo and Latino American adolescents are more likely than African American students to judge themselves as overweight and to be involved in weight loss behaviors. Similarly, earlier studies among Asian Children in the UK including predominantly second generation immigrants from India or Pakistan have shown that Asian girls were not as inclined to perceive themselves too large as the white girls (Wardle & Marsland 1990). In contrast, in a study conducted among Arab students of the American University in Cairo, Egypt, Ford and colleagues (1990) found a clear tendency for thinness and overall dissatisfaction among females with their current body shape. While Western influences in such a selective academic setting may promote such attitudes, these are not necessarily the norm for the traditional Arab culture where a preference for obesity has been noted (Al-Nuaim 1997; Al-Shammari & Khoja 1994).

Our study results also indicated that more adolescents, in particular Christians, perceived themselves as overweight than the BMI would indicate. For example, of subjects classified as normal using reported values of height and weight, 40% Christians and 30% of Moslems perceived themselves as overweight. These values are larger than those reported in other studies using similar cut-off points for overweight in a sample in the U.S. (24%) (Pritchard et al. 1997). Such differentials may reflect differences in perception across populations of different cultural and socials norms.

Ethnic and religious differentials in weight management behavior have not been earlier investigated in Arab cultures. This may be due to the overall majority of Moslems in countries of the region other than Lebanon. With around 17 different religious sects, generally grouped under two broad categories, Lebanon enjoys a diversity of ethnic

backgrounds. Culture and ethnicity-specific norms about body image may lead to ethnic differences in body weight, body perception and hence differences in weight management behavior (Attie & Brooks-Gunn 1989; Kemper et al. 1994; Wardle & Marsland 1990; Wilson et al. 1994). It appeared that Moslems, in general, are less preoccupied with their physical appearance than Christians. This may reflect less societal pressures towards "thinness" and fewer positive images among Moslems for the children to identify with. In fact, the traditional Arab culture, that values "plumpness" as an "attractive physique" for the opposite sex (Okasha et al. 1977; Nasser 1986), and where rich food plays an important in the daily diet (Kandella 1999), has been suggested as an underlying factor for the alarming high prevalence of obesity in most countries of the region (Al-Nuaim 1997; Kandella 1999; Rasheed 1999).

Furthermore, it is possible that the type of dress (the *Jelbab*, a long loose dress covering all body and its associated *Hijab*, covering the hair) that is more frequently seen among young Moslem females, as a sign of adherence to religious rules, creates an environment less apprehensive of body image and leads to an attitude among females indifferent towards size with more tolerance of overweight. This study would have benefited from information on dress type that unfortunately was not included in our interview schedule.

Before conclusions and recommendations are made, it is important to assess the study's limitations and strengths. The findings of the present study largely depend on the cut-off points used to define BMI categories. Defining under- and over-weight for children remains controversial in the literature (Trioano et al. 1995). Short of national reference data for BMI among children in Lebanon, the study relied on internationally proposed cut-off points expressed as standard deviation score (Cole et al. 1995). Similar criteria had been widely used in other studies conducted in the U.S. and U.K. (Crawley & Portides 1995; Pritchard et al. 1997). Furthermore, BMI relied on self-reported height and weight and the precision and validity of these measures remain critical for the results obtained. On one hand, weight loss behavior in itself may trigger over-reporting of BMI, and on the other, social desirability bias may provoke under- or over-reporting of BMI. It is possible that differential misclassification of BMI by ethnicity with overweight Christians tending to underestimate their BMI may have resulted in residual confounding effect for BMI. While earlier studies, mostly conducted in the West, suggest that adolescents provide fairly valid information on both weight (Pearson r, range = 0.84–0.98) and height (Pearson r, range = 0.62–0.90) (Childress et al. 1993; Field et al. 1999; Shannon et al. 1993), findings are only relevant to the social, economic and cultural climate where the study is done. Studies are needed, in our communities, to establish the validity of BMI and its relationship to self-perceived body weight, ideal body weight and ethnicity.

In this study, measurement of ethnicity was based on religious affiliation (Moslems vs Christians). While such a categorization may seem uni-dimensional, the two groups have distinctive social and cultural preferences, all of which translate into very different experiences in health behaviors, attitudes and disease risks. For example, in our study sample, Moslem adolescents were significantly less likely to have ever consumed alcohol (19% vs 86%) than their Christian counterparts. Furthermore, intermarriage is not a common occurrence and religious and political forces, in a country emerging from over 15 years of civil disturbances, have not yet institutionalized any signatory system to register civil marriages for couples of opposite religion. Unlike definitions of ethnicity based on ancestry origin and heritage (such as Hispanic/Spanish or Asians) in the Western literature, one strength of defining ethnicity based on religion is its robustness over time from one generation to the other the and the fact that one can often identify with only one religious group.

To our knowledge, this study remains the first to examine weight loss differentials in this sample of ethnic population in the Middle East opening up some areas for future research. While modernization and globalization influence local socio-cultural beliefs and behaviors, researchers caution against the viewing of adolescents as a homogenous group (Lowry et al. 1996). The extent of our understanding of the disparities in weight management behavior across various adolescent groups is key to our efforts to develop culturally appropriate and relevant educational material and intervention programs for the youths. Perhaps, what is more important than ethnicity among adolescents in Beirut is the perception of body weight and de-emphasis of the thin body type that may pose some future risk of overweight and obesity. Overweight among adolescents does not only trigger such long-term health risks as diabetes, high blood pressure and hyperlipedemia (Pi-Sunyer 1993), but also has negative implications for the immediate physiological and psychological well-being (Rasheed 1999). The delivery of health education to adolescents at schools should give consideration not only to information regarding healthy life style and healthy eating habits and food, but also to realistic body image and weight perception vis-à-vis actual body weight. Our results apply only to adolescents attending secondary schools and further studies are required among children who are out of school and others in less urban or in rural communities.

Acknowledgement

This study was supported by funds from the WHO and UNICEF (A\C 32502026416). AM Sibai and N Kanaan were the principal investigators of the project.

Zusammenfassung

Ethnische Unterschiede im Verhalten zur Körpergewichtsreduktion bei Sekundarschülern in Beirut: die Bedeutung der Körpergewichtswahrnehmung

Fragestellung: Die Erhebung der Prävalenz für Versuche zur Körpergewichtsreduktion in Beirut, Libanon, einem Land, das durch eine Vielfalt an ethinschen und religiösen Gruppierungen charakterisiert ist, und die Untersuchung des Zusammenspiels von ethnischer Zugehörigkeit, BMI und Körpergewichtswahrnehmung sowie deren Beziehung zum Gewichtsabnahmeverhalten.

Methoden: Erhebung des Risikoverhaltens bei Sekundarschülern (Stufe 10–12) im Jahr 1997. Studienteilnehmer waren 827 Knaben und Mädchen im Alter von 15–23 Jahren, von denen die Mehrheit Moslems waren (65,4%). Multiple logistische Regressionsanalysen wurden durchgeführt, um den Zusammenhang von ethnischer Zugehörigkeit und Körpergewichtswahrnehmung und der Wahrscheinlichkeit des Versuchs, Gewicht zu verlieren, abzuschätzen, unter Kontrolle von BMI und anderen potentiellen Kovarianten.

Ergebnisse: Die Prävalenz für Versuche zur Körpergewichtsreduktion betrug 19,1% für Knaben und 42,6% für Mädchen. Christen nahmen sich eher als übergewichtig wahr und versuchten Gewicht zu verlieren als Moslems. Dies galt für alle BMI-Klassen, wobei dieser Trend in der Kategorie Untergewicht signifikant war. Die Berücksichtigung des Faktors BMI in den Analysen änderte das Ergebnis nur unwesentlich, bei Berücksichtigung des Faktors Körpergewichtswahrnehmung verschwanden die ethnischen Unterschiede im Verhalten zur Körpergewichtsreduktion.

Schlussfolgerung: Das aktuelle Körpergewicht scheint nur teilweise der entscheidende Faktor für ethnische Unterschiede zu sein, aber die Körpergewichtswahrnehmung ist ein vermittelnder Faktor in der Beziehung zwischen ethnischer Zugehörigkeit und Verhalten zur Körpergewichtsreduktion. Das Verständnis für die Unterschiede im Gewichtskontrollverhalten bei verschiedenen Gruppen Jugendlicher ist ganz wesentlich, um kulturell angemessene Erziehungs- und Interventionsprogramme für diese Zielgruppe entwickeln zu können.

Résumé

Différence ethnique de comportement amaigrissant parmi des élèves d'école secondaire à Beyrouth: le rôle de la perception du poids.

Objectifs: Estimer la prévalence de tentatives de perte de poids à Beyrouth, au Liban, un pays caractérisé par la diversité des groupes ethniques et religieux, et examiner la relation entre ethnicité, body mass index (BMI) et perception du poids, ainsi que leur relation à des comportements amaigrissants.

Méthodes: Une enquête basée sur des écoles et portant sur des comportements à risque a été menée parmi des écoliers du secondaire (niveau 10 à 12) en 1997. Il s'agissait de 827 garçons et filles, âgés de 15 à 23 ans, dont la majorité était musulmans (65,4%). La régression logistique multiple a servi à estimer l'association entre ethnicité et perception du poids avec la probabilité d'essayer de perdre du poids, tout en contrôlant pour le BMI et plusieurs autres co-variables.

Résultats: La prévalence des tentatives de perdre de poids était de 19,1% et 42,6%, respectivement, chez les garçons et les filles. Les chrétiens avaient plus tendance à se percevoir comme ayant du surpoids et à essayer de perdre du poids que les musulmans, parmi toutes les catégories de BMI, mais cette tendance était significatives dans la catégorie des maigres. Bien que l'ajustement pour le BMI n'a pas modifier substantiellement les résultats observés, les différences ethniques en comportement amaigrissant ont disparues après ajustement pour la perception du poids.

Conclusions: Les résultats de cette étude suggèrent que bien que le poids réel explique en partie les différences ethniques, la perception du poids intervient dans la relation entre l'ethnicité et les comportements amaigrissants. La compréhension des différences de comportement visant au contrôle du poids dans divers groupes d'adolescents est un facteur clef pour le développement du programme d'intervention et d'éducation dans la jeunesse qui soit culturellement adaptée.

References

Al-Nuaim AR (1997). Population-based epidemiological study of the prevalence of overweight and obesity in Saudi Arabia, regional variation. Ann Saudi Med *17*: 195–9.

Al-Shammari SA, Khoja AS (1994). Transcultural attitude towards being overweight in patients attending health centers, Riyadh, Saudi Arabia. Family Practice Res J *14*: 149–56.

Anderson A (1994). Dieting as a better state. Diet Disord *2*: 62–82.

Arriaza CA, Mann J (2001). Ethnic differences in eating disorder symptoms among college students: the confounding role of body mass index. J Am Coll Health *49*: 309–15.

Attie I, Brooks-Gunn J (1989). Development of eating problems in adolescent girls: a longitudinal study. Develop Psychol *25*: 70–9.

Casper RC, Offer D (1990). Weight and dietary concerns in adolescents: fashion or symptom? Pediatrics *96*: 384–90.

CDC (1991). Body weight perceptions and selected weight management goals and practices of high school students: United States 1990. MMWR Morb Mortal Wkly Rep *40*: 747–50.

Childress AC, Brewerton TD, Hodges EL, Jarrel MP (1993). The Kid's Eating Disorders Survey (KEDS): a study of middle school students. J Am Acad Child Adolesc Psychiatry *32*: 843–50.

Cole TJ, Freeman JV, Peerce MA (1995). Body mass index reference census for the UK 1990. Arch Dis Child *73*: 25–9.

Crawley HF, Portides G (1995). Self-reported versus measured height, weight, and body mass index amongst 16–17-year-old British teenagers. Int J Obesity *19*: 579–84.

Duncan PR, Ritter P, Dornbusch S, Gross F, Carlsmith J (1985). The effects of pubertal timing on body image, school behavior, and deviance. J Youth Adolesc *14*: 227–36.

Field AE, Camargo CA, Taylor BT, et al. (1999). Overweight, weight concerns, and bulimic behaviors among girls and boys. J Am Acad Child Adolesc Psychiatr *38*: 754–61.

Ford KA, Dolan BM, Evans C (1990). Cultural factors in the eating disorders: a study of body shape preferences of Arab students. J Psychosom Research *34*: 501–7.

Jequier E (1987). Energy, obesity and body weight standards. Am J Clinical Nutrition *45*: 1035S–1036S.

Kandella P (1999). The Kuwaiti passion for food cannot be shaken. Lancet *353*: 1249–50.

Kemper KA, Sargent RG, Drane JW, Valois RF, Hussey JR (1994). African American and Anglo-American female perception of ideal body size and social norms. Obes Res *2*: 117–26.

Kilpatrick M, Ohannesian C, Bartholomew J (1999). Adolescent weight management and perceptions: an analysis of national longitudinal study of adolescent health. J School Health *69*: 148–58.

King A, Wold B, Tudor-Smith C, Harel Y (1996). The health of youth: a cross-national survey. Copenhagen: WHO. (WHO Regional Publications, European Series; no. 69).

Lowry R, Kann L, Collins JL, et al (1996). The effect of socioeconomic status on chronic disease risk behaviours among US adolescents. JAMA *376*: 792–7.

Miller MN, Pumariega AJ (2001). Culture and eating disorders: a historical and cross-cultural review. Psychiatry *64*: 93–110.

Nasser M (1986). Comparative study of the prevalence of abnormal eating attitudes among Arab female students of both London and Cairo universities. Psychol Med *16*: 621–5.

Norusis MJ (1994). Logistic regression analysis: SPSS advanced statistics 6. Chicago: SPSS, Inc.

Norusis MJ (1990). SPSS/PC+ advanced statistics 4.0. Chicago: SPSS, Inc.

Okasha A, Kamel M, Sadek A, Lotaif F, Bishry Z (1977). Psychiatric morbidity among university students in Egypt. Br J Psychiatr *113*: 149–54.

Pesa J, Turner L (1999). Ethnic and racial differences in weight-loss behaviors among female adolescents: results from a national survey. Am J Health Studies *15*: 14–21.

Pi-Sunyer FX (1993). Medical hazards of obesity. Ann Intern Med *119*: 655–60.

Pritchard ME, King SL, Czajka-Narins DM (1997). Adolescent body mass indices and self-perception. Adolesc *32*: 863–81.

Rasheed P (1999). Overweight status: body image and weight control beliefs and practices among female college students. Annal Saudi Med *19*: 365–9.

Root MPP (1990). Disordered eating in women of color. Sex Roles *22*: 525–36.

Rosen JC, Gross J (1987). Prevalence of weight reducing and weight gaining in adolescent girls and boys. Health Psychol *6*: 131–47.

Shannon B, Smicklas-Wright H, Wang MQ (1993). Inaccuracies in self-reported weight and height of a sample of sixth-grade children. J Am Dietic Assoc *91*: 675–8.

Shidiac MR, Afifi RS, Farhat TM, et al. (2001). Adolescents health-related behaviors in post-war Lebanon: findings among students at the American University of Beirut. International Q Community Health Educ *20*: 115–31.

Troiano RP, Flegal KM, Kuzmarski RJ, Campbell SM, Johnson CL (1995). Overweight prevalence and trends for children and adolescents. Arch Pediatr Adolesc Med *149*: 1085–91.

Wardle J, Marsland L (1990). Adolescent concerns about weight and eating: a social development perspective. J Psychosom Research *34*: 377–91.

Wilson DB, Sargent R, Dias J (1994). Racial differences in selection of ideal body size by female adolescents. Obes Res *2*: 38–43.

Youth Risk Behavior Surveillance-United Stated, 1999 (2000). Surveillance summaries *49* (SS05): 1–96. http://www.cdc.gov/mmwr/preview/mmwrhtml/ss4905a1.htm (accessed April 2003).

Address for correspondence

Abla Mehio-Sibai, PhD
Department of Epidemiology and Population Health
Faculty of Health Sciences
American University of Beirut
Beirut, Lebanon
Tel.: +961 3 646688
Fax: +961 1 744470
e-mail: ansibai@aub.edu.lb