

# Assessment of growth status in Saudi hospitals

Growth status  
in Saudi  
hospitals

## The use for anthropometric approach and the need to sustain the practice

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### Abstract

**Purpose** – The purpose of this paper is to examine the quality and sustainability of dietetic practice in the scope of anthropometry for adolescents at Jeddah hospitals care setting.

**Design/methodology/approach** – An evaluation survey to define and critic dietetic practice concerning anthropometric assessment for adolescent group in Jeddah governmental and private operating hospitals with bed capacity of more than 150 beds and has at least four employed dietitians.

**Findings** – Only 10 percent of dietitians in Jeddah hospitals are members with the National Saudi Dietetic Association (SDA). Hospitals were mostly following international Standards of Practice (SOP) for anthropometry (60 percent), compared to national standards (10 percent). SOP is not unified or governed by the national organization body. Regularly (80 percent) of the practicing dietitians identify their individual scope of practice, the use of growth charts and reference data in assessing the growth status of their young clients. Similarly to other international countries, sustainability and resilience to all aspects of nutrition and dietetics practice should be ensured and maintained by SDA when guiding and standardizing all practices.

**Originality/value** – The study highlights the importance of standardizing the practice of anthropometric assessment among adolescent group. The study is also a call for the SDA to emphasize its role in governing and defining guidelines in all scopes of dietetics practice.

**Keywords** Practice, Assessment, Adolescents, Saudi Arabia, Anthropometry, Dietetics

**Paper type** Research paper

### Background and aims

The multi-layered relationship between nutrition and health has regenerated nutritional assessment to a position of key importance in patient care. This include patients in primary areas of clinical practice such as acute/in patient, ambulatory and long-term care (Winterfeldt, 2010).

The history of the dietetics profession shows involvement in different practices such as growth, assessment of nutritional status and management of nutritional-related diseases.

Looking at the previous studies on dietetic practice of anthropometric assessment for adolescents in clinical settings in Saudi Arabia and despite the fact that many examples of proven practices and strategies exist in Saudi Arabia, there is a dearth of information concerning dietetic practice. The fast development of dietetic practice reflects the current emphasis on delivering care that is patient focussed, profitable and reasonable, and will challenge to decrease existing differences in dietetic practice. The common dietetic practice that should follow their application will support equivalent principles of care for patients when they access services. A dietetic practice-related survey in overweight and obesity management aimed to describe practices of treating obesity in Saudi Arabia among 253 dietitians compared the reported national practices with practices in Australia. Finding for the survey presented that 175 (69 percent) of the



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dietitians are involved in the management of obesity and 87 percent of practice positioned into the assessment of Body Mass Index (BMI) only. The study concluded that in Saudi Arabia, dietetic practice for the management of obesity does not integrate the greatest practice suggestions. However, some precise fundamentals are not often used (Almajwal *et al.*, 2009).

Today, a growing understanding and application of the scope of practice concerning nutrition assessment is well-defined by different international associations for dietetics such as the British Dietetic Association (BDA) and American Dietetic Association. Scope of nutrition assessment practice including anthropometry and related guidelines are well-defined by the BDA (Gandy, 2014).

Nutritional assessment should be structured and standardized, therefore include components for instance anthropometry, body composition and functional assessment, biochemical and haematological tests, clinical and physical examination, dietary evaluation and environmental, behavioral and social settings (Gandy, 2014). Anthropometry is a classification of standardized methods of the human body measurements. These methods are used as references of body composition, physical development and nutritional status (Lee and Nieman, 1996). These measurements are reasonably fast to perform, non-invasive and are used by a diverse of international and national health professionals (Janice, 2010). They comprise of weight, height, different circumferences and skinfold thickness. Data should be compared with standards references. El-Mouzan *et al.* (2007) has established the reference growth charts for Saudi Arabian children and adolescents aged from birth to 19 years. However, none of Jeddah hospitals compare with the Saudi reference data. This referred to either, dietetics professionals never heard of the 2007 Saudi reference data or they are required to and used to the international data (Aljaaly and Khalifa, 2015). This suggests the need for the establishing and certification of national dietetic practice guidelines equivalent to those found in developed countries.

Different Dietitians association such as BDA, the Academy of Nutrition and Dietetics (AND), Dietitians Association of Canada (DAC) and dietitians Association of Australian (DAA) defined anthropometric measurements techniques. Some calculations such as BMI and waist to hip ratio are implemented from anthropometric measures. These calculations used broadly in the clinical settings in defining risks of disease and its consequences. The BDA defines nutrition assessment as “a systemic process of collecting and interpreting information in order to make decision about the nature and cause of nutrition related health issues that affect an individual, a group or a population” (British Dietetic Association (BDA), 2012).

Adolescents are tomorrow’s adults. Understanding and addressing the components and practices when assessing the nutritional status of adolescents, particularly anthropometry in clinical settings, are important constituents of clinical care. The World Health Organization (WHO) called for the development and use of adolescent-specific anthropometric references as one of the sources of data used to define the nutritional status of this group (World Health Organization, 2005). Nutritional status of Saudi adolescents has been assessed and approached at different levels of evaluation. Levels of evaluation range from minimal to in-depth, and assessment include anthropometry, laboratory, medical, socioeconomic and dietary evaluation. Anthropometric measures, including height, weight and BMI were frequently used to monitor growth in adolescents and to assess their nutritional status. The measures were referred to different international standards for comparison (Al-Jaaly *et al.*, 2011). Recently, Saudi researchers have used waist circumference (WC) as an indicator of adiposity in children and adolescents (Collison *et al.*, 2010;

Al Disi, 2008; Aljaaly, 2014). Other circumferences used was mid-upper arm circumference in addition to triceps skinfold (Saadah, 2011). Moreover, ratios such as waist to height ratio to assess adiposity in this group, was also used (Al-Jaaly, 2012).

Dietitians who provide services for children and adolescents should provide continuing assessment, guidance and education for patients attending outpatient hospitals clinics or inpatients (Schiller, 1984). Literature on the dietetic practice in general and in the anthropometric assessment for adolescents in clinical settings in particular is lacking in Saudi Arabia. Moreover, national strategies on dietetic practice of anthropometric assessment for the adolescents that are evidence based are not unified by different clinical areas in Saudi Arabia, e.g. information on existing national standard references and how to implement them into day-to-day practice. In Jeddah hospitals, reference data for comparison are international reference standards and not Saudi reference data. All dietetics departments use specific formats for nutritional assessment, particularly for anthropometric assessment (Aljaaly and Khalifa, 2015).

In Jeddah hospitals, 30 percent ( $n=3$ ) have divisions of adolescent medicine, 70 percent ( $n=7$ ) of dietetic departments; provide services to adolescents such as growth and development, weight problems and for diabetic patients. Tools for measuring anthropometry are height/weight, circumferences and body composition analysers. Among adolescents who receive services, 70 percent ( $n=7$ ) are not treated individually in dietetic departments and they are included either with paediatrics or adults based on their age (Aljaaly and Khalifa, 2015).

The Saudi Dietetic Association was established within the last decade and it aims to be the main reference in clinical nutrition, locally, regionally and in the Arab world. A number of Saudi dietitians are now working in food service administration, have a professional practice that is clinical based, or community based, which could be in consultation with private practice (Saudi Dietetic Association (SDA), 2016).

In Jeddah City, private and general hospitals with beds ranges between 217 and 1,000 beds employ an average of ten clinical dietitians. The proportion of dietitians holding bachelor's degrees is 79 percent. In total, 20 percent is holding master's degrees and only 1 percent with doctorate holders. Dietitians are educated in countries such as Saudi Arabia, USA and Canada. The remaining dietitians are qualified from Sudan and Philippines (Aljaaly and Khalifa, 2015).

The present study examines the practices of anthropometry for adolescents within Jeddah hospitals care setting, to identify enablers and obstacles for this type of practice. The study is to approach and commend the national organizing bodies for nutrition and dietetic services in Saudi Arabia to in endorse and standardize the practice of anthropometry and other scopes of practices. This is in order ensure and maintain quality and sustainability of profession.

We are predicting that this study will provide a basis for the assessment and improvement of one of the dietetic practices that could improve health services for adolescents as well as circulating nutrition guidelines for this age group in Saudi Arabia.

## Methods

A practice evaluation study, designed and conducted to define and critic current dietetic practice of anthropometric assessment for adolescent group within Jeddah hospitals care setting. The study comprised governmental and private operating hospitals. A face-to-face interviews with heads of nutrition and dietetics services ten hospitals was conducted.

The questionnaire included data and questions about organizational structures of the dietetic departments; questions related to dietetic practice; particularly the practice of anthropometry for adolescents. Hospitals included are those providing general services and with bed capacity of more than 150 beds. Permissions to collect data obtained from the Ministry of Health (Jeddah branch). Further approval attained from nutrition and dietetics departments in the recruited hospitals. Data management and descriptive analysis were performed using SPSS PASW Statistics for Windows (version 18).

### Results

Ten hospitals in Jeddah city were surveyed in 2014. In the surveyed hospitals, clinical dietitians are all accredited by the Saudi Commission for Health Specialties (SCFHS). On the other hand, only one of the dietetic departments confirmed that all working dietitians are members of the Saudi Dietetic Association (SDA). Standards followed were either national (10 percent) or international (60 percent). The followed international standards are mostly the standards of the Canadian Dietetic Association (CDA) and American Dietetic Association.

Data indicated hospitals have different departmental organization systems. Primarily (70 percent) of dietetic department are separate from food service department and location of offices are more close to medical professionals' area, followed by food and nutrition-related legislation, standards and guidelines to practice that are 60 percent international based. Dietitians and other professionals mainly (80 percent) performing anthropometric measurements. The most frequent assessment methodology was the assessment of BMI (90 percent).

In total, 60 percent of the heads of dietetic departments think that the practice of anthropometrics measurement and evaluation in their department is in accordance with national and international practice guidelines. This positive perception was referred to the availability of clear procedures and/or protocols for this practice and the prior experience of their dietetics professional.

Table I shows the type of dietetic practice of anthropometry for adolescents in the sampled hospitals.

### Discussion

The overall objective of the study was to assess general governmental and private hospitals in Jeddah city in the scope of dietetic practices of anthropometric assessment.

While many examples of clinical practice and guidelines exist in Saudi Arabia, there is a lack of reliable statements focussing specifically on dietetic practice. There is a dearth of information regarding dietetic practice in Saudi Arabia, particularly on anthropometry. Dietetic associations such as the BDA recognizes that the role and scope of practice for these individuals is continually changing and developing (Gandy, 2014). Few studies in the scientific Saudi literature have described the dietetics practice of different tools of nutritional assessment or the nutritional management of different diseases. An example is the study by Almajwal *et al.* (2009), which examined the dietetic practices of obesity controlling in Saudi Arabia and compared it with Australian practices and greatest practice criteria.

The International Confederation of Dietetic Associations (ICDA) (2004) defined a dietitian as "a person with qualifications in nutrition and dietetic recognized by national authority (s)". In countries such as the USA and UK, dietitians are controlled with a protected title. They are also governed by ethical codes to ensure that they work to the maximum

Variables name (% of respondent hospitals) ( <i>n</i> = 10)	No (%)
<i>A. Dietetic professionals</i>	
Are all dietitians are clinical dietitians	
Yes	10 (100.0)
No	0 (0.0)
Are all dietitians accredited by the Saudi Commission for Health Specialties (SCFHS) as clinical dietitians?	
Yes	8 (80.0)
No	2 (20.0)
Are all dietitians in the hospital are members of the Saudi Dietetic Association?	
Yes	1 (10.0)
No	6 (60.0)
Some of them	2 (20.0)
Not known	1 (10.0)
What is the organizational structure of the department?	
Combined with the food services	3 (30.0)
A separate independent department	7 (70.0)
Does the department follow any food and nutrition-related legislation, regulations, standards and guidelines to practice?	
Yes	10 (100.0)
No	0 (0.0)
If yes, are legislation, regulations, standards and guidelines international- or national-based standards?	
International only	6 (60.0)
National-based standards only	1 (10.0)
Both	3 (30.0)
<i>B. Nutritional assessment used in the dietetic department</i>	
Does the department use specific formats for nutritional assessment for adolescent group in particular?	
Yes	3 (30.0)
No	7 (70.0)
Does the department use specific formats for anthropometric assessment for adolescent group in particular?	
Yes	3 (30.0)
No	7 (70.0)
Are dietitians the only professionals who are performing anthropometric measurements or they are performed by other medical team members?	
Other professionals only	1 (10.0)
Dietitians and other professionals	8 (80.0)
By referral	1 (10.0)
Who is conducting the nutrition screening in the hospital?	
Diet technicians	2 (20.0)
Nurses and other dietetics professionals	1 (10.0)
Nurses	7 (70.0)
Do you think that the practice of anthropometry in your hospital is in accordance with national and international practice guidelines and would not need to be improved?	
Yes	6 (60.0)
No	2 (20.0)
To some extent	2 (20.0)
If yes, do you think that factors were facilitating the use and the good practicing of anthropometry are	
The availability of clear procedures and/or protocols for this practice	10 (100.0)
The prior experience of the dietetics professional	3 (30.0)
All the above choices are required to strengthen the practice	7 (70.0)
If no, do you think that it needs to be strengthened by	
Professional training only	3 (30.0)
All the above choices are required to strengthen the practice	7 (70.0)

**Note:** *n* = 10. Data reflects numbers and percentages

**Table I.**  
Dietetic practice of  
anthropometry for  
adolescents in the  
sampled hospitals

standard. Dietitians practise in areas such as the public relations, private practice, industry, NHS, education, research, sports, media, non-government organizations and national/local government organizations (British Dietetic Association (BDA), 2013). Dietitians work in different areas to practice their profession and there is also an increasing of sovereign practitioners. In all of these areas; control skills and the use of evidence informed practice is highlighted. The education and training of practitioners should prepare them for a variety of practice and ensure they are adjustable to change in order to develop new roles.

As a profession, international associations for dietetics such as the BDA, CDA and ADA have recognized a multifactor approach to registered dietitian's practice sustainability. This include principals for practitioner education, a policy of ethics, registration and licensure systems, and a tradition of partnership and cooperation with others in areas that considered allied of specialized practice to increase outreach and service (Aljaaly, 2015).

Dietetics associations exist in most countries and on every region. They support dietetic professionals academically and professionally based on the scope of their dietetic and nutritional accomplishments (Aljaaly, 2015). Results of the present study clearly showed that although clinical dietitians demanded to be accredited by the Saudi Commission for Health Specialties (SCFHS, 2014), though a few of them are members of the SDA or aware of its existence.

These associations are aiming to support their members as they apply in a wide variety of profession, and reach out to the public with suitable and consistent information about food and nutrition issues (Aljaaly, 2015). Legislation could support or delay the ability to positively reform the dietitian workforce. In Saudi Arabia, to remain registered on the SCFHS, dietitians as all other health professionals must continue to meet the standards that are set for the profession. Professional standards include continuing professional development, education and training.

Sustainability is the capability of an organization to be sustained over the long term. Flexibility is the ability of a system to resist troubles and continue to function in a sustainable way. Issues of sustainability and flexibility is practical in nutrition and dietetics practice and can be practiced at the program and systems level (Tagtow *et al.*, 2014). The SDA should recognize a multifactor approach to registered dietitians' sustainability. This should include increased rates of growth in dietetics education and training, empower and maintain the practice by activating the role of SDA in standardizing the dietetic practice concerning different scopes of practice and by supporting the profession. All this will be required to ensure workforce and practice sustainability in the longer term.

Saudi Dietitians could also be involved in different Dietetic Practice Groups (DPGs) that are formed by international dietetic association for members to practice or have a particular Interest and in a well-known area of practice. DPGs require a good set of connections amongst group members. The groups chose a representative, collect responsibility, and print a newsletter or comparable contact for its members (Aljaaly, 2015).

### **Conclusion, implications and recommendations**

- The study has presented vital data, which can generate some recommendations for the dietetic practitioners in Saudi Arabia. This will help to improve and unify the practice of nutritional assessment of adolescents in clinical care settings.

- Applying a comprehensive anthropometric assessment on adolescent population is an area of neglect in Jeddah hospitals. Thus, providers of nutrition and dietetic services should deal with adolescent clients/patients as an individual group.
- The Saudi Arabian dietetic practices should be guided nationally by the authorized professional organization SDA, which needs to emphasize some specific basics for all scopes of dietetic practices.
- The present study could provide bases for the practices of anthropometric assessment that could improve dietetic practices in the area of assessment concerning adolescent group.
- Researchers, in the field of dietetics in Saudi Arabia need to conduct further research in the different areas of practice, which could help to empower the dietetic profession.
- Further studies are needed in order to assist in development and implementation of standards of dietetic practice.
- Endorsing and standardizing the practice of anthropometry by SDA will help to ensure good quality and sustainability of this practice.

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