

According to Surgeon general's report, regular physical activity in adolescents is as beneficial as in adults. It helps in the development of healthy musculoskeletal structure, prevents obesity and hypertension, promotes social well-being, physical and mental health in young people.<sup>1</sup>

Cardiovascular morbidity and mortality are high in Turkey and physical inactivity is a common problem in both genders. However, the data on physical inactivity and Turkish adolescents were limited. To explain the relationship between physical activity and health related quality of life in the university students is very important. It helps develop the strategies for promoting lifelong physical activity in our country. Findings from this trial shown positive association between habitual physical activity level and health related quality of life. There were also significant differences observed between the activity groups determined by their weekly energy expenditure. The students who were more active ( 1500 kilocal/week) had higher scores in most of the 8 subscales of the SF-36. Lee and Russell<sup>1</sup> observed that women who had been active had better scores on all dimensions of SF-36. Findings from the behavioral risk factor surveillance system survey shown that persons who were physically inactive have significantly lower healthy days (physical or mental) than persons who were physically active during the previous 30-day period.<sup>2</sup> The findings of the present study was supported by these results.

Our data also demonstrated that statistically significant negative correlations between habitual physical activity and scores of BDI. This finding was consistent with the literature. It was demonstrated that physical activity plays important role in improving psychological well-being and mental health.<sup>1</sup>

Depression, negatively affected daily living functioning in some domains, including social functioning, productivity, physical functioning and self care. Similar to chronic medical conditions (diabetes, hypertension, coronary problems and so forth) depression associated with decrements to quality of life.<sup>4</sup> When considered the relationship, our result which demonstrated that negative association between physical activity and depression was valuable. It has clearly shown that more physical activity accompanied both decreased depression and better quality of life. Physical activity may be an alternative on preventing depression and promoting quality of life in Turkish adolescents. This opinion and the result reported above suggested by a recent study. The study found that exercising longer than 2-3 hours a week was a protective factor related to feeling healthy among Turkish adolescents.<sup>5</sup>

This study demonstrated that increased habitual physical activity level associated with better quality

of life and mental health among university students. To reduce risk for development of many chronic disease and promote health during lifespan, young people should be encouraged to engage regular physical activity. There is a need for comprehensive research which will be examined the importance of physical activity in schools and universities. This will be an important research for effective strategies and instruction programs to enhance active lifestyle among young people.

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## References

1. Physical activity and health: a report of the Surgeon General. US Department of Health and Human Services Washington (DC): USDHHS; 1996.
2. Brown DW, Balluz LS, Heath GW, Moriarty DG, Ford ES, Giles WH, Mokdad AH. Associations between levels of physical activity were associated with health related quality of life findings from the 2001 Behavioral Risk Factor Surveillance System (BRFSS) survey. *Prev Med* 2003; 37: 520-528.
3. Lee C, Russell A. Effects of physical activity on emotional well-being among older Australian women. Cross sectional and longitudinal study. *J Psychosom Res* 2003; 54: 155-160.
4. Gaynes BN, Burns BJ, Tweed DL, Erickson P Depression and health-related quality of life. *J Nerv Ment Dis* 2002; 190; 12: 799-806.
5. Erginoz E, Alikasifoglu M, Ercan O, Uysal O, Ercan G, Albayrak Kaymak D, et al. Perceived health status in a Turkish adolescent sample: risk and protective factors. *Eur J Pediatr* 2004; 163: 485-494.

## Assessment and care of children with low vision disability in Oman. Situation analysis

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The staff of the Eye Health Care Program in Oman has performed vision screening of nearly 160,000 students of 1st primary, 4th primary, 1st preparatory and 1st secondary levels annually since 1992. The students with defective vision are refracted and prescribed spectacles by qualified refractionists. The students with >5 D myopia,

hypermetropia, strabismus or amblyopia are referred to ophthalmologists for further care. A student found to have  $<0.33$  as the best possible vision is defined to suffer from 'low vision' disability.<sup>1</sup> A list of such disabled students is prepared in each region. Many disabled with marginal visual impairment (vision  $>0.1$ ) have developed compensatory skills and have adjusted their daily life without significant development delay. However, children with vision  $<0.1$  may need training to develop rehabilitative skills. In 2001, the Ministry of Education started a school for the visually challenged. A child was assessed by an ophthalmologist and based on the International Classification of Disease 10 (ICD-10) definitions labeled the child as bilateral blind. With this report, the child is admitted to the blind school. Nearly half of such students of this school had some degree of residual vision and did not have progressive ocular pathology. They could be ideal candidates for assessment of visual function and care for low vision disability. Limited skills as well as low vision aids are available to train these children. The Ministry of Education has 2 more schools for children with special needs. One is for the hearing disabled and other is for the intellectually challenged children. The school health nurses examine the children annually for their distant vision acuity using Snellen's distant vision 'E' chart. Often due to lack of communication and understanding, the children are declared to have vision 'probably normal'. During the assessment of a child at the time of enrollment, a junior ophthalmologist provides a certificate based on the status of distant vision and declares him/her fit for enrollment. The health records of these students do not have details of their ocular status. It should be noted that all 3 schools take children with a single disability only. The issue is more complex with children with multiple disabilities. Al-Wafa Centers of the Ministry of Social Development and 'Associations for children with special needs' in Oman have nearly 300 children of  $<12$  years of age and with multiple disabilities. After initial assessment of distant vision, no ophthalmic rehabilitative services are available to them. Unfortunately, ophthalmologists, health staff and teachers dealing with such children also have limited information on how to deal with visual disability of a child. Thus, initiation of low vision services in Oman is of paramount importance. The Ministry of Health took initiatives in this direction in the year 2000. The World Health Organization (WHO) publication on Assessment of Low Vision<sup>2</sup> was translated into Arabic and collaboration was developed with other ministries. The manual in Arabic is being printed by the Eastern Mediterranean Regional Office, WHO. Busy schedules of the international consultants and

limited funds delayed the project of the Eye Health Care Program until 2004.

**Activities during 2004.** The Eye Health Care Program as per the 'Vision 2020 plan for Oman' prioritized the rehabilitation of visually challenged as one of the strategies. In this regards, collaboration was strengthened between the Ministry of Social Development, Ministry of Education, Al-Noor Association for the Blind and associations for the care of children with special needs. A 'low vision consultant' visited Oman in June 2004 to assess the situation and increase awareness among the decision makers, health staff and teachers/volunteers taking care of children with disability. In addition to distant vision, different components of visual function need to be assessed.<sup>3</sup> Few of them may have been compromised. By detecting both the weak and the strong components of visual function and accordingly train the child to develop compensatory skills, one can help the child and improve his/her quality of life.<sup>4</sup> A 3-day training workshop was therefore conducted in June 2004 both in English and Arabic languages for selected health staff and teachers. The participants would be the members of the regional rehabilitation teams. The consultant demonstrated how to test visual function of a few children with different types of visual and multiple disabilities. Accordingly, the child was advised to either use the low vision aids or undergo follow up checks by teachers. The caregivers were shown how to use the low vision assessment kit,<sup>5</sup> and they could assess and implement care to improve the child's skills under the guidance of a low vision specialist. During this training course, the consultant tested visual function of few Omani children and their care was discussed with the parents and teachers. Testing of other types of visual functions was demonstrated using video presentations.

**Future proposals.** The Ministry of Health has procured 3 low vision assessment kits, and plans to provide one set at the ophthalmic unit of 10 regional hospitals. Although it will be a challenge, the Eye Health Care Program will assess visual function of all children with disabilities registered with these institutions and will look for the support of Al-Noor Association and other ministries for this. These children will also be thoroughly examined by a senior ophthalmologist/pediatric ophthalmologist. A manual to train the schoolteachers and volunteers of the schools with special needs is being updated and translated into Arabic. The procured kits of low vision tests will serve a dual purpose; assessment of a child with low vision disability and follow up of these children to stimulate the residual visual function. A training workshop of 15 days duration was held in February 2005 for the teachers.

The rehabilitation and curative services for the visually disabled should be integrated. The

ophthalmologists should never say 'nothing can be done' to a visually disabled child as a lot can be offered through rehabilitative services even if the curative services reached their limits. Teachers/volunteers enriched with this new knowledge could further strengthen the care through a multidisciplinary approach. Lack of advocacy is perhaps the main constraint in such initiatives. A program approach to integrate rehabilitation into eye health care in Oman could be a model for other countries to follow. Commitment of the health staff, teachers, parents and well-wishers will make this goal achievable. Oman is perhaps the first country in the Eastern Mediterranean Region of the WHO and in the Gulf Council Cooperation to commence programme approach for rehabilitation of children with low vision disability.

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## References

1. Khandekar R, Abdulhelmi S. Magnitude and determinants of refractive error in Omani school children – A review of three years cross sectional information. (Oman refractive error study) *Saudi Med J* 2004; 25: 447-452.
2. Keeffe J. Assessment of Low Vision in Developing Countries; Book 1 and 2. WHO/ PBL/95-48.
3. Hyvärinen L. Classification of visual impairment and disability. *Bull Soc Belge Ophthalmol* 1985; 215: 1-16.
4. Hyvärinen L. Consideration in evaluation and treatment of the child with low vision. *Am J Occup Ther* 1995; 49: 891-897.
5. Hyvärinen L. Assessment of Low Vision for Educational Purposes and Early Intervention, Part I. Precision Vision. La Salle; 1999. Available at URL: <http://www.lea-test.fi/en/assesseme/cracow.html>

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Consumer satisfaction with primary health care services in Hail City, Saudi Arabia

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Primary health care centers form the corner stone of the free health system in the Kingdom of Saudi Arabia. This programme began in 1984, and assessing how it is functioning should be a continuous process to correct deficiencies. Assessment tools included a few studies on consumer satisfaction conducted in Primary Health

Care Centers (PHCCs) in several regions in the country.<sup>1-3</sup> None have been conducted in Hail City and hence we have performed this study to assess satisfaction quantitatively and to assess its correlates. Such satisfactions studies have several aims including identifying how consumers perceive health services.

This was a facility-based, cross-sectional study conducted during the whole month of August 1999 in the primary health care centers in the Hail region. The study sample consisted of every tenth consumer visiting 4 centers randomly selected on a geographical basis. The 80 consumers selected from each center were informed of the objectives of the study and that their participation was voluntary, being assured that data collected would be used only for the stated research. Data were collected using an anonymous self-administered, pilot tested modified version of a patient satisfaction questionnaire and a consultation satisfaction questionnaire. Satisfaction was rated on a Likert scale ranging from 1 (highly unsatisfied) to 5 (highly satisfied). The questionnaire was pilot tested, and minor modification in the sequence or wording of some questions was introduced. The internal consistency of the overall satisfaction score, and the satisfaction scores with the different services provided examined by using Cronbach alpha, which was over 0.8500 for all services studied. Analysis of variance was performed using Kruskal-Wallis non-parametric test to study the satisfaction scores of the different service components according to the sociodemographic and geographic variables studied.

Results showed that most respondents were aged under 35 (174) married (181) with intermediate/secondary schools education (161) government sector employees (119), with a monthly income of under 6000 (1 US\$ = 3.75 SR) Saudi Riyals (238). Almost 278 of the respondents had a family file (record) in the centers. Two hundred and forty-nine of the patients lived near the centers, 40, far and 8 very far. The overall mean satisfaction was 3.68 (SD 0.49). Higher satisfaction scores were reported from subjects who are over 44 years of age, females, divorced, with secondary school education, who are students or unskilled laborers, with an income of 1500-3000 Saudi Riyals, who have a family record in the PHC center. These differences, however, were not statistically significant. However, distance traveled from home to the PHCC and having a family file in the PHCC showed significant differences in the satisfaction scores. The shorter the distance from the respondent's residence to the PHCC, and the fact of having a file in the PHCC, the higher the satisfaction scores.

Table 1 shows the mean satisfaction as assessed by respondents for services offered by physician,