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Practice of anthropometry for adolescents in Saudi Arabia and the need for sustainability of the practice: Lessons from the UK

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ABSTRACT

Purpose: To approach and commend the national organising bodies for nutrition and dietetic services in Saudi Arabia by learning lessons from the United Kingdom (UK) in endorsing and standardising the practice of anthropometry for adolescents. This is in order to ensure good quality and sustainability of this practice.

Design/methods: A practice evaluation survey was conducted to define and critique dietetic practice concerning anthropometric assessment for the adolescent age group in 10 governmental and private operating hospitals in Jeddah City. The hospitals surveyed were general with a bed capacity of more than 150 that employed at least four dietitians.

Findings: Membership of the Saudi Dietetic Association (SDA) was confirmed by only 10% of hospital dietitians, while no UK dietitian can practice the profession unless they have been reg-

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istered by the British Dietetics Associations (BDA). Standards for practice followed were either national (10%) or international (60%) or both (30%). This is individualised by each dietetics department and is not unified or governed by a national organisation. Most (80%) of the practicing dietitians identify their individual scope of practice, the use of growth charts and reference data in assessing the growth of their patients. A lesson to learn from the BDA is to apply sustainability and resilience to all aspects of nutrition and dietetics practice, which are broader than any one specific practice setting or individual intervention.

Conclusions: The present study examines practices of anthropometry for adolescents in Jeddah hospitals, to identify enablers and obstacles for this type of assessment.

Originality/value: We predict this study will highlight the importance of standardising the practice of anthropometric assessment among the adolescent age group. The study is also a call for the SDA to emphasise its role in governing and defining guidelines in all areas of dietetics practice.

Keywords: dietetics; practice; adolescents; anthropometry; assessment; United Kingdom; UK; Saudi Arabia.

INTRODUCTION: BACKGROUND AND AIMS

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

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

This review looks at the current literature on the dietetic practice of anthropometric assessment for adolescents in clinical settings in Saudi Arabia. Despite the fact that many examples of proven practices and strategies exist in Saudi Arabia, there is a dearth of dependable reports focusing precisely on dietetic practice. The development of finest dietetic practice reports 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. One local dietetic practice-related survey in overweight and obesity management that aimed to describe practices of treating obesity in Saudi Arabia among 253 dietitians was conducted (Almajwal et al., 2009). The study compared the reported national practices with practices





in Australia. Results showed that 175 (69%) of the participating dietitians involved in the management of obesity and 87% of practice is put 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.

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

Nutritional assessment should be structured and standardised, and therefore include components, for example, for anthropometry, body composition and functional assessment, biochemical and haematological tests, clinical and physical examination, dietary evaluation and environmental, behavioural and social settings (Gandy, 2014). Anthropometry is a classification of standardised methods of 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 diverse international and national health professionals (Janice, 2010). They comprise of weight, height, different circumferences and Skinfold Thickness (SFTs): data should be compared with standards references.

El-Mouzan et al. (2007) have established the reference growth charts for Saudi Arabian children and adolescents aged from birth to 19 years. However, no Jeddah hospitals compare their records with the Saudi reference data. This was because either dietetics professionals never heard of the 2007 Saudi reference data or they were required to and used the international data (Aljaaly and Khalifa, 2015). This suggests the need for the establishment and certification of national dietetic practice guidelines equivalent to those found in developed countries.

Different dietitian associations, such as the BDA, the Academy of Nutrition and Dietetics (AND), Dietitians Association of Canada (DAC) and Dietitians Association of Australia (DAA), defined anthropometric measurements techniques. Some calculations such as BMI and Waist-to-Hip Ratio (WHR) are implemented from anthropometric measures. These calculations are used broadly in clinical settings in defining risks of disease and their 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' (BDA, 2012).

Adolescents are tomorrow's adults. Understanding and addressing the components and practices when assessing the nutritional status of

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adolescents, particularly anthropometry in clinical settings, are important constituents of clinical care (Lai et al., 2010). 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 (WHO, 2005). The nutritional status of Saudi adolescents has been assessed and approached at different levels of evaluation. These range from minimal to in-depth, and assessments include anthropometry, laboratory, medical, socio-economic 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 WC as an indicator of adiposity in children and adolescents (Al Disi, 2008; Aljaaly, 2014; Collison et al., 2010). Other circumferences used were MUAC in addition to triceps skinfold (Mohamed and Fayad, 2011). Moreover, ratios such as Waist to Height Ratio (WHR), to assess adiposity in this group, were 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 adolescents that are evidence-based are not unified by different clinical areas in Saudi Arabia, example, 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% ($n=3$) have divisions of adolescent medicine, 70% ($n=7$) have dietetic departments; these provide services to adolescents such as growth and development, weight problems and guidance for diabetic patients. Tools for measuring anthropometry are height/weight, circumferences and body composition analysers. Among adolescents who receive services, 70% ($n=7$) 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 (SDA) was established within the last decade and 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 (SDA, 2016).





In Jeddah City, private and general hospitals with beds ranges between 217 to 1000 beds employ an average of 10 clinical dietitians. Of the total number of dietitians 79% hold bachelor's degrees, 20% hold master's degrees, but very few hold doctorates. 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 the care setting of Jeddah hospitals, to identify enablers and obstacles for this type of practice. The quality and sustainability of this practice is compared to the United Kingdom (UK) situation. This is in order to approach and recommend to the national organising bodies for nutrition and dietetic services in Saudi Arabia that they learn lessons from the UK in endorsing and standardising the practice of anthropometry.

We expect the present study to provide a source for the assessment and improvement of one of the dietetic practices that could improve health services for adolescents. This will allow those in the practice of nutrition and dietetics to circulate nutrition guidelines for this age group in Saudi Arabia.

METHODS

A practice evaluation study was designed and conducted to define and critique current dietetic practice of anthropometric assessment for the adolescent age group within Jeddah hospitals care setting. The study is part of a large study that comprised government run and private operating hospitals, which was based on face-to-face interviews with heads of nutrition and dietetics services 10 hospitals (Aljaaly and Khalifa, 2015).

The questionnaire included data and questions related to dietetic practice; particularly the practice of anthropometry for adolescents. Hospitals included were those providing general services and with a bed capacity of more than 150 beds. Permission to collect data was obtained from the Ministry of Health (Jeddah branch). Further approval was 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 were surveyed in 2014. Clinical dietitians in surveyed hospitals were all accredited by the Saudi Commission for Health Specialties (SCFHS). However, only one of the surveyed departments

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confirmed that all working dietitians were members of the SDA. Standards followed were either national (10%) or international (60%), such as the standards of the Canadian Dietetic Association (CDA) and Academy of Nutrition and Dietetics (AND).

Data indicated trends in such areas as departmental organisation, which were primarily separate from food service department (70%) and the location of offices were closer to medical professionals' area, followed by food and nutrition related legislation, standards and guidelines to practice that are 60% international based. Dietitians and other professionals were mainly performing anthropometric measurements (80%). The most frequent assessment methodology was the assessment of BMI (90%).

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

Table 1 shows the type of dietetic practice of anthropometry for adolescents in the sampled hospitals.

DISCUSSION

The study aimed to assess one of the important practices for those in the dietetics' profession in Saudi Arabia. The area concerned was the anthropometric assessment in hospitals in both government and private sectors.

While many examples of clinical practice and guidelines exist in Saudi Arabia, there is a lack of reliable statements focusing specifically on dietetic practice. There is a dearth of information regarding dietetic practice in Saudi Arabia, particularly on anthropometry. The BDA recognises 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. One example is the study by Almajwal et.al. (2009), which examined the dietetic practices of obesity control in Saudi Arabia and compared it with Australian practices and greatest practice criteria.

In 2004, the International Confederation of Dietetic Associations defined a dietitian as 'a person with qualifications in nutrition and dietetic recognised by national authority(s)' (ICDA, 2004) In the UK, dietitians are controlled with a protected title. They are also governed by an ethical codes, to make sure that they work to the maximum standard. Dietitians practise in areas such as public relations, private





Table 1 Dietetic practice of anthropometry for adolescents in the sampled hospitals, (n=10)

<i>Variables name (% of respondent hospitals) (n= 10)</i>	<i>No (%)</i>
<i>A. Dietetic Professionals</i>	
<i>Are all dietitians are clinical dietitians</i>	
YES	10 (100.0)
NO	0 (0.0)
<i>Are all dietitians accredited by the Saudi Commission for Health Specialties (SCFHS) as Clinical Dietitians?</i>	
YES	8 (80.0)
NO	2 (20.0)
<i>Are all dietitians in the hospital are members of the Saudi Dietetic Association?</i>	
YES	1 (10.0)
NO	6 (60.0)
Some of them	2 (20.0)
Not known	1 (10.0)
<i>What is the organisational structure of the department?</i>	
Combined with the food services	3 (30.0)
A separate independent department	7 (70.0)
<i>Does the department follow any food and nutrition related legislation, regulations, standards and guidelines to practice?</i>	
YES	10 (100.0)
NO	0 (0.0)
<i>If yes, are legislation, regulations, standards and guidelines international or national based standards?</i>	
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>	
<i>Does the department use specific formats for nutritional assessment for adolescent group in particular?</i>	
YES	3 (30.0)
NO	7 (70.0)
<i>Does the department use specific formats for anthropometric assessment for adolescent group in particular?</i>	
YES	3 (30.0)
NO	7 (70.0)

*Data reflects numbers and percentages.

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practice, industry, NHS, education, research, sports, media, non-government organisations and national/local government organisations (BDA, 2013). Dietitians work in different areas to practice their profession and there is also an increasing number of sovereign practitioners. In all of these areas, the control of skills and the use of evidence in-





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formed practice is highlighted. The education and training of practitioners should prepare them for a variety of practices and ensure they are adaptable to change in order to develop new roles.

As a profession, international associations for dietetics, such as the British Dietetic Association, have recognised a multifactor approach to register dietitian's practice sustainability. This includes principals for practitioner education, a policy of ethics, registration and licensure systems, and a tradition of partnership and cooperation with others in areas that were considered allied to specialised practice to increase outreach and service (Aljaaly, 2015).

Dietetics' associations exist in most countries and in every region. They support dietetic professionals academically and professionally based on the scope of their dietetic and nutritional accomplishments (Aljaaly, 2015). The results of the present study clearly showed that although clinical dietitians demanded to be accredited by the Saudi Commission for Health Specialties (SCFHS, 2011), few of them are members of the SDA or are aware of its existence.

These associations aim to support their members in a wide variety of professions, 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 with all other health professionals, must continue to meet the standards that are set for the profession. Professional standards include Continuing Professional Development (CPD), education, and training.

Sustainability is the capability of an organisation to be sustained over the long term. Flexibility is the ability of a system to resist problems and continue to function in a sustainable way. Issues of sustainability and flexibility are practical in nutrition and dietetics practice, and can be practiced at the programme and systems level (Tagtow et al., 2014). The SDA should recognise 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 the SDA in standardising dietetic practice concerning different areas 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); these groups are formed by international dietetic associations 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 choose a representative, collect responsibility, and print a newsletter or comparable contact for its members (Aljaaly, 2015).





CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

- The study has generated empirical data, which can generate some recommendations for the dietetic practitioners in Saudi Arabia to improve the practice of nutritional assessment of adolescents, and re-evaluate this practice among other ages.
- A practice evaluation questionnaire-based survey was conducted in ten general hospitals in Jeddah city, Saudi Arabia. Based on practice recognised in the literature and results of the study, the scope of Jeddah Dietetic Practice Framework (JDPF) concerning anthropometric assessment in the adolescent age group does not incorporate a unified practice. Applying a comprehensive anthropometric assessment on the adolescent population is an area of neglect in Jeddah hospitals. Thus, nutrition and dietetic service providers should deal with adolescent patients as an individual group.
- The SDA should have a vital role in formulating and guiding all practices and provide a code of ethics for each practice.
- We predict that this study will provide a basis for the practices of anthropometric assessment that could improve dietetic practices in the area of assessment concerning the adolescent group.
- In order to empower the dietetic profession, different areas of practice should be considered by Saudi researchers as those specialised in dietetics.
- Further studies are needed in order to assist in the development and implementation of standards of dietetic practice.
- Endorsing and standardising the practice of anthropometry by the SDA will help to ensure good quality and sustainability of this practice.

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BIOGRAPHICAL NOTES

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