

Nutrition & Dietetics Services for Assessing Adolescents' Anthropometric status in Saudi Arabia



Medical Science

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ABSTRACT

Understanding and addressing the components and services of nutritional status of adolescents, particularly anthropometry in clinical settings, are important constituents of clinical care. This study aimed to evaluate dietetic services concerning anthropometry in adolescent group. A service evaluation questionnaire based survey conducted in ten general hospitals in Jeddah city, Saudi Arabia. Results showed that seven hospitals have separate independent dietetic departments. Three hospitals have divisions of adolescent medicine and 70% of dietetic departments; provide services to adolescents such as growth and development, weight problems and for diabetic patients. Tools of anthropometry are measured height/weight, circumferences and Body Composition Analysers. Reference data for comparison are international reference standards and not Saudi Reference Data. The study evaluates Jeddah anthropometry services; identify methods' enablers and barriers, particularly for adolescents. We predict that this study will provide bases for the services of anthropometric assessment that could improve services provided for adolescents.

INTRODUCTION

The Saudi Dietetic Association was established recently and it aims to be the main reference in clinical nutrition, locally, regionally and in the Arab world (SDA, 2013). 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.

Nutrition Assessment: Is "a systematic technique includes gathering, recording, and interpreting of relevant information from patients, customers, family members, caregivers, and other personal groups is assumed". Examples of the type of data collected include history that relates food to nutrition, anthropometric dimensions, biochemical information, medical check-ups and measures, physical examination, which is a nutrition-focused result, and customer history (Winterfeldt et al., 2010). Adolescence is a period of dramatic physiological changes when a raise in the rate of growth speedily changes the regular growth of childhood. In the same time, this unexpected spurt would be associated with changes that are hormonal, cognitive, or emotional. Considering such changes, adolescence is an especial nutritional susceptible stage of life. The nutrient needs in this period are greater than in infancy or childhood periods (Lifshitz, et al., 1993).

Nutritional status of adolescents has been assessed in various published surveys and approached at different levels of evaluation (Aljaaly et al., 2011) & (Aljaaly 2014). Levels of evaluation range from minimal to in-depth, and assessment include anthropometry, laboratory, medical, socioeconomic and dietary evaluation (Woodruff and Duffield, 2002).

Methods

A service evaluation study, designed and conducted to define and judge current nutrition and dietetic services concerning anthropometric assessment for adolescent group (in governmental and private operating hospitals) in Jeddah City.

Service Evaluation Procedure/tool

All heads of departments those providing nutrition and dietetic services for patients (outpatients/inpatients) in both sectors (governmental and private) were interviewed. Evaluation tool is an interview questionnaire.

The questionnaire included data and questions about organizational structures of the dietetic departments; questions related to health and dietetic services for adolescents; particularly the

practice of anthropometry. Questions on the use of standard references for comparison and tools used for anthropometric assessment were included. In addition to that, the survey looked at dietitians' membership, with any dietetics-related associations or organization. Questions mainly directed to heads of departments or others providing or supervising nutrition and dietetics services in the sampled hospitals.

Selection Criteria

Jeddah hospitals with bed capacity of more than 150 beds and have at least four dietitians in the departments were included. Hospitals those are not providing general services or/ those include/operate less than 150 beds and have less than four dietitians were excluded.

Procedures for obtaining informed consent

To ensure high ethical and scientific standards, an ethical approval was obtained from the "Research Ethics Committee at the Faculty of Medicine, King Abdul-Aziz University, Ministry of Higher Education. In addition, permissions to conduct data obtained from the Ministry of Health (MOH) and departments those providing services of Nutrition and Dietetics.

Statistical Analysis

SPSS PASW Statistics for Windows (version 18) used in generating the statistics in this study.

Results

Ten general (governmental and private) hospitals were visited in 2014 in Jeddah city and services evaluation concerning the anthropometry for adolescents was carried out. Six of the sampled hospitals were governmental hospitals and the rest of hospitals were privately operated.

The number of beds in the surveyed hospitals ranges between 217 to 1000 beds with a mean of 502.70 beds (SD + 247.02). The range of the clinical dietitians in hospitals is 5 to 25 with a mean of 10.20 (SD + 5.770). The proportion of dietitians holding bachelor's degrees is 79%. Twenty percent is holding master's degrees and only 1% were doctorate holders (Table 1). Dietitians were educated in KSA (92.5 %), United State of America or Canada (1.5 %), Sudan (1.5%), Philippines (2.5% each), and from other countries (4%).

Table 1: Size of hospitals, number of dietitians and their level of education

	Size of Hospital	Number of dietitian	No. Of B.Sc. holder dietitian	No. Of M.Sc. holder dietitian	No. Of Ph.D. holder dietitian
Mean	502.70	10.20	7.90	2.00	0.4444
Std. Error of Mean	78.114	1.825	1.690	.236	.24216
Std. Deviation	247.01	5.770	5.343	.707	.72648
Range	783	20	19	2	2.00
Min.	217	5	2	1	.00
Max.	1000	25	21	3	2.00

According to heads of dietetic services, three of the sampled hospitals has divisions of adolescent medicine, four does not provide any adolescent specific services, and three has no idea if services are provided. On the other hand, seven dietetic departments provide some services to adolescents such as growth and development (2 departments), weight problems (5 departments), and services for diabetic patients (2 departments). 70% of adolescents are not treated individually in dietetic departments and they are included either with pediatrics (10%), with adults (20%), or included with both pediatrics and adults based on their age.

All dietetic departments use specific formats for nutritional assessment, particularly for anthropometric assessment. Only 30% of these formats are specific for assessing adolescent group. Tools used for anthropometric assessment are measured height and weight (all hospitals), circumferences such as waist circumferences (60%) and Body Composition Analysers (30%). The proportion of hospitals using reference data for comparison is 80%. Thirty percent of departments were comparing their data with the WHO data, 70% were using the Center for disease control(CDC) reference standards, and none of them was using Saudi reference data.

Discussion

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

The study has generated imperative data, which can generate some recommendations for the dietetic practitioners in Saudi Arabia to improve the services of nutritional assessment of adolescents and re-evaluate this service among other ages.

The present study proved that all dietetics departments use specific formats for nutritional assessment, particularly for anthropometric assessment with 40% to use international standards of practice for anthropometric measurements. 30% of these formats are specific for assessing adolescent group. Besides, of the used reference data for comparison, 30% compared with the WHO data and CDC (70%) reference standards. However, none of data compared 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 El-Mouzan et al., 2007. Saudi health-care professionals believe on the need and support for focused adolescent health services in the country. In addition, most of them (84%) powerfully approved the need for adolescents to be provided with health-care services that be separated from those provided for children and adults(Albuhairan& Olsson, 2014). Of present Jeddah general hospital services providers, only 30 % has divisions of adolescent medicine and 40% does not provide any adolescent specific services and 3% of has no idea if this service provided. However, seven dietetic departments were providing services for this group. Services concerning growth and development (20%), weight problems (50%) and diabetic patients (20%). Moreover, 70% of adolescents are included either with pediatrics (10%) or with adults (20%) services, or with both.

Some of the sampled hospitals transfer adolescents' group to adults' services after the age of 12 years (10%) or in the age of 13 to 14 (20%), or in the age of 14 to 15 (40%). The rest of the dietetics departments' services, transfer adolescents to adult services after they reach 15 years old. Mostly (80%) the criteria of transferring to adult services is not based on gender. In comparison to health-care providers in Saudi Arabia, 26.7% encourages transferring patients from pediatrics to adult health-care services (independent of profession) at 12-13 years of age. While, the common thought of transferring to the adult services should be at an older age, with some beliefs (21.5%) on transferring not to be before the patient is 18-21 years old(Al-Makadma& Al-Tannir, 2010).

Conclusions and Recommendation

- The Saudi Arabian dietetic services should be guided nationally by the authorized professional organization Saudi Dietetic Association (SDA), which needs to emphasize some specific basics for all nutrition and dietetic services.
- In order to generate this work, further research is needed to compare anthropometry services for adolescents with the international standards.
- Researchers in the field of dietetics in Saudi Arabia needs to conduct further research in the different areas of services, which could help to empower the dietetic profession
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