

SUMMARY

The frequency of UAE youth obesity is thrice greater than the published international standards. The United Arab Emirates school children/youth (ages 10-18) are said to be 1.8 times more obese than those in the United States, according to statistics from the First United States National Health And Nutrition Examination Survey. In addition to, according to World Health Organisation report in the global news, the UAE was classified as the second highest for obesity rates in the world. As a result of these obesity statistics among the youth, there are associated diseases, which tend to plague the UAE adults later, such as cardiovascular diseases, diabetes, hypertension and others. Therefore, the public health issue within the UAE context is obesity among the youth. This policy brief highlights the framework for a public health campaign among the UAE youth, in order to contribute to the attainment of one of the UAE Vision 2021 targets for reducing the prevalence of obesity.



UAE National Agenda on Healthcare: Obesity among the Youth

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UAE Public Health Campaign Introduction

The United Arab Emirates (UAE) Vision 2021 National Agenda aims to achieve a world-class healthcare system. Within this National Agenda, one indicator is the prevalence of obesity among children (UAE Vision 2021, 2012) which has been adopted from the World Health Organisation. In 2010, the prevalence of obesity among children was 14.4% in the UAE; such that this national agenda indicator targets to reduce the current value by 17% (UAE Vision 2021, 2012). The UAE school children/youth (ages 10-18) are said to be 1.8 times more obese than those in the United States, according to statistics from the First United States National Health And Nutrition Examination Survey (NHANES-1) (Al-Haddad et al. 2000). The UAE youth' frequency of being more obese is twice to be thrice greater than the published international standards (Al-Haddad, Little & Abdul-Ghafoor, 2005; Bagchi, 2008; Malik & Balik, 2007; Zaal et al., 2011). Among the GCC countries, the United Arab Emirates (UAE) ranks 18 on 2007 WHO list of the most obese populations as 68.3% of its citizens have an unhealthy weight (Mahboub et al., 2013). In another study (2010), the Global School-based Student Health Survey (GSHS) on the United Arab Emirates measured the dietary behaviours and physical activity of students in grades 8, 9 and 10, ages 13-15 years. The table 1 shows the results of students aged 13-15 years pertaining to dietary behaviours and table 2 demonstrates the results of students aged 13-15 years pertaining to physical activity.

Table 1: Dietary behaviours for UAE students

Results for students aged 13-15 years, 2010	Total	Boys	Girls
Percentage of students who were underweight (< -2SD from median for BMI for age and gender)	4.1 (3.0-5.5)	5.5 (3.6-8.3)	3.1 (2.1-4.6)
Percentage of students who were overweight (> +1SD from median for BMI for age and gender)	38.4 (35.0-41.8)	42.0 (37.1-47.1)	35.9 (32.1-39.9)
Percentage of students who were obese (> +2SD from median for BMI for age and gender)	14.4 (12.4-16.7)	18.2 (15.2-21.7)	11.8 (9.5-14.5)
Percentage of students who usually drank carbonated soft drinks one or more times per day during the past 30 days	42.0 (38.2-45.9)	50.3 (45.0-55.5)	36.5 (32.7-40.5)

Source: Global School-based Student Health Survey United Arab Emirates http://www.who.int/chp/gshs/UAE_2010_FS.pdf

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Table 2: Physical activity of UAE students

Results for students aged 13-15 years, 2010	Total	Boys	Girls
Percentage of students who were physically active for a total of at least 60 minutes per day on five or more days during the past seven days	27.5 (24.5-30.7)	34.5 (31.0-38.2)	22.8 (18.9-27.4)
Percentage of students who went to physical education (PE) class on three or more days each week during the school year	27.8 (24.8-31.1)	29.4 (24.7-34.5)	26.9 (23.3-30.7)
Percentage of students who spent three or more hours per day during a typical or usual day doing sitting activities	51.2 (47.0-55.3)	44.8 (39.7-50.0)	55.3 (50.2-60.4)

Source: Global School-based Student Health Survey United Arab Emirates http://www.who.int/chp/gshs/UAE_2010_FS.pdf

Furthermore, according to the World Health Organisation (WHO) report in the global news, the UAE was classified as the second highest for obesity rates in the world. As a result of these obesity statistics among the youth, there are associated diseases, which tend to plague the UAE adults later, such cardiovascular diseases, diabetes, hypertension and others (Al-Haddad, Little & Abdul-Ghafoor, 2005). The prevalence of obesity amongst children indicator measures the proportion of children between the age of 5 and 17 who are considered obese out of the total number of children in the same age group (UAE Vision 2021, 2012). Obesity in children is defined as follows (UAE Vision 2021, 2012):

- Children aged 5 to 12: The proportion of children with a BMI greater than 2 standard deviations above the growth standard median.
- Children aged above 12: The proportion of children with a BMI greater than 30.

Such a UAE public health campaign intervention and strategies are urgently needed at the Federal level in order to identify overweight and obese youth. In 2000, researchers reported that an obesity preventative health intervention was needed and warned UAE health officials of the potentially increased serious youth overweight/obesity related morbidity (Al-Haddad et al. 2000). Furthermore, researchers recently concur that there was more an urgent need for addressing this health concern among the youth (Ali et al., 2013).

There is a need to aggressively assess these urgent areas of the UAE youth health status and formation effective preventative health interventions such as the HEAL public health campaign. Therefore, the public health issue within the UAE context is obesity among the youth.

UAE Public Health Campaign Need

For this public health campaign, the Health Belief Model (HBM) is utilized and can be defined as the individual's perception of the risk of a health issue/problem and the evaluation of commended behavior(s) for addressing the problem would be presented (Glanz & Bishop, 2010; USDHHS, 2005). The key concepts and factors of HBM which are addressed are perceived susceptibility, perceived severity, perceived benefits of action, cues to action and self-efficacy (USDHHS, 2005; Vanlandingham et al., 1995). The justifications for using the HBM in the public health campaign of promoting healthier nutrition eating habits and choices, entitled: "HEAL," which stands for Healthy Eating and Active Living. It is paramount to be capable of attaining the perceived severity and its associated benefits, in terms of specifying the consequences of obesity and its course of actions and recommendations, in addition to the positive results and potential outcome in the long run (USDHHS, 2005). The HEAL public health campaign would be competent to be able to determine the perceived barriers, in terms of tailoring the health educational information to

the best of accuracy; cues to action, in terms of presenting the factors involved for the readiness to change; and its self-efficacy elements, in terms of providing appropriate educational materials and nutritional counseling in performing action (USDHHS, 2005).

The overall purpose of the HEAL public health campaign implementation and launch is to be to make the youth more aware of healthier eating styles and active living exercises. Another goal is to equip and provide the youth with the ways of expanding and improving their nutrition programs/diets through practice and exercises, which would bring about the social change among the youth and in turn assist in behavioral changes for a positive outcome.

Therefore, the target audience is UAE youth ages of 15 to 29 years. Initially, the writer thought of selecting the school children and youth age group. The main reason for selecting the UAE youth in universities/schools is that most of these youth are situated in the university student dormitory, where they have a direct influence over their eating habits and food choices. Another reason is that 75 percent of youth both males and females have basic knowledge on health and diseases associated with eating habits (Livingston, Saafir, & Manuel, 2012). Furthermore, health awareness would be appropriate for this target audience in order to increase the health knowledge perception.

This public health campaign should be conducted over a semester long as a general-education course at the first-year of any Bachelor's degree program at the universities/schools across the UAE. Such a public health campaign initiative has been prompted from the numerous reports from the local and world news, in addition to research publications (Livingston, Saafir, & Manuel, 2012; Brown, Geiselman & Broussard, 2010; Hayes et al., 2009).

Public Health Communication Tools & Recommendations

It is evident on the recent disaster of the Japan earthquake and tsunami that the uses of contemporary social media communication tools

such as Facebook, YouTube and Twitter were very effective and useful in the dissemination of information and highlights during that time (Blackburn, 2011). As highlighted earlier, the public health issue within the UAE context is obesity among the youth. Among the youth in the Arab countries, social-networking sites (SNS) are very popular (Shen & Khalifa, 2010). On average, the Youth has 100 persons attached to their account (Shen & Khalifa, 2010). It is known that among the Youth, the SNS plays an integral part of shaping the perception of the political views and Arab cultures and customs (Solberg, 2002).

In a recent research report produced by the Mohammed Bin Rashid School of Government, there were over 400,000 new Facebook users in the UAE. During the period of January to May 2014, 48% of these new Facebook users were within the age group of 15-29 years (Mourtada, Salem & Alshaer, 2014). Furthermore, the UAE is the second highest in the Arab world to have a high penetration rate of 58%, indicating persistent growth and pervasive usage of Facebook within the UAE society (Mourtada, Salem & Alshaer, 2014; United Nations, 2014).

Consequently, the use of Facebook, LinkedIn and YouTube are the most useful and effective for the Healthy Eating & Active Living (HEAL) public health campaign at the universities/schools among the UAE. The use of internet videos and audios could be convenient to be utilized as resources for the campaign and can be posted onto Facebook and LinkedIn since all the potential participants in the campaign are highly active on this example of SNS (Shen & Khalifa, 2010). Furthermore, SNS has become a daily routine and activity among the Youth (DiMaggio et al., 2004; Hargittai & Shafer, 2006; Shen & Khalifa, 2010); therefore, the use of SNS such as Facebook and LinkedIn may be appropriate social media tools.

There are two ways for adjusting the HEAL public health campaign based on the type of social media to be used in the campaign. One way is to have the university youth to create HEAL discussion groups on distinct topics on Facebook, Instagram, Twitter and LinkedIn. All the youth within the particular HEAL campaign own at least a smart phone where both applications of Facebook, Instagram, Twitter

and LinkedIn are usually functioning. In the last few years, there has been a trend of increased smart phone usage in terms of either blackberry, iphone, Samsung or other android. Therefore, there could be 24-7 interactions and discussions on both applications on the smart phone. As the facilitator, the topics could allow for much engagement and interaction and would allow for the youth to post applicable videos and audios with respects to the HEAL public health campaign. Such a method has been proven to be functional and effective in the classroom setting among Youth (Shen & Khalifa, 2010). Another way is to link the public health message directly to their status updates (via the Facebook, Instagram, Twitter accounts and LinkedIn), since on average users have at least 50 contacts. Therefore, overall the reach of the audience is much wider and mainly among the Youth (Shen & Khalifa, 2010).

There are three reasons for the adjustment of public health message as highlighted above. It is indeed critical to understand that the public health message has to be tailored to target audience, taking into account the age group and their community and literacy levels. As identified earlier, 75% of university youth both males and females have basic knowledge on health and diseases associated with eating habits (Livingston, Saafir, & Manuel, 2012). Therefore, the pitch of literacy levels would be at a university literacy level. Moreover, among the Youth, there is much influence on their cultures, habits and customs based on their daily interactions on SNS (Shen & Khalifa, 2010). As a result, the main three reasons of adjustment are:

- To have an effective problem solution to promoting healthier lifestyle and daily habits;
- To allow reaching the target audience effectively which would indeed encourage for constructive interactions and discussions; and
- To empower these youth as the future social change agents in making healthier choices and encouraging other's peers to indulge in healthier living and make it as the 'new norm'.

There are two ways to market the HEAL public health campaign. The first would be to create an

information packet on the new health awareness courses and/or workshops at the UAE universities/schools. This can allow for the providence of the course information, including statistics on the prevalence of obesity and its future consequences on the Youth (Al-Haddad, Little, & Abdul-Ghafoor, 2005; Al-Haddad et al., 2000) to the first-year youth at universities/schools where there may be credits awarded for the successful completion as with any other general-education course. This can also be promoted through the youth university/school emails, blackboards, and youth' orientation day and on the bulletin board both physical and electronic. Secondly, the UAE universities/schools can include advertising the new "HEAL Public Campaign Course" on the nation's radio stations and television and other marketing mechanisms. This campaign should be in collaboration with the MOHESR, Knowledge and Human Development Agency (KHDA) and Abu Dhabi Education Council (ADEC) and others which would in turn send an indirect message on their involvement and concern with this public health issue among the youth of the UAE.

Engagement of UAE Communities

The UAE youth may be asked to create videos and audios promoting healthier eating and active living with the goal of educating each other within the university and their respective peers, friends and families. Additionally, they may be asked to constructively critics each other's videos and audios before publicly posting onto the social-networking sites (SNS) such as the Facebook accounts, LinkedIn, Instagram and Tweeter wall pages. The youth could also be invited to participate in the getting into SHAPE program, where there would be an evaluation of the pre-, during and post- for the body-mass indexes, weight, body-fat analysis and maintaining a food diary/journal. The promotion of public relations within the target audience can be done through public relations and highlighting significant public health issue-obesity. The public relations is critical in terms of the identifying the significant public health issue-obesity, influencing the views of the public health issue, strengthening the advantageous opinions, transforming unbiased thoughts and ideas into optimistic ones, changing

or neutralizing unreceptive feelings. One way may be through the public relations technique of promotional videos for the communication flow to occur and secondly through the SNS, such as Facebook and LinkedIn and other websites.

The behavior change on obesity is to promote modest lifestyle interventions among the youth within Dubai and the UAE at large, in addition to the promotional videos and audios' lessons for its prevention of obesity in the long run. The behaviors change would entail the maintenance of the suitable weight loss, lifestyle improvements, including continuous healthier eating habits, selection and preference of healthier foods and beverages and regular active living and exercise for 60-90 minutes per day (WHO, 2013a). The key benefits of such a behavior change, will be, healthier lifestyles, longer healthier living, reduced communicable diseases, balance between the calories consumed and calories expended, and increased work productivity and study achievement (WHO, 2013b).

There are potential stakeholders, community leaders, collaborative partners, or gate-keepers that may help to disseminate the message and encourage behavior change and their involvement. The World Health Organization (WHO) office in Dubai, the Ministry of Higher Education and Scientific Research (MOHESR), the universities/schools can assist in the promotion and dissemination of the healthy eating and active living public health campaign via general education among the universities. With the constant advertisement and media coverage by the MOHESR, this could also send a positive message for other universities to join in and collaborate in this venture towards promoting healthier eating habits and increased frequency of physical activity. Another way can also the MOHESR can push for this general education and/or workshops to be embedded and enforced as a compulsory/requirement course for all the accredited institutions by the Commission of Academic Accreditations from the MOHESR and KHDA licensed schools and institutions.

Through general education course as mentioned earlier, the youth will be involved in some group work, therefore, another barrier or challenge would be to the categorization of the youth in suitable

groups gender-wise and maybe language-wise (Guion, Kent & Diehl, 2009). For instance, the female Emirati youth would need to group only into other female participants and vice versa for the males. Additionally, another way of addressing this would be to have female nurses, doctors and dietitians assigned to the female groups, and vice versa for the males of the target audience.

Recommendations for the Implementation Aspect

The increasing prevalence and serious consequences of obesity have provoked public health campaigns for broad public health solutions that reach beyond clinic settings (Foster et al., 2008). Educational institutes are the ultimate surroundings for population-based interventions to addressing obesity (Foster et al., 2008). In the implementation of the HEAL public health campaign in the UAE has to be aligned with the main objective of promoting a healthier lifestyle through healthy eating and active living activities, in an effort to reduce obesity among the youth within a University setting in Dubai, United Arab Emirates. There have many reports on the effectiveness of the health promotion and disease prevention programs with its target communities and audiences (Reger et al., 1998). The implementation process would include a number of public relations strategies such as the campus news media in order to provide an effective means of communicating the health information to the university (Samuels, 1993; Wallack et al., 1993).

Another implementation method is conducting an individual assessment on the university youth using a School Health Index (Centers for Disease Control and Prevention, 2012) where the ratings of the eating habits, levels of physical activity can be recorded at the start, during and end of the 12-week HEAL campaign general education course. Additionally, prior to the implementation, staff trainings could be conducted in order to provide an opportunity to work together as a team and to share ideas with their equivalents (Foster et al., 2008). Through the implementation of a nutrition education course, the university youth can show how to make better food choices and how to incorporate physical activities in order to

influence a positive behavioral change (Foster et al., 2008; Hayes et al., 2009). Another way for endorsing the HEAL public health campaign is through the development of a nutrition policy at the university where all the foods sold and served at the university campus could be in alignment with the nutritional guidelines and standards by the 'School Health Index' (Centers for Disease Control and Prevention, 2012). The Healthy Eating and Active Living (HEAL) public health message is one that can promote a healthy lifestyle through the incorporation of a balance diet based on the good food choices, the nutrients required for youth and how to maintain a healthy weight according to the World Health Organization standards (WHO, 2013a). This campaign in the writer's view can promote the change due to the nature of the message being realistic, allowing for a commitment, being consistent, flexible and creative.

There are three ways in which the HEAL campaign be adopted through realistic and practical ways. One way is through the HEAL campaign sanctioning for the youth to ignore or discard diet fads. In the end, diet is like fashion; it comes and goes without presenting an enduring solution. A typical question that might arrive in this context would be, "Would I always eat this particular way, all my life?" Another way is to encourage the Youth to make a realistic commitment, in that they will be able to write down the imperative and significant motives for changing their respective eating habits and customs which can be shared as a verbal or written undertaking with their peers, colleagues, and family members and siblings. The third way is to promote the behavior change among the Youth through tactical means to do so. Many researchers have proven that for a behavior change to occur, it usually takes 21 days to do so (WHO, 2013b). Therefore, as an example, within the campaign, promoting eating breakfast as part of a daily routine; the youth can be placed into groups and be encouraged to plan their breakfast meals for the next 21 days of the healthy food items they love the most. It is important to be creative by thinking of all the possibilities in this exercise as well.

Recommendations for the Evaluation Aspect

The methods for the evaluation the effectiveness of the HEAL Campaign include weight management and weight of each participant can be measured at the start of the campaign, then at the mid-way of the campaign and then in the final week. Such an evaluative technique, may provide information on the effectiveness of the program, regarding the progress and assessment of the youth' weight loss or gain in order to maintain a healthy weight during the campaign. Another way is to have open ended questions at the beginning of the campaign to have an idea of the health literacy levels and then pose the same questions at the end of the 12 weeks of the HEAL public health campaign and draw the conclusions of the effectiveness. A series of a debates around the twelfth week, when the youth would be asked to argue a real life example and properly assess the situation and proposed ways of helping to fix the dilemmas. Games on reading food labels and identifying the good and bad items within the food section in a supermarket is another helpful idea. Having the youth attain at least 2-3 peers at the beginning of the HEAL campaign (maybe from other classes) in order to promote the healthier eating habits and active living lifestyles is also recommended. The youth can be assessed in terms of how best they were able to convince their peers to eat healthy and live actively.

HEAL public health campaign can promote social changes through the promotion of healthier and more balanced daily diets each of which is a combination of just right amount of nutrients (carbohydrates, fats, proteins, minerals and vitamins) and portion controls. As a dietitian, an ideal healthy food plate is one that is colorful and that is full diverse good nutrients. The promotion of daily active living routines on the university campus which assists with the controlling of the blood lipid abnormalities, diabetes and obesity as well will also be helpful. Therefore, the exercise activities can be held at the university campus through walking, stair-climbing, jogging, running, swimming and sports.

Achieving social change towards health and diet issues through the implementation of the HEAL public health campaign and through the concerted effects with the Ministry of Education, health public policy makers, Ministry of Health in the UAE.

References

- Al-Haddad, F. H., Al-Nuaimi, Y. I., Little B. B., Thabit M. (2000). The prevalence of obesity among school children in the United Arab Emirates: Serious public health implications. *American Journal of Human Biology*, 12, 498–502.
- Al-Haddad, F. H., Little, B. B., & Abdul-Ghafoor, A. M. (2005). Childhood obesity in United Arab Emirates school children: A national study. *Annals of Human Biology*, 32(1), 72-79.
- Ali, H. I., Ng, S. W., Zaghoul, S., Harrison, G. G., Qazaq, H. S., El Sadig, M., & Yeatts, K. (2013). High proportion of 6 to 18-year-old children and adolescents in the United Arab Emirates are not meeting dietary recommendations. *Nutrition Research*, 33(6), 447-456.
- Bagchi, K. (2008). Nutrition in the eastern Mediterranean region of the World Health Organization. *East Mediterr Health J*, 14, S107-S113.
- Blackburn, B. (2011, March 11). Japan earthquake and tsunami: Social media spreads news, raises relief funds. ABC World News. Retrieved from: <http://abcnews.go.com/Technology/japan-earthquake-tsunami-drive-social-media-dialogue/story?id=13117677>
- Brown, S. C., Geiselman, P. J. & Broussard, T. (2010). Cardiovascular Risk in African American Women Attending Historically Black Colleges and Universities: The Role of Dietary Patterns and Food Preferences. *Journal of Health Care for the Poor and Underserved*, 21(4), 1184-1193.
- Centers for Disease Control and Prevention. (2012). Welcome to the School Health Index: a self-assessment and planning guide. Atlanta, GA: Centers for Disease Control and Prevention. Retrieved from: www.cdc.gov/HealthyYouth/SHI.
- DiMaggio, P., Hargittai, E., Celeste, C. & Shafer, S. (2004). Digital inequality: From unequal access to differentiated use. In Neckerman (Ed.), *Social inequality*, New York: Russell Sage Foundation, 355-400.
- Foster, G. D., Sherman, S., Borradaile, K. E., Grundy, K. M., Vander Veur, S. S., Nachmani, J., Karpyn, A., Kumanyika, S., & Shults, J. (2008). A policy-based school intervention to prevent overweight and obesity. *Pediatrics*, 121(4), e794-e802.
- Glanz, K., & Bishop, D. B. (2010). The role of behavioral science theory in development and implementation of public health interventions. *Annual Review of Public Health*, 31, 399–418.
- Guion, L.A., Kent, H., & Diehl, D. C. (2009). Ethnic marketing: A strategy for marketing programs to diverse audiences. University of Florida. Retrieved from <http://edis.ifas.ufl.edu/fy758>
- Hargittai, E. & Shafer, S. (2006). Differences in actual and perceived online skills: The role of gender. *Social Science Quarterly*, 87(2), 432-448.
- Hayes, B. D., Holliday, R. C., Wade, B. H. & Trawick, C. (2009). A Comprehensive Examination of the Health Knowledge, Attitudes, and Behaviors of Youth Attending Historically Black Colleges and Universities. *Journal of Health Care for the Poor and Underserved*, 20(2A) 69-84.
- Livingston, I. L., Saafir, B. D., & Manuel, R. (2012). Health knowledge among historically black college and university youth: an exploratory study. *College Student Journal*, 46(3), 581-588.
- Mahboub, B., Safarainni, B., Alhariri, H., & Vats, M. (2013). Sleep breathing disorders in female population of Dubai, UAE. *Health*, 5(12), 2091-2096. DOI:10.4236/health.2013.512285.
- Malik, M., & Bakir, A. (2007). Prevalence of overweight and obesity among children in the United Arab Emirates. *Obesity reviews*, 8(1), 15-20.
- Mourtada, R., Salem, F. & Alshaer, S. (2014). Citizen Engagement and Public Services in the Arab World: The Potential of Social Media. Arab Social Media Report. Dubai, United Arab Emirates: Mohammed Bin Rashid School of Government.
- Reger, B., Wootan, M. G., Booth-Butterfield, S., & Smith, H. (1998). 1% or less: a community-based nutrition campaign. *Public Health Reports*, 113(5), 410.
- Samuels, S. E. (1993). Project Lean-lessons learned from a national social marketing campaign. *Public Health Reports*, 108, 45-53.
- Shen, K. & Khalifa, M. (2010). Facebook usage among Arabic college youth: preliminary findings on gender differences. *International Journal of e-Business Management*, 4(1), 53-65.
- Solberg, C. A. (2002). Culture and industrial buyer behavior: The Arab experience. 18th IMP Conference.
- UAE Vision 2021(2012). World-Class Healthcare Indicator. Retrieved from: <http://www.vision2021.ae/en/national-priority-areas/world-class-healthcare>
- United Nations (2014). ILO Department of Statistics. Facebook User Penetration. Retrieved from: <http://laborsta.ilo.org/>
- United States Department of Health and Human Services (USDHHS). (2005). *Theory at a glance: A guide for health promotion practice*. (2nd ed.). US: National Institutes of Health.
- Vanlandingham, M. J., Suprasert, S., Grandjean, N., & Sittitai, W. (1995). Two views of risky sexual practices among northern Thai males: The health belief model and the theory of reasoned action. *Journal of Health and Social Behavior*, 36(2), 195-212. Retrieved from: <http://search.proquest.com/docview/201657100?accountid=14872>
- Wallack, L., Dorfman, L., Jernigan, D., & Themba M. (1993). *Media advocacy and public health*. Newbury Park (CA): Sage Publications, Inc.
- WHO, (2013a). Global Strategy on Diet, Physical Activity and Health. Retrieved from: <http://www.who.int/dietphysicalactivity/en/>
- WHO, (2013b). Facts on Obesity. Retrieved from: <http://www.who.int/features/factfiles/obesity/facts/en/index4.html>
- Zaal, A. B., Brebner, J., Musaiger, A. O., & D'Souza, R. (2011). Anthropometric characteristics and obesity among adolescents in the United Arab Emirates. *EMHJ*, 17(5), 382-386.

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