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Contents

From the Editor

Adolescence is the period which many young people initiate behaviours that may result in lifelong problems. These behaviours such as smoking, teen sex, eating disorders, drug and alcohol abuse etc. have taken the place of infectious diseases in developed countries and are causing serious health problems in developing countries. In 2000, the United States Public Health Service identified these risky behaviours as 'new morbidities'.

In this issue of TJPH, Bulut et al., Kir et al., Ugurhan et al., Aslan et al. all deal with above mentioned 'new morbidities' and discuss the different aspects of adolescents' health. Topbas and Oner discuss air pollution and Pap smear screening which are amongst important public health matters.

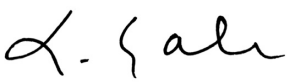
Goffins bring to our attention the Community Oriented Primary Care (COPC) approach which may help practitoners working at the primary level who have no training or experience. Community Oriented Primary Care depends on planning the health care for the total defined population using the intervention programs based on the identified health needs, evaluation of care, multidisciplinary team, community involvement and the use of epidemiology at the primary care level.

Hatun and Gonullu points out the prominent role of peace in child health in their letter to the editor.

Four distinctive books, 'Building Better Health: A Handbook of Behavioral Change', 'Violence agaist Women: The Health Sector Responds', 'Vaccines: Preventing Disease & Protecting Health' and 'Zoonoses and Communicable Diseases Common to Man and Animals' published by the Pan American Health Organization are reviewed in the journal.

We would like to thank all the authors and reviewers who contributed to this issue of the journal and wish you all a happy New Year.

Editor



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Aim and Scope

The Turkish Journal of Public Health (TJPH) is a peer-reviewed research journal published bi-annually and serving a broad audience in the field of Public Health and Community Medicine both nationally and internationally. TJPH aims to provide a medium for the rapid communication of advances and new knowledge in this field. The editor anticipates receiving manuscripts from the following areas of research: health policy and management, biostatistics, epidemiology, environmental health, health economics, medical demography, social sciences for health, health education, public health laboratory, community nutrition, infectious diseases, disaster management, accidents, women's health/reproductive health, child health, chronic diseases, and occupational health.

Submission of Papers

The following types of contributions are welcomed:

1. Original research articles: papers reporting original research findings in a relevant area (maximum 5000 words).
2. Short reports: preliminary/short reports of research findings (maximum 1500 words).
3. Critical reviews: authors are advised to contact the editor prior to submission of critical review papers (maximum 4500 words).
4. Notes from the field: Highlighting practice-based programs, initiatives of widespread interest, experiences to share with the public health community (maximum 1000 words).
5. Letters to the editor: a limited number of letters to the editor concerning the published papers in the TJPH (maximum 300 words).
6. Data: Data from nationally or sub-nationally representative surveys (maximum 35 tables and figures).

Submissions will be considered on the understanding that they comprise original, unpublished material and are not under consideration for publication elsewhere. A cover letter to this effect should be enclosed with each submission, signed by all authors of the paper.

All papers are published in English although submission of articles in Turkish is encouraged and will not prejudice editorial consideration. The authors may use either the British or the American spelling, but they should be consistent throughout the paper. Submissions undergo a two-tiered review process. The editorial board for overall quality and interest screens them initially. Papers accepted for formal review will be sent anonymously to at least two independent referees.

Authorship

Authorship by more than 6 authors requires justification. We adhere to the criteria of the International Committee of Medical Journal Editors (JAMA. 1997; 277:927-934). For manuscripts with two or more authors, each author must qualify by having participated actively and sufficiently in the study that is being carried out and reported on. The inclusion of each author in the authorship list of a report is based only (1) on substantial contributions to (a) concepts and design, or analysis and interpretation of data and (b) drafting the manuscript or revising it critically for important intellectual content; and (2) on final approval by each author of the submitted version of the manuscript. Conditions 1 (a and b) and 2 must both be met. Others contributing to the work should be recognized separately in an Acknowledgement. In the covering letter that accompanies the submitted manuscripts, it must be confirmed that all authors fulfilled both conditions.

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Manuscripts must be typewritten on one side of a white paper, page numbered, and double-spaced with 2.5 cm margins. Good quality printouts with a font size of 12 pt are required. Provide a word count for the paper and abstract. The original copy of text, tables, and figures should be sent to:

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Manuscripts should also be submitted on disk using Microsoft Word. The file on disk should be identical to the hard copy submitted. Tables and figures should follow the text.

Please label the disk with your name, the name of the file on the disk and the title of the article.

Electronic submission would be preferred.

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All authors must sign the letter, with one named correspondent (give postal and e-mail addresses and telephone and fax numbers). Disclose all possible conflicts of interest (e.g. funding sources for consultancies of studies of products). A brief indication of the importance of the paper to the field of public health is helpful. You may suggest up to 4 knowledgeable reviewers (include postal and e-mail addresses and telephone and fax numbers).

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The text of the article should include the following: Abstract (up to 250 words, followed by up to 6 keywords), Introduction, Materials and Methods, Results, Discussion, and Acknowledgments. Each section should begin on a new sheet.

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All figures (photographs, drawings, diagrams, charts) should be clear, easily legible, and cited consecutively by Arabic numerals in the text (Figure 1, Figure 2, etc) and should be placed on separate sheets. Legends should contain sufficient detail to permit figure interpretation without reference to the text. Units should be indicated in the figures. All line graphs and their respective data points should accompany charts so that they can be replicated on the journal's computers. Cost for printing of color plates will be charged to the authors.

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Cite references in numerical order and as superscripts in the text. List all authors when there are six or fewer; when there are seven or more, list only the first three and add "*et al*." Use Index Medicus (abridged) abbreviations for journal names. Do not reference papers that are "submitted"; these can be mentioned in the body of the text. Cite personal communications in text only, giving source, date, and type (if e-mail, provide sender's address). References should follow the style described by the International Committee of Medical Journal Editors (www.icmje.org). The following are sample styles:

Journal article

Feldman HA, McKinley SM. Cohort versus cross-sectional design in large field trials: precision, sample size, and unifying model. Stat Med 1994; 13: 61-78.

Book

UNICEF. State of the World's Children. New York: Oxford University Press, 1998.

Chapter in a book

Phillips SJ, Whisnant JP. Hypertension and stroke. In: Laragh JH, Brenner BM, editors. Hypertension: Pathophysiology, Diagnosis, and management. 2nd ed. New York: Raven Press; 1995. p. 465-78.

Online book or web site

Garrow A, Winhouse G. Anoxic brain injury: assessment and prognosis. In: Up To Date Cardiovascular Medicine [online]. Available at: www.UpToDateInc.com/card. Accessed February 22, 2000.

Acknowledgements

Prepare acknowledgments on a separate page. Upon acceptance, you will be asked to certify that you have listed all persons who have contributed substantially to the work but who do not fulfill authorship criteria and that you have obtained permission for listing them. Also required is disclosure of all financial and material support. If human subjects are involved, you must report approval by an institutional review board. TJPH adheres to the Declaration of Helsinki of the World Medical Association (JAMA 1997; 277: 925-926).

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Supporting adolescents' health in Turkey

Aysen BULUT[a], Hacer NALBANT[b], Muhtar COKAR[c]

Abstract

The changes in the social structure affect young people. However, it is not easy to carry our original research for determining subjective values and the motivations behind their behavior - special research methods and interdisciplinary cooperation is needed. Most of the existing research has been conducted to show only the problematic behavior or how much the adolescent's health is affected biologically.

Studies that fail to show the social, economical and environmental (family and culture) aspects of behavior are far from leading the way towards a solution. Information about the subjective values and behavior of adolescents and their reasons are essential for creating health programs suitable for young people.

In this respect, qualitative research methods has been used to develop training programs for school teachers and candidate teachers who will have face to face interaction with adolescents at school. Nine focus group discussions were carried out in six provinces with 86 participants between 15-24 years old. Topics of the groups were adolescence, reproductive health services and reproductive health information needs.

Findings show that despite different demographic features and regional differences participants are open to discuss reproductive health needs, expectations and offer similar alternatives.

Key words: Adolescent, reproductive health

Introduction

Protecting the reproductive health of young people has become one of the priorities of the world because of their increasing ratio in the overall population and the increase in the number of HIV/AIDS infected young people. The issues of Reproductive Health, Sexual Life and Health Consciousness in Adolescents have been discussed together during the United Nations International Conference of Population and Development in 1994[1], based on the view that mother and child health cannot be improved unless a health consciousness is developed in young people. The rights of adolescents have been secured by the 1989 United Nations Declaration of Children's Rights[2]. Improving young people's health is also among the most significant aims of 21 Health Objectives, which planned to be carried out during the 21st century in the European Region of World Health Organization[3].

General human resources information and epidemiological information regarding health are needed as well as information about the subjective values and behavior of adolescents and their motives are needed for creating health programs suitable for young people. The changes in the social structure affect young people. However, most of the existing research has been conducted to show only the problematic behaviors or how much the adolescent's health is affected biologically[2]. Researches that fail to show the social, economical and environmental aspects of behavior are far from leading the way towards a solution.

The CDC has identified six preventable behaviors that account for most of the serious illnesses and premature deaths in the United States. The Youth Risk Behavior Surveillance System monitors six categories of priority health-risk behaviors among youth and young adults. They are behaviors that contribute to unintentional injuries, tobacco use, alcohol and other drug use, sexual behaviors that unintended pregnancy and sexually transmitted diseases (STDs/including human immunodeficiency virus infection) unhealthy diet and physical inactivity[4].

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Individuals learn how to improve their health and prevent disease by developing skills and knowledge that can help them stay healthy. Adolescence is the most important period to develop and maintain skills and attitudes. Personal hygiene, environment, physical fitness, safe physical environment, safe sexual life are components of healthy behaviors[5]. By physical changes adolescents become more interested in their appearance, and lack of self discipline, unrealistic expectancies of body, desire to avoid ordinary life styles can result in poor eating habits or other risky behaviors.

During these risky period of transition, which is also seen as a period of opportunities because of the eagerness of young people to learn and grow into adults, young people should be equipped with the necessary information so that they can become healthy adults[5]. Therefore research should aim to understand adolescents and their living conditions to develop interventions or implementation of interventions.

The Situation In Turkey

Nineteen percent of Turkey's population is between the ages of 15 and 24, and the ratio goes up to 30% when the 10-24 age group is considered. In the future, young people will constitute an even greater portion of the population[6]. The primary eight-year compulsory education includes the period of early adolescence. In Turkey, approximately 5 million young people can be reached in primary education, 2 million in high school and 1.5 million in college with more than 500,000 teachers in more than 60,000 schools[7].

We understand that education is not the only solution to youth problems. Youth culture evolves with the changes in society, social values and economic conditions[8]. However most of the population below 15 year-olds are accessible by school health programs, we believe reaching youth by schools would be one of the cost effective intervention and great opportunity for improving healthy life style in Turkey since an elementary education between ages 6 and 14 is compulsory.

There is not a nationwide survey showing the health conditions of adolescents in Turkey. However, the population and health surveys (DHS) are important resources for national data. There is information in the 1998 DHS about married and unmarried women above the age of 15 and the husbands of the ones who are married[9]. It's found out in researches that have been carried out every five years for the last 30 years that the age of marrying is constantly increasing and early motherhood is decreasing. Unwilling marriages of people younger than 15 years of age are seen to be more common among uneducated people and women in the East[10]. The findings show that the ratio of women less than 18 years old is 4.4% among all mothers who have given birth during the last five years, and the ratio of women having the second child in the same age group is 0.5%. These ratios show that 50,000 adolescents give birth every year, and for 6,000 of them it's their second delivery. Only one in every 3 married women in the 15-19 age group use contraception. Another finding of the last survey is that husbands have their first sexual relationship 4 years before the age of 23, which is the average age at first marriage.

In the health and education programs discussed in the 8th 5-Year Development Plan and Commission of Experts in Population, several ways of supporting the programs to give the young people, the responsibility of general and reproductive health and inform them are present under the entries 726, 728, 729 and 779. "Reproductive and Sexual Health of Adolescents and Young People" and "Sexuality and Sexually Transmitted Infections" sections of the Report give the detailed information related to the subject[11].

In recent years, there's also increasing interest in organizing meetings on young people's health and presenting youth-related activities at national level[12].

The first special event organized by the Human Resources Development Foundation (HRDF) in collaboration with Family Planning Association of Turkey for the young people is the "Youth, Sex Education and Reproductive Health" meeting which took place in November 1994 in Istanbul. During this meeting, experts and educators have come together to share their experiences and look for new strategies for the future and the most striking finding was the lack of training materials and trainers in that area. The foundation has gathered data in the field of training of trainers and producing training material, which aims to educate candidate teachers[13].

Supporting Turkey's population related programs, United Nations Fund for Population Activities (UNFPA) has given priority to the improving and expanding reproductive health education and services for youth recently.

A model sexual health curriculum has been created for the students in educational faculties by

HRDF in order to create a new powerful human resource in the field of education under the umbrella of a Turkish Ministry of Health Project supported by UNFPA in the same period. During the preliminary research conducted in the mentioned project the needs of educational faculty students have been determined by the individual questionnaires and group discussions, educators have been trained for the interactive training program, elective courses have been placed in the curriculum with the permission of Higher Education Board (YÖK) and senates of two universities in 2000-2001 academic year. The "Sexual Health Education, Teacher's Handbook" has been given out to the students of the courses as a reference book[14]. Issues of sexual education, perspective's on sexuality, population programs, decision-making process, physical and mental development, development of sexual identity and social sexuality are parts of the program along with the required service information and counseling skills[15,16,17]. As a result of those successful activities, with UNFPA support, sexual health education classes carried out in 20 educational faculty in 2003-2004 and revised edition of Teacher's Handbook was published. Extended project also developed to reflect similar improvements for eight-year compulsory education.

A report has been prepared in order to share the findings on the current situation in Turkey with the experts and get their views. Journals, congress publications, published research reports, official documents and government publications have been used to gather information?[18]. Though limited, there is also new information collected by using qualitative research methods from youth in the Eastern part of the country where previous studies have failed to focus on. It is aimed that the report might be a resource for further studies before the launching of the project, which would promote adolescents' health.

The scope of this article is the qualitative findings of student research in educational faculties and findings of adolescents living in East Anatolia. Although most universities were located in the West (Istanbul, Izmir and Bursa) only half of the university students were raised in western regions, others were coming from all over Turkey. This article emphasizes exploring the ways young people's attitudes and beliefs about gender and gendered sexuality inform and shape risk sexual behaviors (RSB). This analysis is based on the data recorded during focus group discussions (FGD), conducted as a qualitative part of the action/research project.

Materials and methods

Focus groups are used as a tool to learn the local language and getting the information on topics of adolescence, reproductive health education, sources for knowledge and reproductive health services.

The purpose of Focus Group Discussion, which was the method used for collecting data on sensitive issues, was to obtain detailed information from young people and see the varieties. This method is a very effective one since it makes it possible evaluating the opinions and feelings of the participants and learn about their attitudes and beliefs in a very short time.

FGDs with university students

In March 1998, the study was conducted as a part of need assessment of educational faculty students at Uludag (Bursa), Dokuz Eylul (Izmir) and Marmara (Istanbul) Universities. FGDs were planned to develop a questionnaire form for fourth year students[19]. Three focus group discussions were conducted by an anthropologist and a sociologist.

Contacted faculty members informed students about the purpose and length of the meeting. Thirty students participated to mixed groups and each group took almost 2 hours. Some of the students were not informed well at the beginning, after introduction they decided to stay and all contributed to discussion.

FGDs with high school students and out of school youth

FGDs with youth living in East Anatolia were conducted in November-December 2001. The ages of 56 young people who volunteered to participate in 6 Focus Group Discussions which were organized as same sex groups, age were varying between 15 –19, groups were facilitated by a sociologist, a psychologist and a general practitioner. Along with young people who were living with their families, boarding students in Van and Adana who had come from different Eastern and Southeastern Turkey also participated in the discussions.

Among the participants were students from faculty of health education, school of nursing, vocational schools, young people who worked and received training in Apprenticeship Training Center, attendants of the Public Training Center courses and others who define themselves as "house girls".

Findings from FGDs

Findings of FGDs are evaluated according to discussion topics, quotations of young people, university students (U) and high school students and out of school youth (H) show their original words.

Understanding the difference between male and female

All groups said that they realized boy/girl difference when they were 4-5 years old, and it became clearer at primary school.

At puberty, girls were told to not to "play out anymore" (artık sokakta oynayamazsın) or "play with boys" (erkeklerle oynamaman gerek). Some activities seemed inappropriate "you're a girl don' do that"(sen kızsın öyle yapma), they were given dolls and couraged to wear trousers "to cover/hide their body" (oraları buraları görünmesin diye).

All participants agreed that gender bias was stressed by society especially families. This was provided by child raising and reminding by sex differences. Some of the girls said that this was a result of family attitude and they realized this result when they were not enjoying boy games anymore (U).

Physical difference was made sure by "seeing brothers" (erkek kardeşi görme), "peeping or watching elder brothers in bath" (abileri banyoda gözetlemek), "playing doctor-patient games" (doktorculuk oynamak). They admitted that they still did not know differences among adolescent/adult males. They accidentally saw the body changes of opposite sex; "girls' body changes is visible" (Kızların her şeyi ortada), "I learned the hair growth in man when I was 13" (erkeklerin özel bölgesinde kıllanmayı 13 yaşında öğrendim), "we were surprised to see naked man jumping into the field in a game" (maç sırasında sahaya atlayan çıplak adamı TV'de görünce çok şaşırmıştık), "I was surprised when bull torn the clothes of man during bullfight" (boğa güreşinde, boğa adamın kıyafetini yırtınca gördüm, çok şaşırdım). They emphasized the importance of knowledge on changes "when you talk about it, you are labeled as pervert" (bu konularda konuşunca sapık diyorlar), "but it is normal and not a secret" (bu şart, açıkça bilmeli, bunun ayıp olmadığı öğretilmeli) (H).

During adolescence they had more responsibilities relating to their sex, had conflicts with parents and had emotional conflicts (bunalımlı dönemler geçirdiklerini söylediler) (U).

Gender

To prepare girls to adulthood by books, TV programs and education of family is a must. Some of the girls said "girls are not supported for education that they might meet men" (erkeklerle görüşür diye kızların okuması iyi görülmez), other girls who raised in different regions opposed to this attitude "in west it is the opposite, man can do anything to earn money" (batıda tam tersi kızın okuması gerekir, oğlan nasıl olsa ekmeğini taştan çıkartır), "girls should have an occupation" (bi meslek edin de çalışmazsan çalışma). After that topic some participants admitted gender bias was so clear "I was not aware of regional differences; mentality/attitude is very different, I saw the gaps" (Şimdiye kadar hiç fark etmemiştim şu anda çok etkilendim, arada çok büyük bir uçurum var).

Participants also underlined the pressure from families for getting married. They said fear of not being able to get married might result in "wrong choices" (yanlış tercih).

Both female and male participants are aware of the expectations of the society and the sexual segregation due to these expectations. The girls said that the attitudes and expectations, which vary according to families and regions where they live, limit their lives and especially the way in which sexuality is conceived has a negative effect on their whole life.

About Adolescence

Boys identified some of the major changes as deeper voice and appearing of facial hair, and they expected these to take place. They also shared the fear, worry and shame resulting from wet dreams, when they were not properly informed. The interest in the opposite sex, curiosity about the female body and the interest in pornographic films and magazines were other transformations they reported. They said that they could talk about these only with friends and their interest decreases when their feeling of curiosity is satisfied.

Information on changes

Participants said they did get little or no information about the changes of adolescent period (U). Girls said they did not get any information on body changes and the most important change was menstruation for that period. Some of the girls were given information on menstruation but this was done after the girl had her menses. Girls who have elder sisters or cousins got information on menstruation

through them. Boarding school students were informed by friends and sometimes they had believed in rumors (yalan yanlış). Of all participants only one girl said she had menstruation information from school. Another girl said she felt uncomfortable when her parents were hesitant on giving information; one said she was able to talk with her family after a time period (belli bir dönemi atlattıktan sonra). Girls with no information had different feelings at menstruation such as fear of dying and guilt. They felt embarrassed by changes in breast or any reference to growing up. They were affected by warnings about menstruation; "you'll get infection if you swim", "you'll have more pain if you run or ride bicycle". They said after all restrictions, they felt menstruation was not fair (U).

Male students said they had information about changes by their friends. Some of them said they were embarrassed of body changes since they had no information from families and environment. Of all groups only one boy refused his father's request of talking about the subject, another one was scared when he practiced masturbation first time later on his father talked to him (U).

Participants stated that attraction to opposite sex was another important issue of adolescence. The issue was shared only with friends (arkadaş çevresi). With adolescence their environment and friends also changed, transition to adulthood changed their social life. They started adopting new habits; "hanging around coffeehouses" (kahve hayatı), "drinking" (içki içme), "swearing" (küfür etme), "going adult-movies" (sinemaya gitme-porno filmler)", "adult magazines" (dergilere bakma) to satisfy their curiosity about sexuality.

They wanted to have information about sexuality from families or married cousins but their current knowledge was provided by friends or coffeehouses. They were also aware of disadvantaged position of girls; "they cannot go to movies" (sinemaya gidemezler) or "cannot get permission from father's to watch football games and x rated movies on TV" (babadan izin alıp geç vakit maç seyredeceğim diyerek televizyonda yayımlanan filmleri seyredemezler). Beginning to have periods, pimples, skin care and increasing interest in the opposite sex have stood out as major transformations during years of adolescence for girls: it was also seen that girls adapt to the changes in physical development more easily.

Participants also said they had information about menstruation, growing of breasts, gaining height; pimples form elder sisters, cousins and friends. Their main concern was increase and permanency of pimples.

Sources of Information

Most of the participants said they were willing to have information from their mothers. Girls favored mothers and teachers as sources; some said if it could be possible they would prefer fathers. Student who wanted to have information at school said teachers should have skills to communicate with students. Teacher's attitude is important for acceptance by students. Some pointed out that to avoid conflicts with family, teacher should talk to parents, and booklets must be given to families (U).

Participants defined information sources as knowledgably, experienced and trustworthy; "friends know as much as I do" (arkadaş benim bildiğim kadarını bilir), "if you smoke, he smokes too" (sen sigara içsen o da içer), "he must be more informed than you" (senden daha bilgili birisi olmalı). They believe families or health classes give no information on sexuality, so they talk to their friends on sexuality but they do not trust their knowledge (H).

Male students preferred school as source since parents were not well informed themselves.

All participants agreed that information should be given by family at early stages of childhood. School programs should be implemented starting with preschool to adolescence. Students from Dokuz Eylul University suggested that family and school should act together to decrease conflicts. Marmara University students suggested to give information during adolescence (U).

Sources at university

Some of the students said they will seek professional help and others said they would get help from Medico-social Center. But there is another group of students who believed they cannot get enough information at university, their conclusion was a result of not having guidance services at school or having to much formalities for services. They also believed that if information were given at early ages there would be no questions at university level (U).

Myths and Misconceptions

Most of the students admitted that they do not have myths or misconceptions since they did get little or no information on sexual and reproductive development before adolescence. Small number of participants were misinformed or drew conclusions by themselves such as believing in kissing couples are

extracting tooth- told by a parent-, assuming kissing is normal among girls, pregnancy by kissing and baby's only way out is abdominal (U).

Concept of Health

When asked about their conception of health, they defined a concept, which covered growing up, developing, healthy diet, sports, hygiene, physical and psychological wellness and clean food. The girls emphasized the physical wellness cleanliness and of food whereas for boys, the priority was sports for letting out the energy (U,H). Participants emphasized the importance of "leisure activities", "not to be exhausted", "not drinking, not smoking" to sustain a healthy life, developing such skills from early ages of childhood (H). They also regretted of sports classes, which failed to develop as a regular practice. They also believe exercise is a component of physical fitness. First aid is a necessary skill for lifelong. High school student who live in boarding schools were declared they were anxious about infections and hygiene (H)

Participants defined health as basic and general categories. Basic health behaviors were defined as habits learned at the early stages of childhood within the family or in primary school, general health information was expected to be gained later through experts. Health classes or traffic classes labeled as insufficient by content and duration (H).

In male groups, vocational school students listed psychological problems and conflicts with family at first, apprenticeship school students agreed with them but they gave priority to first aid and protection from diseases (H).

In female groups most needed information came up as topics of "uncovered issues" (açık konular), "secret issues" (gizli konular), bodily health and "woman's reproductive diseases" (kadın hastalıkları). When probed, uncovered and covered issues were referred to issues related to sexuality and reproductive health (H).

When asked about the topics on which they needed more information, they gave priority to "secret issues, bodily health, women's health", psychological problems, family problems, first aid and protecting themselves from diseases.

Reproductive Health

When knowledge of pregnancy, delivery, birth control and abortion issues discussed in groups, it was found that girls knew more about reproductive health and had adopted responsible attitude. Some of the boys stated that they are not interested such things and they related those issues as female responsibility. But boys had more information on sexual intercourse and sexually transmitted diseases (H).

For most frequent reproductive health problems female adolescents said "home deliveries due to shyness" (utangaçlıktan dolayı evde doğum), "fear of sexuality due to strains" (kısıtlama sonucu korku), "bad consequences of sexuality due to misconceptions" (bilgilenmenin yanlış olması sonucu-kötü sonuçları olan- cinsel ilişki), "sexuality is normal for men, girls are scared" (erkek için sorun yok, binlerce kez yaşamış, kızlar korkuyor), "sexual intercourse is considered/perceived as dirty" (cinsel ilişki pis bir şey olarak gösteriliyor).

Knowledge and attitudes of male adolescents varied at groups. They said their knowledge was limited on opposite sex, "I know they have menstruation but I do not know interval" (kızlar adet görür ama kaç günde bir bilmiyorum), "I wondered about conception, but could not asked" (çocuk nasıl oluyor merak ederdim, başkalarına sormaya çekinirdim), "you become interested, ask adults not openly" (ergenlikte merak başlar, ama büyüklere üstü kapalı sorulur).

Among the issues of reproductive health, they generally had questions about fertility regulation, terminating pregnancy, sexually transmitted diseases. The most important finding of this part of the research was the fact that young people had trouble in relating sexual relationships with conception and sexually transmitted diseases. This shows the importance of lack of information on sexual relationship and its consequences.

Sexual Health

Almost all participants agreed sexuality was a need as hunger, sleep, in case of deprivation it causes problems. Sexually healthy person is defined as healthy, contraceptive user and monogamous. A female student defined as having periods for women and masturbating for men, another one said couples should come from un conflicting cultures and another one said 90 % of divorces originated from sexual problems.

Sexually transmitted Infections

When asked about knowledge of sexually transmitted infections, HIV/AIDS, syphilis, gonorrhea and hepatitis were most known diseases. Most of them had information on HIV/AIDS but they had no information about others. A male student described syphilis as feeling tired, discharge and spots on skin.

If they learn an acquaintance has STI they will take him/her to doctor and try to help. They believed that monogamy and being selective were major precautions. Other precautions were listed as condom use and hygiene habits. They think some infections like yeast come from swimming pools and public baths.

Male participants said sexual intercourse had some bad consequences other than unwanted pregnancies. "Dissatisfaction" (tatminsizlik) and "diseases" (kapılan hastalıklar) came up at first. They had STI information from health books, encyclopedia, campaigns, posters and "Nataşa and transvestite news" on TV. STI risk group was composed of prostitutes, their clients and people involved in zoo sexuality. However they were not aware of STIs without symptoms.

Fertility Regulation

Participants said that they know birth control pills, condom, female sterilization, intrauterin devices (IUD) and withdrawal. Some added that their mothers used IUD and had complications. They did not have any details. When they needed a method they will get detailed information from health institutions (H).

When they were asked about services for contraception, Dokuz Eylul University students said they had information from sexually active friends, married friends or relatives and friends who are medical school students. They said everybody knew about pills and condoms; they are available over the counter in pharmacies. In case of contraceptive side effects they will get information from doctors or hospitals. Especially female participants seem to use written material more, they look up encyclopedia and read brochures but they still feel shy to go to seminars. Uludag University female groups used TV commercials, doctors and women's magazines as sources of information for pills. Marmara University participants said they had not much information but they could get it from Medico-social Center.

Services for contraception and STIs

University students said almost all of their friends got services from pharmacies, they use doctors in case of problems related to methods.

Participants discussed service provisions of their place of origins. Unwanted pregnancies were terminated at private hospitals or injections provided from pharmacies. Private hospitals were preferred because of hygiene and extra money would keep them anonymous in case of sexual intercourse before marriage. Some students said especially state hospitals; even some private hospitals do not tolerate/accept sexual intercourse before marriage and people get scolded (U).

Out of school male and females said that abortion is available for unwanted pregnancies but they admitted that they had no idea on conditions. Males were aware of induced abortion, females were curious about the medical procedure and they saw contraception as a solution. One of the male groups discussed the term "unwanted pregnancy"; participants asked about how one could get pregnant without being aware. Findings show that they assumed all the pregnancies as planned (H).

Adulthood

When they are asked to define an adult, phrases like "responsible, consistent, making the right decisions" were used. They said that they needed experience to become adults themselves and criticized the adults for not supporting them while they were growing up by saying "We can't understand what is wrong when they just tell us not to do something, a curiosity builds in us". Adolescents cannot get experienced by following adult preaches or by reading written material.

They were also aware of adults who do not fit to their adult framework, even adults could get risk if they are not informed well enough. They gave an example of TV program "men do not care HIV/AIDS risk, they might have sex with HIV positive women" (H).

Sexual Health Education Model

Findings from two sets of FGDs were similar, university students were more anxious to develop a proper model for sexual education and they also agreed sexual education should be given at school but they also included families and adult tutelage. Apprenticeship and vocational school students claimed that the classes should be held by a teachers they know and available at school like their guidance teacher.

Since families are usually not consulted for issues like reproductive health and sexuality, participants are unsure about the information their families might have. The fact that these issues are not shared leads to feelings of insecurity and hurt for the young people and makes it harder for them to define adulthood.

The families cannot communicate with their children about these issues, and even if they want to, they think that their knowledge might be different

or inadequate. Families think that it's best for the children to receive this education at school. The participants define the situation of their families with phrases like "family knowledge is inadequate", "the family hesitates to talk about these", "it would be a problem in the meanwhile", "how much can my family know?" "Things like that are taught neither by family nor health classes, I learn then from TV or friends". They want their parents' knowledge to be improved and the gap between the parents and the children resulting from the differences in knowledge removed (H).

In almost all groups, the health educator who was first offered was the doctor, but as the discussion proceeded, the participants said, "no matter who it is, the educators should be specially trained" so that health education is given by "knowledgeable and professional" people. They also said that educational services could be provided by trained teachers in primary education and trained guidance counselors in junior high school onward (H).

One of the participants form Dokuz Eylul University, said his information on sexuality was from religious information class. But having this information in same sex class, made him believe "sexuality is embarrassing". Participants considered having sexual education in mixed classes (U).

Students without mixed education also offered same sex classes, others told that health educator could handle giggling and shyness, provide a neutral environment and after 1-2 weeks everyone accept it as regular. They also said that they would like to attend HIV/AIDS seminars but these seminars should be "simplified" for ordinary participants. People do not like seminars since information is presented in medical jargon (H).

Students said that "if sexual intercourse is not encouraged or supported" families will not oppose sexual health training. Some students said they were asked, "What will you do if you find out one of your students engaged in sexual activity" in developmental psychology class, but did not get any information on sexual behavior themselves (U).

Participants from Public Training Center said families and mothers are inadequate for sexual health training and schools are better as sources (H).

Findings and comments

Adolescents appreciate experience and they show that they are open to change their attitudes in adults' guidance. Adolescents whose families have higher level of education are in a better position and female participants feel more responsible than males under the same circumstances. They are also aware of lack of information of males and importance of male participation for improvement of sexual health. Researchers concluded that this difference might be a result of gender roles, expectancies and social structure. "Supporting Sexual Health of Youth Project" was conducted in Izmir, Bursa and Istanbul, but participants were coming from different regions and social classes. Lack of information among participants was similar in Van, Adana and Erzurum participants. Only social structure and family pressure was different. All participants were willing to acquire information and are aware of their need for information.

All male participants had lack of information but during FGDs participants from vocational health schools were more confident and talkative, however, participants from apprenticeship schools had trouble in expressing themselves. Those participants are described their needs and health problems in a realistic way. They need special attention and improvement of training schedule since their attitude and behavior is more open to influence of their families and foremen/trainers.

Comments

Improvement of child health has been a priority for the development programs. There is increasing evidence that countries are supported and almost forced by international organizations to implement these programs. It is a process, which lasts for a lifetime and should even be started a few generations before. Wide precautions such as preventing unwanted pregnancies, improving child health, raising children and youths under secure conditions, having a safe sexual life, possessing the right of reproduction and taking advantage of lifelong reproductive health services are needed in order to have a generation of children whose majority is healthy.

In Turkey where an eight-year education is compulsory, the contributions of schools and thousands of teachers are a valuable resource for improving the health of more than 10 million children between the ages 6 and 14. This opportunity might be useful in providing the families and children with a concern for health in the long term by improving the health of children and young people who are future parents. This would be extremely important since social inequalities exist in the community and family structure and income differs accordingly.

A decade ago, more people were supporting the idea that package programs and campaigns in order

to improve world health should be developed and these activities should be generalized so that they can be carried out everywhere. Similar suggestions also grabbed the attention of many social scientists. Today, almost all the experts accept that seeing all countries and their citizens as a large whole makes it harder to understand and solve the problems. The reliability of data collected from the same population using different methods and from different populations using the same method in measuring reality and forming a solution is also to be widely questioned. Therefore, every society, every region and every problem is special and needs original solutions[20].

What should we do?

It is seen that the needs of youth in Turkey are quite similar to the needs of young people in other places in the world[3]. Developing sustainable strategies that can reach all young people and be repeated is important for the issue of adolescent health. In that respect, the necessary actions that should be carried out in order to improve the reproductive health of young people in Turkey can be summarized under a couple of general headings:

Developing the general abilities of teachers within the education system and establishing a "youth-friendly" informing system would be a very important service to meet their needs. With activities that can be defined as "hidden curriculum" including all age groups and carried out by trained and volunteer teachers supported by medical personnel, the general abilities of the students should be developed. In addition, the suitable environments should be created with the help of special programs so that they acquire positive attitude and behavior.

Trained medical staff to provide the related services requires proper policymaking, supporting physical environment, time and expenses, which are needed. The arrangements can be done with the help of public or private sector. Supporting health organizations that will be integrated into schools and will work for low wages should be a priority in Turkey.

The students state that they require some support in preserving and developing mental health and making use of their free time. Young people who are expected to cope with the examination stress are under a lot of pressure and driven into loneliness or relationships they cannot control in the urban life, kept away from sports and other extracurricular activities that would help them develop themselves in several ways. The number of students who say that they're having some psychological problems is large enough to be taken seriously.

It is desired that young people not going to school and all families should take advantage of the services offered. However, the basic approach for the long run should be that the priorities and the capabilities should be taken into consideration while using the limited resources and they should be organized in order to meet the needs of individuals from all ages. We believe the support for the out of school youth will be available in the near future.

Population growth in Turkey indicates that the number of children belonging to the 0-14 age groups is now stabilized, but the population belonging to the 15-64 age group has been increasing since the last 10 years and this increase continue throughout the next 10 years. The doubling numbers of the population of young people for the next 10-20 years shows us that the services given to this group should also are doubled[6]. We are also aware that the young population is the most valuable resource for Turkey's future. As a result, it is desired that we offer high quality services. Among the first services to be provided to this group are reproductive health services. Helping children to grow into capable adults is among the most important goals of all countries in the world. The project, which was the reason behind creating this report, was prepared as a contribution to reach this goal. While the activities are designed, the steps of generating an "action plan" that is used in management should be followed. These steps are defining the problem, choosing the solution among alternatives by taking into consideration the resources and possibilities at hand and developing a detailed activity plan for the chosen solution.

The institutions will collaborate in the short and long run and conduct the following activities, which aim at organizing the acts for developing a consciousness of health in the ways, which are desired:

* The improvement of the contents of curriculum of our eight years compulsory education system
* Educating the candidate teachers in order to be able to carry out the programs that are developed

Further education for the existing teachers in short term courses would also require organizing extracurricular activities aiming at developing the students' consciousness of health until the above actions are completed.

Mentioned activities were good opportunity to support adolescent reproductive health. Training Modules for trainers were developed and Sexual Health Education –Revised Teachers book– was printed for candidate teachers[21]. In 20 educational faculties more than 1000 candidate teachers enrolled to Sexual Health Education as elective courses. In-service training modules were developed for compulsory education teachers and 400 teachers benefited from in-service training. Following these activities, further comments to improve primary school schedule proposed to Ministry of National Education authorities. We hope that there will be more work in the future in this field.

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A case control study for determining family-related risk factors in abuse of volatile substances in male adolescents

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Abstract

The aim was to investigate and describe family-related risk factors such as parents' education, employment and marital status and age at birth in volatile substance abuse by male adolescents. This is a case-control study, which was conducted between October 1999 and March 2000. Family-related variables (parents' education, employment and marital status, age at birth, etc.) were investigated as risk factors. Case and control groups were administered the same questionnaire to collect the data, after getting parental permission of participants.

Participants were a case group of 70 male adolescents undergoing therapy for volatile substance abuse and a control group of 91 non-user male adolescents, in Ankara, Turkey.

In this study, the disintegrated family (divorced or separated parents) structure emerged as the most important risk factor in adolescent volatile substance abuse. Mother's education, father's education, and father's employment status were other significant factors, where those with uneducated mothers, uneducated fathers and unemployed fathers were again more likely to engage in volatile substance abuse. Volatile substance dependency is an important public health problem among adolescents, for such substances are cheap and easily accessible in developing countries like Turkey. We think that this study once more emphasizes the necessity of considering the family structures and parent characteristics in preventive efforts on this issue. Efforts to prevent families from disintegrating and to increase educational levels and employment in general are suggested to reduce volatile substance abuse by adolescents in the long run.

Key words: Abuse, adolescent, divorce, volatile, and substance.

Introduction

The deliberate misuse of volatile substances poses a poorly recognized risk for considerable morbidity and mortality in adolescent populations worldwide[1]. Inhalant use is a significant health risk for today's youth[2]. During the 1990s, rates of nonmedical drug use among adolescents escalated[3]. While many household and industrial chemicals can be inhaled, glues, paints, and aerosol propellants are among the most commonly abused. Adolescents are often unaware of the health threats posed by inhalation of solvents. Inhalation can result in serious organ system dysfunction or even sudden death[1].

Volatile substance abuse (VSA), which is alternatively named glue sniffing, inhalant abuse or solvent abuse, is the deliberate inhalation of volatile substances in order to achieve intoxication. It has now been reported from most parts of the world, mainly among adolescents, individuals living in remote communities and those whose occupations give ready access to such abusable substances[4].

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Glue sniffing has been linked to sudden death and chronic damage to the heart, lungs, kidneys, liver, peripheral nerves, and brain. Inhalant abuse in general is associated with mortality and morbidity, including social, educational, and economic deprivation in adolescents and young adults[5].

Glue sniffing, the commonly used term for solvent abuse, generally encompasses a variety of substances including spray paint, paint thinner, nail varnish remover, gasoline, marking pens, and lighter fluids. Inhaled vapors eventually reach the lipids in the nervous system, where they can be stored for long periods[6].

A paucity of research does exist in the social sciences regarding the theories explaining volatile substance abuse behavior in adolescents. Cultural ideas about life and alcohol, as perceived by adult community members, are significant contributing and motivating factors in children's choice to abuse volatile substances. The social forces within cultural frameworks must be recognized to better understand youthful choices to abuse such substances[7].

There are three distinct types of inhalant users: young inhalant users, adolescent polydrug users, and inhalant-dependent adults. Young inhalant users have a modal age of 12 to 13. They are likely to have more emotional problems than non-drug users or young marijuana users. These problems, particularly when they involve feelings of anger and alienation, increase the chances that they will identify with other youth who have similar feelings. When this happens, young people form peer clusters, find a best friend or form a small gang that has a high potential for getting involved with drugs. A higher average level of emotional problems only means that some of the young inhalant users have those problems, not all of them[8].

During the last two decades, the abuse of inhalants and other addictive substances has received considerable attention in many countries. According to the results of the 1999 Ontario Student Drug Use Survey, the rates of glue abuse increased 2.3 times between 1993 and 1999[3]. In addition to this, the results of the National Household Survey on Drug Abuse showed that the use of inhalants, particularly aerosols and glue, increased during the first half of the current decade. Initiation of inhalant use is neither limited to early adolescence nor a transitory behavior among adolescents in the United States[9].

In a study carried out in Taiwan, it was found that sniffing glue became more prominent among middle school students in 1996[10]. In Peru, inhalant use ranks third after alcohol and tobacco in lifetime prevalence; and among marginalized children, that is, children working in the streets but living at home or children living in the street, the problem of inhalant abuse is a serious problem[11]. In a study conducted in Greenland among 1557 Greenlander and 377 Danish students, it was found that 6% of the Danish students and 25% of the Greenlander students had tried sniffing. They mostly used lighter-gas or glue[12]. Among urban American Indian youth, lifetime inhalant use was reported by 12.3% of adolescents[13]. In Singapore, it has been expressed that the number of inhalant abusers has rapidly increased[14].

There are many factors that affect volatile substance abuse. In a study on 1,244 children working and/or living on the streets of Tegucigalpa, Honduras, it was found that family relations, length of time on the street, and delinquency were the most important factors[15]. Family problems play a significant role in abusing these substances. In Taiwan, it was shown that the majority of glue sniffers had definite family problems, including loss of parent(s), marital discord or inconsistent attitude of parents, and psychotic history of mother[16]. Furthermore, promotion of family communication is one of the prevention activities of adolescent substance abuse[17].

The purpose of this study is to determine the underlying familial risk factors of volatile substance abuse by male adolescents by means of comparing familial characteristics of users and non-users. With gender and age of the subjects under control, we make comparisons between the volatile substance users and non-users to investigate the risk factors in volatile substance abuse such as parents' age at birth, parents' educational status, parents' employment status, number of siblings, presence of consanguinity between father and mother, and whether the parents of the subjects were married and living in the same household at the time of study.

Materials and methods

Participants and procedure

This is a case control study carried out between October 1999 and March 2000. The case group included 70 adolescent volatile substance abusers and the control group included 91 non-user adolescents.

The cases were selected from adolescents undergoing therapy at the Youth Education and Rehabilitation Center of Ankara Province, Turkey. Eighty-eight adolescents were admitted to this Center in the year 1999. We received their telephone numbers

in the records and made phone calls to the parents to request permission for the study and to verify the information on the subjects. Eleven of the families rejected to grant permission, and four families could not be reached. A total of 73 families granted permission for the study. Three of the subjects were girls; we excluded them from the study in order to match the gender of the case group with the control group who were all males. Finally, 70 subjects of the case group were included in this study. We used the patient records from the Center for the socio-demographic and parents' characteristics of the participants; for interview with all of the case subjects was not possible.

The control subjects were selected from adolescents working in car repair shops in the Iskitler Small Industrial Complex in Ankara. Since the working adolescents did not attend school and lived in conditions similar to substance abusers, they were selected as the control group in this study. The case and control groups were matched with respect to age and gender.

Since the complete list of working adolescents was not available, a systematic randomization could not be done. However, the Ankara Chamber of Industry, which is the occupational organization of businesses at this complex, provided the information that approximately 400 adolescents were working in this industrial complex. We visited the shops and asked one out of every four working adolescents we met whether they would want to participate in the study by responding to our questionnaire. Of the 102 persons we reached by this method six refused to participate. We contacted the families of those who consented to participate by phone to request permission and also to verify some of the preliminary information. Five of the families rejected to grant permission whereas the remaining 91 families gave their consent for participation in the study. We interviewed 91 male adolescents who finally were included in this study.

Instrument

We used a questionnaire for interviewing the control group. The same questionnaire was used for the case group subjects whom we were able to interview. The questionnaire included items concerning the following socio-demographic and familial characteristics of the participants: age of the participant, age of the mother, age of the father, number of siblings, consanguinity between father and mother, mother's education status, father's education status, mother's employment status, father's employment status, marital status of the parents, if the parents were divorced, when did they? with whom is the subject living?

The ages of the parents at the time of the study were asked. This information was used to compute the ages of the parents at the time the subject was born. First-degree consanguinity was assessed. Mother and father's education were captured as years of schooling. Employment status of parents was asked as to whether they have a regular and continuous job or not at the time that the study was carried out. Whether the parents of the subjects were married and living in the same household at the time of the study was asked. Following this, if the parents were divorced, or separated, it was investigated with whom the subject is living with, and if the subject is in the case group, then was asked if the subject started to use volatile substance abuse before or after the divorce or the separation.

Analyses

The data were recorded and analyzed with SPSS for Windows 9.0. The first step of the analyses focused on differences between the case and control groups on demographic variables like age, parental education, and parental age at birth, parental employment status, and number of sibling. In this analysis the student's t test and chi-square tests were used. The participants' ages, mother's age at birth, father's age at birth and number of siblings were assessed according to mean values of two groups. Education status of parents were assessed in four categories: illiterate, received education for 1-8 years (elementary education), 9-11 years (secondary education) and 12 years or more (beyond high school education). The occupations and employment status of parents were classified into the categories: high-grade occupations (scientific and advanced technological professions, management), clerical jobs, service jobs, and menial jobs. Those working at a regularly paid job and those not working were recorded. Housewives were recorded as unemployed.

The second step of analyses focused on determination of risk levels of the variables that were different between two groups. To apply this analysis, each variable was divided into two parts. For the parents' education, the groups were literate and illiterate, for the parents' employment status, these were employed and unemployed, and for the parents' marital status, married and divorced. In this step, another variable was included in the analysis: the employment status of the person or the persons with whom the subject is staying with. This means

Table 1. Comparison of case and control groups by various socio-demographic characteristics

Characteristics		Case group	Control group	p
Age (Mean ±SD)		16.3 ± 1.8	16.0 ± 1.5	0.309
Mother's age at birth (Mean ±SD)		23.0 ± 5.7	24.3 ± 6.2	0.170
Father's age at birth (Mean ±SD)		27.6 ± 8.3	27.8 ± 5.7	0.855
Number of siblings (Mean ±SD)		3.6 ± 1.7	3.7 ± 1.4	0.605
Consanguineous marriage (n, %)	Yes	7 (10.0)	12 (13.2)	0.626
	No	63 (90.0)	79 (86.8)	
Mother's education (n, %)	Illiterate	21 (30.0)	18 (19.8)	0.312
	1-8 years	48 (68.6)	72 (79.1)	
	9-11 years	1 (1.4)	1 (1.1)	
Father's education (n, %)	Illiterate	10 (14.3)	2 (2.2)	0.017
	1-8 years	54 (77.1)	81 (89.0)	
	9-11 years	6 (8.6)	6 (6.6)	
	12 years or more	-	2 (2.2)	
Mother's employment (n, %)	Clerical and related workers	2 (2.9)	-	0.027
	Service workers	5 (7.1)	1 (1.1)	
	Laborers	8 (11.4)	5 (5.5)	
	Unemployed (House wives)	55 (78.6)	85 (93.4)	
Father's employment (n, %)	Professionals	1 (1.4)	1 (1.1)	0.046
	Clerical and related workers	3 (4.3)	7 (7.7)	
	Service workers	30 (42.9)	45 (49.5)	
	Laborers	21 (30.0)	33 (36.3)	
	Unemployed	15 (21.4)	5 (5.5)	
Marital status of the parents (n, %)	Married Divorced	47 (67.1) 23 (32.9)	89 (97.8) 2 (2.2)	0.0001

that if the parents of the subject are divorced whether the person with whom the subject is staying with has a job with a regular income; or if the subjects' parents are married and in the same household, whether at least one of them has a job with a regular income. We named this variable "employment status of the person with whom the subject is staying with".

Then, the third step of the analyses focused on multivariate logistic regression analysis of the variables that were determined as risk factors for this study group. The following dichotomous variables were included in this analysis:

- mother's educational status (literate or illiterate),
- father's educational status (literate or illiterate),
- mother's employment status (working at a job with a regular income or not working at the time of study),
- father's employment status (working at a job with a regular income or not working at the time of study),
- employment status of the person with whom the subject is staying with (working at a job with a regular income or not working at the time of study), and
- marital status of the parents of the subject (married-together versus divorced-separate at the time of study).

Results

The first step of analyses focused on differences between the case and control groups on demographic variables like age, parental education, and parental age at birth, parental employment status, and number of siblings. The analyses indicated significant differences between the groups by parents' marital status, father's education, father's employment status and mother's employment status ($p<0.05$). With respect to age, mother's age at birth, father's age at birth, and number of siblings, however, case and control groups were similar ($p>0.05$) (Table 1). The case group had significantly higher rates of:

Table 2. Risk levels of various factors in case and control groups

Factors		Case Group n (%)	Control Group n (%)	p	Odds Ratio (CI 95%)
Marital Status of Parents	Married	47 (67.1)	89 (97.8)		1.00
	Divorced	23 (32.9)	2 (2.2)	0.0001	21.78 (4.92-96.38)
Mother's employment	Unemployed (House wives)	55 (78.6)	85 (93.4)		1.00
	Employed	15 (21.4)	6 (6.6)	0.006	3.86 (1.41-10.56)
Father's employment	Employed	55 (78.6)	86 (94.5)		1.00
	Unemployed	15 (21.4)	5 (5.5)	0.002	4.69 (1.61-13.63)
Parents' employment status	Employed	56 (80.0)	87 (95.6)		1.00
	Unemployed	14 (20.0)	4 (4.4)	0.002	5.44 (1.70-17.36)
Father's education	Literate	60 (85.7)	89 (97.8)		1.00
	Illiterate	10 (14.3)	2 (2.2)	0.004	7.42 (1.57-35.05)

- divorced parents (32.9% for the case group and 2.2% for the control group),
- illiterate fathers (14.3% for the case group and 2.2% for the control group),
- unemployed fathers (21.4% for the case group and 5.5% for the control group),
- employed mothers (21.4% for the case group and 6.6% for the control group) (Table 1).

The second step of analyses indicated that, as shown in Table 2, having divorced parents was the most important risk factor (OR=21.78, 95%CI=4.92-96.38). Having an illiterate father (OR=7.42, 95%CI= 1.57-35.05), an unemployed father (OR=4.69, 95%CI= 1.61-13.63) and an employed mother (OR=3.86, 95%CI=1.41-10.56) were identified as other risk factors. In addition to these, when the employment status of the person or the persons with whom the subject was staying with was investigated, it was found that the case group had higher rates of unemployed person(s) with whom they were staying with (20.0% for the case group and 4.4% for the control group, $p<0.05$, OR=5.44, 95%CI=1.70-17.36). The risk levels of these variables are shown in Table 2.

The initial logistic regression analysis indicated that having divorced parents appeared as the most important risk factor; and with respect to having an unemployed father and having unemployed parents, there was no significant difference between the case and control groups. Since the difference was minimal and insignificant, at the second step of logistic regression analysis, the variable "having unemployed father" was excluded. Then, when the second step of logistic regression analysis was performed, it was found that while having divorced parents, illiterate father and unemployed parents appeared risk factors, having employed mother did not. Having divorced parents was the most important risk factor for this study group. The results of the first and second steps of logistic regression analysis are shown in Table 3 and Table 4.

Table 3. Results of initial logistic regression analysis of variables determined as risk factors in adolescent volatile substance abuse

Factors	p	OR (95% CI)
Having divorced parents	0.0006	16.19 (3.31 - 79.23)
Having illiterate father	0.0073	9.28 (1.82 - 47.34)
Having unemployed parents	0.1108	13.21 (0.55 -315.35)
Having employed mother	0.0529	3.38 (0.99 - 11.63)
Having unemployed father	0.5412	0.40 (0.02 -7.53)

Table 4. Results of second-phase logistic regression analysis of variables determined as risk factors in adolescent volatile substance abuse

Factors	p	OR (95% CI)
Having divorced parents	0.0005	15.17 (3.25 -70.76)
Having illiterate father	0.0071	9.33 (1.83 - 47.45)
Having unemployed parents	0.0096	5.38 (1.51 - 19.21)
Having employed mother	0.0639	2.99 (0.94 - 9.58)

There was no significant difference between the control and case groups with respect to parents' age at birth, mother's education, number of siblings and consanguinity. For the case group, all volatile substance users started to use such substances after their parents were divorced.

Discussion

There are many studies, which indicate that the family characteristics are influential on children's abuse of inhalant substances[13,15,16,18]. In the present study, various family characteristics were investigated to this issue.

This study shows that the most important risk factor in volatile substance abuse was the disintegrated family, i.e., divorced or separated parents. According to the logistic regression results, the risk of becoming volatile substance abuser for those with divorced parents is 15 times (OR=15.17) the risk for those with non-divorced parents. This finding is similar to results obtained in earlier studies[19,20]. In this study, while 32.9 % of the volatile substance abusers had divorced parents, the control group had a rate of 2.2% for divorced parents. This figure is very close to the average rate in Turkey. The 1998 Population and Health Survey results give the rate of divorced and separated spouses as 1.5 %[21].

One of the risk factors for volatile substance abuse determined in this study is lack of formal education of the father. The risk of becoming a volatile substance abuser for those with uneducated fathers is 9 times (OR=9.33) the risk for those with educated fathers. It was determined that 14.3 % of the case group had uneducated fathers whereas this rate was 2.2 % in the control group. According to the "World Health Report - 2000" data, the rate of illiteracy among adult males in Turkey is 7%[22]. In Ankara where this study was conducted, the literacy rate for males aged 15 and above and living in the urban are was 97% as reported in 1995[23]. This figure is very close to the figure determined in the control group.

Another risk factor that has arisen in this study is the unemployment of parents. Although in the first analysis, unemployed father and working mother appeared as risk factors, the fact that case group had a high rate of disintegrated families required us to consider another variable. Thus, if the participant's mother and father were separated, the person with whom the adolescent continued to stay with, we thought, was more important than the fact that the parents stay together but have no regular and continuous work. Then, the father's unemployment lost its significance in the initial logistic regression; and the mother's unemployment lost its significance in the second phase of the logistic regression. In the final phase of the logistic regression a third variable, that is the person with whom the adolescent continued to stay with, emerged as a risk factor.

A number of earlier studies reported that socio-economic status and low income level were risk factors in inhalant abuse[13,18,19,20]. In this study, the groups were not examined in terms of income level for the following reasons:

1. The control group consisted entirely of working adolescents. These persons make contributions to family income. The case group members do not do so. Thus, adding the wages earned by the control group members to the family income would be a partiality.
2. Turkey is a country where prices and wages change fast. For example, the wholesale price index in the year 1994 was 100 units whereas this index in the year 1998 was 1022.4[24]. This presents enormous difficulty in actual computation of income.

The exclusion of the socio-economic status and low-income level of the family is an important limitation of this study; thus, further studies incorporating this important variable would be beneficial in identification of risk factors in adolescent volatile substance abuse. Also, the results are specific to male adolescent population; and therefore, similar studies should be conducted on the female adolescent population, and younger (children) and older (adult) populations as well.

Another limitation of the study is the selection of the control group. It would have been better to use a control group from homeless adolescents who were not volatile substance users; but it was not possible to enlist adequate number of subjects. In order to compare the putative risk factors, we chose the controls from working adolescents; because, like volatile substance user adolescents, they do not attend school, they spend much time out of parental control, and they are in contact with other similar adolescents.

In this study, various socio-demographic characteristics are determined to be risk factors in volatile substance abuse. We found out that adolescent volatile substance abusers have significantly higher rates of disintegrated families, uneducated mothers and fathers, and unemployed fathers than non-users.

It is known that volatile substance dependency is an important public health problem among adolescents, for such substances are cheap and easily accessible in developing countries as in Turkey.

We think that this study once more emphasizes the necessity of considering the family structures and parent characteristics in preventive efforts on this issue. Efforts to prevent family disintegration in particular and to increase educational levels and employment in general are suggested to reduce volatile substance abuse by adolescents in the long run. Also, the society should take greater responsibility of the children if the parents are not able to do so that they are not totally left out on their own.

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Socio-demographic characteristics and lives of children working or living in the streets of Mersin, Turkey

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Abstract

The purpose of this study is to determine the socio-demographic and life-style characteristics of streetchildren working or living in the streets of Mersin, Turkey. The data used in this study were obtained from a project named "The Conditions of the Children Working or Living on the Streets of Mersin, 2002". Of the 916 children who were included in the study 896 (97.8%) were males. The mean age of children was 11.8±2.2 (5 - 18). 883 children (88.6%) were literate and 715 children were currently attending school. 438 (47.8%) children were working as shoeblacks and 277 (30.3%) as garbage collectors. 64.8% of them were working as groups. 896 (97.8%) of the parents knew that their children were working in streets. 821 (89.7%) children were giving the money they earned to their parents. In Mersin, numerous children, mostly boys, have been working in the streets to contribute to the family income.

Key words: Children living in street, children working in streets, street-children, working children, street youth.

Introduction

Childhood is defined as the period between the ages of 0 and 18. This is the age range when the growth, development and the basic education of children are completed and their personality is shaped. Children at these ages are dependent on the care and protection of their parents[1]. Physical and mental development of the children living away from their families is affected negatively[2].

Increasing population, economic disparities between countries and the income distribution disparities among individuals deteriorate the social structures of societies. Poverty, economic crises, unemployment, natural disasters, unplanned urbanization, regimes changes experienced in the country, political problems, rapid population growth are among the factors that decrease the family income[3-7]. In such situations, children start to work; willingly or unwillingly. Streets, which free children from the burden of looking for a job or being engaged in a regular job, are an easy setting to work.

In relevant studies, two striking causes were identified as to the reason children work or live in streets. One of them is the failure of family to have enough income to meet their needs and the second one is exposition of children to violence at home[6,8-10]. Children working in streets do not cut their ties with their families and they go back to their homes in the evening. Children who are subject to violence at home rarely or never see their families[5,8-10].

There is no definite information concerning the number of the children living or working in streets in the world. However it is estimated that 100-150 million children are working or living in streets and there is a risk that this number may be even higher[8,9,11,12].

For the last 20 years, children working or living in streets have been on the agenda as an emerging problem of the society in metropolitan cities such as Istanbul, Ankara, Mersin and Diyarbakir that receive migration from less developed parts of Turkey. However a study conducted in 1940 in

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Istanbul shows that this problem is older than it is thought to be[13]. Although the number of the children working or living in streets in Turkey is unknown, rapid population growth, rapid and unhealthy urbanization, intensive migration and economic crises have led to the estimation that the number of the children working or living in streets is higher than it is considered.

This study aims to identify the individual and family-related features of children working or living in the street and characteristics of their lives in streets.

Materials and methods

This study, conducted collectively by the Public Health Department of Mersin University Medical Faculty and Mersin Provincial Directorate of Social Services was performed in the period between April and September 2002. The universe of this cross-sectional study was determined as the children who have been either working or living in the streets of Mersin. The number of children working or living in the streets was unknown. Hence, we decided to include in the study all the children who could be contacted without performing any sampling. These children were working or living in bus terminals, big parks, market halls, market places and crowded streets where state institutions are located.

Data were collected via a questionnaire including questions related to socioeconomic characteristics and educational status of the children and their parents, family composition and social security profile. Number of siblings, and various aspects of street life such as whether they spend the night in the streets, and history of accidents in streets were questioned as well. The questionnaire was pre-tested with ten children, revised and then duplicated.

Six physicians five of whom were from the Public Health Department of Mersin University Medical Faculty and one from Mersin Provincial Directorate of Social Services were assigned in data collection. The streets where many working children were present were surveyed between 08.00 - 17.00 for 2 - 3 times a week with a mobile healthcare vehicle provided by the municipality of a district. Two physicians were present in the vehicle during data collection. During the interview the child was informed about the study objectives ways to participate in the study. They were clearly informed about the scientific nature of the study and that their identities will be kept confidential and not exposed to the police or the gendarme and that participation to the study is a voluntary act and they may quit their participation during the study.

After obtaining informed consent, those who accepted to participate in the study were invited to the vehicle one by one for a face-to-face interview, and subsequently their systemic physical examinations were performed. 959 children were contacted for this study. 916 (95.5%) of them accepted to participate in the study.

The children participating in the study were grouped as a) children working in streets and contributing to the family budget who have go back to their homes and do not cut their ties with their families[13,14]; b) children living in streets who have cut their ties with their families or see their families very rarely and sleep in streets overnight[13,14]; c) children who partially live in streets; they sometimes sleep in their families' houses and sometimes in streets.

Descriptive statistics were used to summarize the data; whereas in comparing the variables fisher's exact test and the chi-square tests were used.

Results

A total of 916 children; 818 (89.3%) of whom were working in streets and 91 (9.9%) of whom were living in streets, participated in the study. 896 (97.8%) of them were males. The average age of the study participants was 11.8±2.2 (Table 1).

883 of the children (88.6%) were literate. The number of children currently attending school was 715 (78.1%) whereas the number of children who have never been to school was 108 (11.8%). In the literate group, 93 (10.1%) of them had dropped out of school because the income level of the family was low (Table 1).

The parents of 823 children (89.9%) were living together; 39 (4.3%) children had parents who were separated. Fathers of 44 children (4.8%) were deceased; mothers of 9 children (1.0%) were deceased.

Mean age of fathers was 41.9±8.2 years; 86.2% of them were literate. Eighty percent of the fathers were employed; the most common field of occupation being construction workmanship. Mean age of mothers was 37.6±6.6 years, 20.8% of them were literate Only 6.3% of mothers were working. The average number of the siblings of study participants was 6.7±2.7 (Table 1).

Table 1. Socio-demographical characteristics of the children and parents

Characteristics (n=916)	n	% / mean±sd
Children;		
Male	896	97.8
Female	20	2.2
<10 age	146	16.0
10 -14 age	680	74.2
>14 age	90	9.8
Literate (attending school)	715	78.1
Literate (not attending school)	93	10.1
Illiterate	108	11.8
Father[1];		
Alive	871	95.1
Age	715	41.9±8.2
Illiterate	205	23.8
Literate	306	35.6
Primary or above educated	349	40.6
Unemployed	172	20.0
Construction worker	198	23.0
Other worker (agriculture, ports, etc)	216	25.1
Mobile seller (roadman)	80	9.3
Other	195	22.6
Mother[1];		
Alive	906	99.0
Age	749	37.6±6.6
Illiterate	709	79.2
Literate	117	13.1
Primary or above educated	69	7.7
Unemployed (housewife)	839	93.7
Daily-paid jobs	43	4.8
Worker	13	1.5
Sister & Brother;	916	6.7±2.7
Existence of a dead sister/brother	510	55.7
Existence of a sister/brother who ran away from home	107	11.7

[1] The total number is not 916 as 10 Mothers and 45 Fathers are not alive or the children do not remember information about their parents. For this reason the percentages were calculated on the total information obtained.

Among the study population, the families of 906 children (99.0%) had migrated to Mersin on an average of 11.8±6.3 years ago. 57.4% of the families were living in their own houses. The average number of individuals per household was 8.4±2.8. 6.8% of the children were living with at least one step-mother, step-father or step-brother/sister in the house. 33.3% of the families were covered by a social security scheme. The most common social security scheme was green card which is a social security card provided by the State to the poor, allowing them access to health care. (Table 2).

Table 2. Characteristics of children about their family life

Characteristics	n	% / mean±sd
Family;		
Migrated	906	99.0
Originally from Mersin	10	1.0
Family;		
Living in the city	907	99.0
Living in the rural parts	9	1.0
House		
Own house	526	57.4
Rental	380	42.6
Number of people living in the household	916	8.4±2.8
Mother-Father		
Living together	823	89.8
not living together	93	10.2
Step parent at home	62	6.8
no step parent	854	93.2
Social security;		
none	610	66.6
green card	236	25.8
other	70	7.6

All children participating in the study were working in streets. 896 (97.8%) families were aware of this fact. 594 (64.8%) children preferred to work with friends within groups. In 466 (50.9%) of the families, at least one more working family member was present. 438 children (47.8%) were working as shoeblacks and 277 (30.3%) as garbage collectors. 83.2% of the children were giving all their income to their family, while another 6.5% giving a part of their income. Although not statistically significant, there appears to be an inverse relationship with increasing age and handing of all the income to the family. Among the study participants, 22.1% had had at least one traffic accident and 43.8% had been taken to the police station at least once (Table 3).

We found that 98 (10.8%) children had slept in streets at least once so far. The number of children who had slept in streets at least once within the last month was 44. Only 7 children had been regularly living in streets. The mean age of starting sleeping

in streets was 10.7±2.6. The most common causes behind their preference to live in streets were the problems they had with other members of their own families as well as urging of their friends to spend the night together. The children spending the nights in streets had been usually doing this together with other children (Table 3).

Table 3. Characteristics of children's life and work in street

Characteristics	n	% / mean±sd
Parent aware of the fact that child working	896	97.8
Another household member working in street	466	50.9
Working style:		
in group	594	64.8
alone	322	35.2
The work		
shoe-painting	438	47.8
garbage collection	277	30.3
simit (pastry) selling	47	5.1
weighing people with a scale	22	2.4
other sales	122	13.3
begging, thief	10	1.1
Gives all his money to his family	762	83.2
Gives some of his money to his family	60	6.5
Spends his money himself	94	10.3
The child who had had an accident in street	202	22.1
The child who was ever sent to a police station	401	43.8
The child who had slept in the street at least once	98	10.7
The age he slept in street	98	10.7±2.6
The number of nights he sleeps in street in a month;		
0 day	54	55.1
1-7 days	32	32.7
8-29 days	5	5.1
Every day	7	7.1
Cause of sleeping in street: conflicts with a parent	46	46.9
insisting friend	25	25.5
not enough money to take home	12	12.2
others	15	15.3
Who does he/she stay in street with? other children	66	67.3
alone	32	32.7

We found that all children participating in the study were boys. Most children sleeping in streets were aged over 14 ($p<0.001$). Children of illiterate parents ($p<0.001$) and children whose parents are separated ($p<0.05$) tend to sleep in streets more. Other factors related to sleeping in streets are presented in Table 4.

Table 4. Characteristics of children who had slept in street at least once

Characteristics	Slept in street at least once (%)	p
Gender		
Male	10.9	p>0.05[a]
Female	0.0	
Age		
<10 years	4.1	
10-14 years	9.1	p<0.001[b]
>14 years	33.3	
Education		
Literate (attending school)	6.4	
Literate (not attending)	29.0	p<0.001[b]
Illiterate	23.1	
The work done		
Shoe-painting	6.6	
Garbage collection	13.0	p<0.001[b]
Others	16.4	
Spending		
Gives all his money to his family	9.3	
Gives some of his money to his family	15.0	p<0.01[b]
Spends his money himself	19.1	
The child who was sent to a police station	21.7	p<0.001[b]
Others	2.1	
The child who had had an accident in street	23.8	p<0.001[b]
Others	7.0	
Parent aware of his child working	10.5	p>0.05[a]
Others	20.0	
Mother-Father		
Together	10.0	p<0.05[a]
Other	17.2	
Step parent at home		
Available	14.5	p>0.05[b]
Not available	10.4	

[a] Fisher's Exact Test

[b] Pearson Chi-Square

Discussion

Previous studies report that 90-95% of street children work in streets and 5-10% live in streets. Although the rate of children living in streets is low, this group of children are more likely to be exposed to the potential risks in the streets and criminal events than the children who do not live in streets[11,12]. 89.3% of children who participated in our study had been working in streets. Only 7 children were always living in streets. The remaining 91 were defined as "children living partly in streets". Although the number of children living in streets is low, it should be noted that these children carry the potential to start to live in streets.

We found out that children who spend the money they earn for their own needs and the children of problematic families tend to sleep in streets more often than others.

Previous studies report that 75-96% of children living in streets are males[10-18]. In our study, this figure was 97.8%. It is believed that girls living in streets would be involved in prostitution as they can not protect themselves against external threats. For this reason, we believe that girls are made to work as babysitters or servants in houses by their families. This may be the reason that the number of the girls living in streets remains lower than boys[3,9-11,13,18].

Previous studies report that most of the children living or working in streets are aged between 10 and 14[3,9-13,14,16-19]. Similarly, in our study, most of the children were aged between 10-14. It is probable that because younger children are not able to protect themselves against the potential dangers in streets and that their working skills have not developed well enough, children younger than 10 years of age are rare in streets. Children aged over 14 quit working in streets as people show less affection to older children. Thus, as they get older, children may tend to be involved in other occupational areas or illegal businesses such as theft[11,13].

Families striving with economic problems do not send their children to school or take them from school due to the fact that they can not afford their school expenses or they consider the amount of money their children could have earned if he or she worked instead of going to school. The rate of dropping out and non-attendance is higher in case of such children. In a study conducted by Aderinto[15], it was reported that 10% of the street children had never been to school and 55.9% had dropped out of school. In a study conducted by Morakinyo[20], it was reported that 40% of the street children participating in the study were not going to school. In his study conducted in İstanbul, Karatay[13] reported that 17% of the street children had never been to school and 29% of them dropped out of school. In another study conducted in Turkey, these rates were reported to be 13.3% and 25.0% respectively[17]. While the rate of children who have never been to schools in our study is similar to those from other studies, the rate of dropping out of school is lower than in other studies. In Mersin, the rate of school attendance may be high as the number of the children living in streets is low as well as the rate of the children who have not cut their ties with their families is high.

It is reported that having broken families and death of parents are more common among children living in streets. In a study conducted in Ethiopia in 1994 by Beyene[21], it was stated that 32.7% of the street children had lost at least one parent. Another study conducted in the same country by UNICEF reports that this rate varies between 56-93%[13]. Rafelli[20] reports that 30.2% of the street children in Brasil have lost their mothers and/or fathers and Veale et al[14] report that 33% of the street children in Rwanda have lost both their mothers and fathers. In similar studies conducted in Turkey, it is noted that 4.8% of street children come from broken families and that 8% have lost their mother and/or father[23]. It is seen that the rate of motherless or fatherless children in our study is considerably lower when compared to those of foreign countries whereas it is similar to those from other studies conducted in Turkey. This may be due to the economic differences and peculiar social facts of these countries. For example, while the main factor that causes the children work or live in streets is migration in Turkey, it may be genocide in Rwanda[14].

It is well recognized that unemployment rates among fathers of street children is extremely high. Fathers of street children are generally engaged with daily-paid, unskilled jobs. Virtually all mothers are housewives. Owing to these conditions, it is reported that the rate of parents lacking a social security scheme varies between 50-70%, and that those covered mostly have green cards[13,17,19,22,24].

In this study, families of nearly all children had come from any other town and that nearly all of

them were living in the same town with their children. This result was similar to the findings of previous studies in Turkey[13,17,22].

Although most street children were coming from nuclear families, these families were quite crowded. More than half of the children who participated in our study had at least 4-6 siblings[13,15,17,21]. The average number of people in the houses of these children was 8.4±2.8 and the average number of the siblings was 6.7±2.7.

Children work in streets in order to contribute to the income of household[3,4,11,14,15,19,24]. Similar to the previous studies conducted in Turkey[13,17], nearly all families are aware of the fact that their children work in streets. And more than 90% of these children give all or some of the money they earn to their families. This is yet an expected consequence. It also reinforces the hypothesis that in case of a family having an adequate income, children would not be made to work.

Children working or living in streets are generally involved in jobs similar to each other. Although features of these jobs vary with respect to different locales, the most common ones are peddling (chewing gum, water, handkerchief, flowers and pastry), shoe-shining, garbage collection and cleaning the front windows of cars on roads[9,12,13,17]. Among these, shoe-shining was the most common one in this study. Garbage-collection, which was at the end of the list in other studies, came second in our study. The intervention of policemen to children working in streets causes their activity to shift to rural areas of cities. Children prefer garbage collection as they can not earn enough when they sell handkerchief, flowers or similar things in such locales.

When working in streets, children encounter a variety of harmful events. They frequently face threats such as traffic accidents, physical violence, disease-disability-death, abduction, sexual assault and usage of narcotics[3,4,8,9,11,17]. In this study, more than one fifth (22.1%) of the children had had at least one traffic accident while working in streets. The data indicate that these children encounter such risks very frequently.

In this study, more than half of the children stated that they preferred working in groups. It is reported that street children form groups for security reasons[11]. In addition to the security-related causes, living in the same street, having kinship and being friends at school might be other reasons for forming groups.

'There are various patterns of domestic or social determinants that affect the life styles of children working in streets. These determinants vary from society to society. While the causes of the problem are basically the same, the individual and social risks experienced by these children are distinct from each other due to different aspects of countries. For this reason, the concept of street child should be defined and perceived in a different way for countries with varying levels of development, socio-economic and cultural levels. The characteristics of the problem display variety from region to region. For the solution of the problem the basic underlying causes (such as poverty, unemployment, migration, domestic violence, lack of education, growth of population) should be eradicated.

In the studies conducted for the purpose of improving the conditions of children working and/or living in streets, children's lives in streets should be taken into consideration when allocating the resources. For example, due to the fact that all of the street children in Mersin work in streets, investments should be directed to the establishment of care centers serving in day time rather than setting housings for night time.

The most remarkable factor that keeps the children away from working in streets is school. Eight year compulsory education has been considered to be very useful in this sense. Thence, the duration of the basic education should be increased to 12 years and a uniform (formal) education system should be instituted nationwide.

Family planning services should be made widely available in the regions where these children live.

Duty area and opportunities of Children and Youth Center of Social Services and Child Protection Organization should be increased. These centers should be in close contact with the children living or working in streets and their families. When necessary, financial support and employment opportunities should be provided to the families.

Analytical and controlled studies should be conducted on the subject so that causes of and solutions to the issue of children working or living in streets can be determined.

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Body perception of a group of 10th grade adolescent girls in Ankara, Turkey

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Abstract

This study was conducted to examine the body perception of adolescent girls and potential factors influencing their perception at a high school in Ankara. In this study, there were 226 10th grade female students. Self-perception of the adolescent girls was evaluated by asking a multiple-choice question with five answers, categorized from "extremely thin" to "extremely obese". The responses were categorized as "underweight", "normal" and overweight/obese".

Girls' ages ranged from 15 to 19 years (mean=16.3±0.7; median=16.0). Based on Body Mass Index (BMI) percentile for age, 36.0% of the females were either protein energy malnutrition (PEM) or underweight, 60.0% were normal weight, and 4.0% were overweight. The majority of the adolescent girls (79.1%) perceived their body as "normal". The other expressions were "underweight" (15.3%)", and "obese 5.6%". 63.9% of the adolescent girls who were underweight due to the BMI percentile for age standards perceived their body as "normal". Body perception measurement tools should be used in larger populations at different age groups. Qualitative studies are highly recommended to understand the underlying factors of "perception".

Key words: adolescent, female, body perception

Introduction

Adequate and balanced diet is a requirement for health as well as doing regular exercise, not smoking, etc[1,2]. It is recommended to internalize healthy nutritional behaviors at younger ages such as childhood and adolescence period. A number of factors influence adolescents' nutritional behaviors like "body perception", "genetic factors", "having obese parents", "lifestyle characteristics", etc[3,4]. Among all, "body perception" is known to be a dynamic concept that "socio-cultural" and physiological issues influence throughout life[5]. "Body image" or "perception" is a term used to describe the appreciation of and satisfaction with one's own physical appearance. In adolescence, there becomes a serious physical and physiological development and they are at particular risk of developing negative body image disorders[6]. This trend is more common among adolescent girls compared to boys. The body image is a greater concern of adolescent girls at these ages. Therefore, their main interest is frequently preoccupied with physique and appearance. Dissatisfaction with body weight and shape is highest among female adolescents[7]. Eating disorders are pathological forms of dissatisfaction with the body imaging in a society which values and rewards female slimness. Cultural values influence especially the "ideal" body shape of the individuals. For example, in the western world, obesity is a major health problem and also carries with a social stigma. However, in some cultures like the ones in Northern Cameroon, slim people are seen as weak and tired and their body shape as ugly and ridiculous[8].

In Turkey, the obesity prevalence (BMI values over 25.0) for married women of 15-19 years of age was 29.5% according to the national population and health survey conducted in 2003. The percentage of women with BMI values lower than 18.5 was 4.8 in the same study[9].

In this study, we tried to examine the "body perception" of adolescent girls and potential influencing factors at a high school in Ankara.

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Materials and methods

In this study, the participants were 226 10th grade girls at a high school in Eryaman District, Ankara. Data collection was conducted by a group of last year medical students by face-to-face interview technique in April, 2003. A questionnaire including 35 items in five sub-categories was prepared for data collection. Sub-categories were about the socio-demographic characteristics, alcohol consumption, smoking status, physical activity, nutritional behaviors and body perception of the adolescent girls. The research team also measured the body weight and height of the adolescent girls. The response rate to the questionnaire was 94.2%; whereas the participation rate into the measurement section was 88.5%. In this questionnaire, neither a national nor an international standardized "body image measurement tool" was used. For this reason, we did not conduct a validation study for the questionnaire. We only conducted the pre-trial of the questionnaire and completed the revision before the study. The pre-trial was conducted among 15 10th grade girls on 31st of March at another school with similar socio-economic characteristics.

Body Mass Index (BMI) percentiles for age was the reference values currently recommended by World Health Organization[1].

According to this classification
≤5 percentile : PEM
6-15 percentile : undernutrition
16-85 percentile : normal
86-95 percentile : overweight
96 and over : obese

Questions for the dependent variable:

Our dependent variable, self-perception of the adolescent girls, was evaluated by a multiple-choice question: "Which of the following refers to how your body looks like? ("Extremely thin", "thin", "normal", "obese", "extremely obese"). The answers were categorized as "underweight", "normal" and "overweight/obese".

The students were also expected to answer an open-ended question: "What does obesity mean?". The answers were summarized in Table 2.

Questions for independent variables:

"Do you ever smoke or are you a current smoker (1. never smoke, 2. sometimes, occasionally, 3. yes, regularly, 4. used to, gave up ..... ago)" was asked for determining smoking behavior and "Do you ever drink alcohol or are you a current alcohol drinker (1. never drink, 2. sometimes, occasionally, 3. yes, regularly, 4. used to, gave up ..... ago)" was asked for alcohol drinking status.

Statistical Package for Social Sciences (SPSS) program, version 10.0 was used for data entry and analysis. Analyses included frequency and percent distributions, calculations of means, standard deviations, medians, and percentiles.

Results

The study group comprised the 10th grade girls most of whom were 16 years old (72.0%). Their ages ranged from 15 to 19 years (mean=16.3 ±0.7; median=16.0). 97.3 % of them had siblings. Nuclear family was the most common family type (90.4%); 7.7% of the study population lived in a separated family.

Most of the adolescent girls never consumed alcohol while 5.6% of them were current consumers. The mean duration of alcohol use in this group was 12.0 months. The frequency of regular smokers was 12.8%. Mean duration of smoking was 12.3 months in the smokers group. Over half of the adolescent girls smoked more than 10 cigarettes per day (Table 1).

Table 1. Alcohol and cigarette consumption of the adolescent girls (Ankara, 2003)

Characteristics	number	%
Alcohol consumption (n=179)		
Never consumed	153	85.5
Consumed in the past	16	8.9
Currently consuming	10	5.6
Duration of alcohol drinking (months) (n=31)		
≤6	15	48.5
7-12	5	16.1
13 and over	11	35.4
Mean =12.0; Median =7; Min-max =1-48; Mode =4		
Current smoking status (n=186)		
Non-smoker	156	83.8
Quitted	10	6.4
Regular smoker	20	12.8
Duration of smoking (months)		
≤11	25	73.6
12-24	7	20.6
25 and over	2	5.8
Mean=12.3; Median =10; Min-max =1-60; Mode =12		
Cigarette consumption per day (n=31)		
≤5	12	38.7
6-9	6	16.2
10 and over	13	55.1
Mean =7.9; Median =8; Min-max =1-20; Mode =1		

Obesity definitions of the students were categorized. Almost one out of six participants gave priority to physical characteristics while defining "obesity". Accepting obesity as an illness was not very infrequent among the study population (12.8%) (Table 2).

Table 2. Definition of obesity (Ankara, 2003)

Obesity	n	%
Too much weight		
too much weight, excess energy, having body measures increased, having unbalanced fat/muscle ratio	76	34.7
Unbalanced and excess food consumption		
unbalanced food consumption, eating too much, snacking, eating frequently	57	26.0
Physical characteristics		
poor body appearence, increase in body weight, being ugly, unable to fit into dress	33	15.1
Obesity is an illness		
illness, depression	28	12.8
Others*	25	11.4
Total	219	100.0

* "Hormonal factors cause obesity", "drugs cause obesity", "it is awful to be obese", "constitutional", "to be obese is not the end of the world", "cuteness", "physical inactivity", "feeling unhappy", I don't know"

Eighty-six out of 221 students (38.9%) stated that they had dieted before. 24.4 % of them did not declare a rational cause. The major causes stated by students for dieting were "I was obese (23.3%)", "I had to lose weight (22.0%)", "I was feeling that I had excess weight (16.2%)". About 30.0% of the adolescent girls who were dieting did not have professional support for their diet decision. Six girls highlighted that they were vomiting as well. Besides, two students were using a drug to lose weight. In other words, eight out of 221 participants (3.6%) were attending an unusual and possibly unhealthy method to lose weight.

The distribution of the BMI percentiles for age and body perception of the adolescent girls is presented in Table 3. Based on the BMI percentile for age, 36.0% of the females were either PEM or underweight, 60.0% were of normal weight, and 4.0% were overweight. Majority of the adolescent girls (79.1%) perceived their body as "normal". The other expressions were "underweight" (15.3%)", and "obese 5.6%" (Table 3).

Table 3. BMI percentiles for age and body perception of the adolescent girls (Ankara, 2003)

	n	%
BMI percentile for age* (n=200)		
PEM	43	21.5
Underweight	29	14.5
Normal	120	60.0
Overweight +obese	8	4.0
Body perception (n=215)		
Underweight	33	15.3
Normal	170	79.1
Overweight and obese	12	5.6

* ≤5(PEM); 6-15 (underweight); 16-85(normal); 86 and over (overweight and obese)

In Table 4, associations between some selected variables that can influence body perception of the adolescent girls were presented.

13.2% of the adolescent girls who dieted before perceived their body overweight. However, only 5.2% of those who had never dieted before perceived themselves as overweight (chi square=11.457; p=0.003).

63.9% of the adolescent girls who were underweight according to the BMI percentile for age standards perceived their body as "normal". 10.8% of the students having normal BMI percentiles perceived themselves as "overweight". One out of four overweight girls perceived themselves as "overweight". Three quarters of this group perceived themselves as "normal" (chi square=19.865; p= 0.001).

Discussion

Beliefs and perceptions about the body may be more important for adolescent girls than the scientific realities in gaining accurate dietary behaviors. Concerns and beliefs may influence the adolescent girls' food intake[10]. The majority of the adolescent girls had different body images than the scientific reality. 63.9% of the adolescent girls who were underweight according to the BMI percentile for age standards perceived their body as "normal". 10.8% of the students having normal BMI percentiles perceived themselves as "overweight". One out of four overweight girls perceived themselves as "overweight". Three quarters of this group perceived themselves as "normal" (chi square=19.865; p=0.001) (Table 4). These discordances are important because

Table 4. Association between body perception and some selected variables (Ankara, 2003)

Variable	Body perception (%)			Chi square	p
	underweight	normal	overweight		
Smoking (n=186)				4.283	0.117
yes	3.3	90.0	6.7		
no	17.9	74.4	7.7		
Alcohol drinking (n=179)				1.915	0.384
yes	25.9	66.7	7.4		
no	15.1	76.3	8.6		
Ever dieted (n=226)				11.457	**0.003**
yes	7.7	79.1	**13.2**		
no	22.2	72.6	**5.2**		
Guided by someone while deciding to start dieting (n=91)				1.233	0.543
yes	6.1	75.8	18.2		
no	8.6	81.0	10.3		
BMI percentile (n=200)				19.865	**0.001**
underweight	31.9	**63.9**	4.2		
normal	10.0	79.2	**10.8**		
overweight	-	**75.0**	25.0		

adolescents with a distorted perception of body weight may set unrealistic goals and choose unhealthy behaviors to control their weight[11].

Supporting this data, six girls were vomiting and two girls were using a drug as well dieting to lose weight in this study. In other words, eight out of 221 participants (3.6%) tried unhealthy methods to lose weight and they are at risk of choosing unhealthy behaviors. Vomiting and using a drug to control weight additional to dieting, may be signs of eating disorders. Anorexia nervosa and bulimia nervosa are the main types of eating disorders. They frequently co-occur with other psychiatric disorders such as depression, substance abuse, etc. An estimated 0.5 to 3.7% of females suffer from anorexia nervosa and an estimated 1.1 percent to 4.2 percent of females have bulimia nervosa in their lifetime[12]. It is highly recommended that more detailed studies with psychiatric component should be planned for assessment and diagnosis of these diseases.

There is a strong association between attempting weight loss and weight related beliefs. Students who believed they were overweight were more likely to try losing weight than other students in a number of studies[10]. If this is true, giving priority to decrease the inaccurate knowledge, attitude and behavior may be an appropriate approach for adolescents to improve their healthy behaviors. At the study school, there are two psychological counselors who are in close relationships with the students. They were both informed about the results of the study. Additionally, the study team recommended the counselors to plan and develop an intervention and supportive methods within the school for all students. In our study, almost four out of 10 girls stated that they had dieted before and about 30.0% of those who were dieting did not have professional support for their diet decisions. Collaboration with the counselors may also help to emphasize the importance of professional support, which will guide the individual if he or she needs to diet or not.

In this study, 15.1% of the adolescent girls defined obesity as "poor body appearance, increase in body weight, being ugly, unable to fit into a dress". Moreover, obesity was equal to "illness and depression" for 12.8% of the adolescent girls (Table 2). These kinds of negative perceptions might be due to the effect of media because a negative impact of the media imaginary on body perception is a well-known concern[5]. In a study conducted in Fiji, body image and disordered eating attitudes and behavior were influenced by Western media imaginary[13]. There are very popular magazine programs on Turkish television channels, which may influence especially young people regarding their body perception and physical appearance. This type of programs might have influenced the obesity definition of the adolescent girls at the study population.

This study highlights the concept of "body perception". However we have some limitations. First,

we did not use a standardized measurement tool for assessment of body perception. Second, we cannot generalize our results to the general population for this is a small-scale study limited to the study school. Due to the small size of the study population, it was not possible to utilize a logistic regression model for the analysis.

There are standardized measurement tools to assess "body image and perception"[14]. The reliability and validity of "Physical Self-Perception Profile" measurement tool for Turkish university students were indicated in a recent study carried out by Asci and Zorba in 1999[15-16].

As a result, new studies using a valid tool in larger populations and different age groups with qualitative components are highly recommended to understand the "body perception" among adolescent girls.

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Effects of local decisions on air pollution in Trabzon, Turkey during 1994-2000*

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Abstract

This study aims to evaluate the level of air pollution in the center of Trabzon (Turkey) and the effectiveness of Local Environment Council Decisions.

The changes of SO_2 in the measurements carried out in winter months are statistically significant (F=37.9, p<0.005). The average winter target level of two pollutants 120 g/m^3, has never been exceeded in any of the observation years. We calculated that there is a 46.1% decrease at average levels of SO_2 and 45.6 % decrease at TSPM levels in winter seasons in the years 1994 - 2000.

The Local Environmental Council started taking decisions regarding environmental health in 1993. Some of the precautions that the Council implemented includes prohibition of burning petrocoke, allowing the use of imported lignite coal, determining standards of coal and fuel oil used for heating, controlling exhaust gases regularly, prohibition of wastes used for heating in industrial areas, controlling coal sellers, measuring exhaust gases in new cars, providing the use of filter holding dust in chimneys.

Key words: Air pollution, environment, local decision, particular matter, sulphur dioxide.

Introduction

The famous fogs along the Thames in the City of London chronicled by Sir Arthur Conan Doyle in the Sherlock Holmes stories 100 years ago underscored a problem first noted in the early seventeenth century, at the beginning of Industrial Revolution. Currently, several cities stand out as worst cases of air pollution[1]. In 1952, in London the coincidence of an increase in sulphur dioxide (SO_2) and total suspended particulate matter (TSPM) coupled with a dense fog led to the death of 3500 people[2].

In urban and industrial areas, man-made pollution results from combustion of coal and other fuels for vehicles, heating or industrial activities. It was reported that emissions from on-road vehicles were 56 % of the total national emissions of NOx, 32% of volatile organic compounds (VOC) and 82% of carbon monoxide (CO). Since the emission ratios from mobile sources were even greater in the urban area, significant reductions in motor vehicles would be necessary to meet the National Ambient Air Quality Standards (NAAQS). Meteorological conditions affect the concentration of the pollutants or their modification through chemical reactions such as temperature, sunlight, rain[2,3].

TSPM and co-pollutants deposited in the respiratory tract cause cardiovascular and systemic effects, especially in persons with pre-existing conditions such as allergic hyper responsiveness and pulmonary, cardiac, and vascular diseases. The relationship between chronic pollution and mortality and morbidity has been reported in many studies [4-8]. Furthermore, cost-benefit analysis based only on more severe outcomes will inevitably understate the overall benefits of pollution controls to a community[9].

When air pollution became one of the most important environmental problems in Turkey[10], local governing bodies were given a number of responsibilities following the adoption of the Law of Environment Protection in 1983 and the Clean Air Act in 1986.

In Trabzon, outdoor pollution results esentially from the combustion of coal and other fuels used for heating, industrial production and motor vehicles.

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Coal is the dominant energy source. Approximately 400 buildings have central heating systems. In addition to a seaport and a cement factory, there are approximately 150 small and medium scale workplaces and enterprises. The lack of an effective public transportation system is compensated by taxicabs. Furthermore, the highway between Turkey and Georgia passes through the city center. All this and climatic conditions, geographic characteristics, rapid and disorganised urbanization, and heavy traffic, including the existence of industry in the city, place Trabzon in high risk of air pollution.

This study aims to evaluate the level of air pollution via daily TSPM and SO_2 measurement in the center of Trabzon and the effectiveness of Local Environment Council Decisions between 1994 and 2000 on air pollution.

Materials and methods

About Trabzon city

Located in the eastern Black Sea region of Turkey and one of the most densely populated ten cities with 184.1/km^2, Trabzon is a city with an area of 4664 km^2 and a population of 860 000 according to the 2000 census[11]. Surrounded by the eastern Black Sea mountains with a height of 2500-3900, the city has a shortage of land for cultivation as well as limited space for housing and settlement due to the close extension of the mountain foots almost as far as the sea. The urban area is also very badly-planned. It is warm and rainy in summer and cool in winter with an excessive rainfall; it enjoys 4.36 hours of sunshine on average and receives precipitation of an average of 142.4 days[11]. The climate in the Black Sea area is wet, and humid (summer 23°C, winter 7°C). The Black Sea coast receives the greatest amount of rainfall. The eastern part of that receives 2,200 millimeters annually and is the only region of Turkey that receives rainfall throughout the year.

The air quality in the center of Trabzon is measured daily at two places by Trabzon Regional Institute of Health Prevention. Gravimetric and calorimetric pararosaline methods are used to determine TSPM and SO_2.

In accordance with the provisions of the environment law put into effect in 1983, the governor must establish a "Local Environment Council" in every province. This council is required by the same law to convene at least once a month[12]. The fundamental task of this council is to take measures to prevent pollution and improve the environment.

The Provincial Environmental Office was established in 1993 in Trabzon, which started taking decisions and actions regarding environmental health.

Measurements of SO_2 and TSPM are carried out daily at two different sites in Trabzon since 1994. In this study, the effectiveness of the decisions taken by the Local Environment Council on the measurement in the years between 1994 and 2000 is discussed.

Air pollutants and their maximum levels are defined through the "regulation for the protection of air quality" in 1986[13]. According to this regulation; arithmetical averages of all results were defined as "Long-term Limit Value (LLV)" and maximum averages of daily values or the values that mustn't exceed 95% of the measurement results when all the results are arranged from minimum to maximum as "Short-term Limit Value (SLV)". The averages of the measurements conducted in settlement areas between October and March for air pollution which starts with the heating of the buildings in winter months, is defined as not to exceed "Limit Value of Winter Season Average (LVWSA)". "Winter Season Aimed Average Value (WSAAV)" is determined by reducing the air quality maximum level values to achieve an improved air quality (Table 1).

Table 1. Maximum level of air quality values

	SO_2 µg/m^3	TSPM µg/m^3
LLV	150	150
SLV	400	300
LVWSA	250	200
AAAV	60	60
WSAAV	120	120

According to the decisions taken by the council, the city took some precautions such as prohibition of burning petrocoke, allowing the use of imported lignite coal after having it analysed at Karadeniz Technical University (KTU), determining standards of coal and fuel oil used for heating, controlling exhaust gases regularly, prohibition of wastes used for heating in industrial areas, controlling coal sellers, measuring exhaust gases in new cars, making use of filter holding dust in chimneys necessary[14-17]. For this reason, heating-system boilmen and apartment controllers were trained by Trabzon Municipality and the Chamber of Trabzon Machine Engineers. In addition, boiler-houses were controlled, brochures and posters on air pollution and burning coal in stove were delivered, and a 12 minute video

programme was broadcasted on local television and radio channels by Trabzon Municipality.

The changes of air pollution in winter by year were analysed by a two-way analyses of variance. The correlation between TSPM levels and SO_2 was evaluated via Pearson's correlation. TSPM was taken as a covariate in ANOVA in order to determine the yearly change of SO_2.

Results

In this study, which deals with the results of air quality measurements in the years 1994 - 2000 in Trabzon, a statistically significant correlation between SO_2 and TSPM is observed ($r=0.80$, $p<0.005$). Therefore, TSPM is considered a covariate of SO_2 levels.

Table 2. Winter season SO_2 and TSPM average values according to years

	SO_2(μg/m^3)			TSPM (μg/m^3)		
Years	Mean	SD	Max	Mean	SD	Max
1994	98.3	50.2	**274.0**	99.8	87.8	**605.0**
1994-1995	60.6	33.8	**208.0**	62.0	45.1	**297.5**
1995-1996	66.4	37.5	**186.0**	76.2	52.0	**260.0**
1996-1997	55.4	23.4	**129.5**	61.3	40.8	**321.0**
1997-1998	63.4	29.6	**152.0**	74.5	44.8	**225.5**
1998-1999	54.7	22.8	**136.0**	60.7	28.0	**200.5**
1999-2000	67.0	22.3	**155.5**	71.4	38.0	**303.5**
2000	53.0	19.0	**103.0**	54.3	21.4	**134.0**

The changes of SO_2 in the measurements carried out in winter months are statistically significant ($F=37.9$, $p<0.005$) with respect to years (Table 2 and Figure 1). An average winter target level of the two pollutants (120 g/m^3) was never exceeded in any years.

We calculated a 46.1% decrease in the average level of SO_2 and a 45.6% decrease in average TSPM levels in winter months in 1994 - 2000.

With respect to air quality measurements, the SO_2 levels never exceeded LLV and SLV, but TSPM has exceeded SLV three times in January, once in February 1994, once in January 1997 and once in December 1999. Average annual levels are presented in Table 4 and these levels did not exceed the maximum level (60 μg/m^3) in any year.

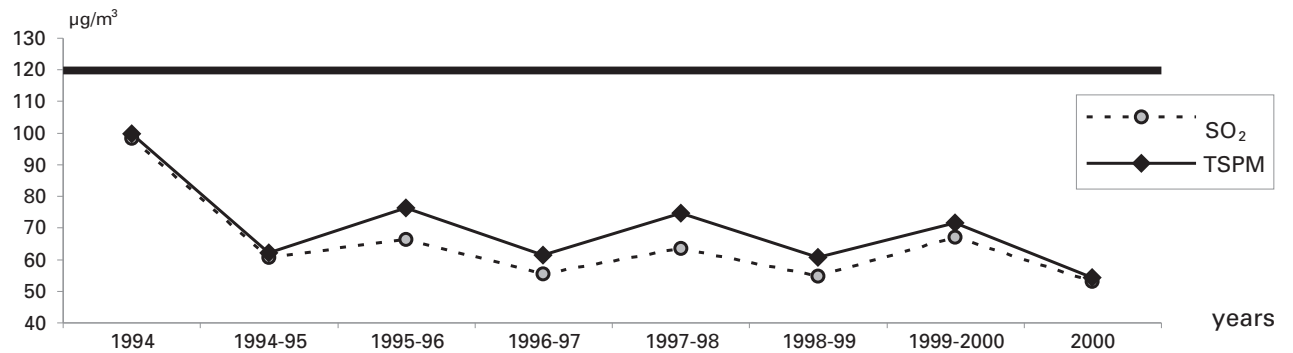
We found that the value of SO_2 is higher in winter months while it decreases in years.

Discussion

Although the definition of air pollution is not new, especially since the second half of the 20th century, air pollution has become one of the most significant environmental problems particularly in industrialized countries as well as in the whole world. Air pollution in Turkey was put on the agenda after dense air pollution occurred in Ankara in the 1960s. In today's Turkey, air pollution in such big cities like Istanbul, Sakarya, Zonguldak, Samsun, and Diyarbakır is most pronounced[1,10].

In this study, according to the reports of air quality measurements, the decrease of SO_2 levels in winter months in the years 1994 - 2000, are statistically significant. In addition, there is a decrease of 46.1% in SO_2 levels and a decrease of 45.6 % in TSPM levels. In a study conducted in 1992 - 1997 in another city located in south-eastern Turkey (Malatya), the authors report a similar decrease in the amount of air pollutants according to years, and that the expected maximum levels have yet to be able to be achieved. They also recommend continuous measurements and observation should strictly and attentively be carried out. The authors also stress the importance of local decisions for elimination of air

Figure 1. Winter season average SO_2 and TSPM level changes in years (Border of WSAAV ≤ 120 μg/m^3)



pollution[18]. Just as the role of national authorities in the elimination of air pollution should be emphasized so should the role of local authorities. For example, in a study conducted in London, it is reported that rural authorities are ready to enthusiastically take new responsibilities as regards local air quality management[19].

Air pollution problem can be solved by a multidisciplinary approach. A number of non-governmental organizations along with official institutions share responsibility in the Local Environmental Council, under the supervision of the governor. The council convenes at least every month and make plans for what should be done in the forthcoming month or months after. Among the decisions made by the council are prohibition of petrocoke usage as fuel, allowing the use of imported lignite coal after having it analysed, determination of coal and fuel oil standards control of the motor vehicles and exhaust gasses, making it a must to use filter in chimneys. The decisions are also based on a set of scientific principles proposed for the elimination of pollution[1,10]. The role of the local media, Karadeniz Technical University, Chamber of Machine Engineers and, most important of all, Trabzon Municipality in the implementation of the decisions made by the council should be acknowledged.

The regular meetings held by the Local Environmental Council every month and in case of need are very important in sustaining the use of effective methods and solving the problems.

Such a multidisciplinary approach is valuable in a settlement with such climatic and geographic characteristics and where there is a continuous population growth, problems due to a heavy traffic, partly industrialization in order to decrease in air pollution throughout years and even keeping the pollution level below the targeted maximum limits.

It is also thought that the decisions taken by the Local Environmental Council have been put to action and a noticeable improvement had been observed following the application of the decisions. The results of air quality measurements are announced daily in order to inform the public.

Despite favourable improvements in the elimination of air pollution in the years between 1994 and 2000, air pollution, which is an important environmental problem, does not necessarily mean that the problem will no longer be experienced in the future. For this reason, prospective maps of air pollution caused by traffic, epidemiological studies, and air pollution-related mortality and morbidity survey should be urgently conducted. Also, national information centres should inform the local authorities of the evaluations made by the national authorities.

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Gynecologic examination findings and Pap smear screening results of women in Dogankent, Turkey

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Abstract

Being frequent conditions in women's health, gynecologic problems have an influence on women's quality of life. Carcinoma of the uterine cervix is the leading genital organ cancer among women of rural areas in developing countries. The objective of this study was to determine some of the gynecologic problems of rural women in Dogankent, Adana, Turkey and to screen for the prevalence of some cervical pathologies.

This cross-sectional study was conducted with a sample of 300 women out of 2502, selected by stratified systemic sampling method. A total of 282 women participated in the study. Data was collected by a questionnaire, gynecologic examination and cervical smear specimens.

Mean age of the women was 31.9±11.3, and 53.2% were illiterate. Twenty-five point seven percent of them had cervical erosions. 209 out of 280 women who provided cervical specimens, (74.6%) had inflammation; a microorganism was detected in 23 (11%) of the women having inflammation. Five women had squamous cell changes; 3 of these had atypical squamous cells of undetermined significance, 1 had a low-grade squamous intraepithelial lesion, 1 patient had a high-grade squamous intraepithelial lesion.

We believe that it would be beneficial to have a surveillance program for the gynecologic problems of women in Turkey, especially in rural areas where these services are less available.

Key words: Gynecologic problems, Pap smear, cervical carcinoma, screening

Introduction

In the World Health Report - 1998 by the World Health Organization (WHO), women's health is recognized as a problem of particular importance. It is stated that in the 21st century, the future of the human health is mostly dependent on the current investments for women's health. Their health profile has a direct effect on their children who represent the adults of future[1].

Gynecologic problems which are common conditions in women, have effects on women's quality of life. For most women, childbearing age constitutes a dangerous period of life, especially for those living in developing countries where reproductive health services are inadequate[1]. Beside inadequacy of the services, inadequately utilization of healthcare services is reported as a factor aggravating the medical conditions leading to maternal deaths[2].

Cervical carcinomas are among the most prevalent malignancies worldwide, and are the most commonly seen genital organ cancers in women from developing countries. Cervix carcinoma prevalence varies between 2.6/100 000 and 55/100 000 in various countries. In the multicenter study carried out by Tuncer and others in Turkey, the proportion of cervical cancers to all other cancers was 3.7%. In a study by Bilir, the ratio of cervical carcinoma in all cancers was 5.0% whereas the incidence rate was 1.9 per 100,000[3-5]. The preferred screening test for early detection of cervical cancer is Pap smear test. Invasive cancer rates decrease 2-3 fold by active screening methods; better survival rates are achieved as well. Incidence rates of cervical carcinoma decrease 50-70% and mortality rates diminish dramatically in countries where cancer surveillance is organized successfully. These findings point

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out the positive consequences of early detection[6]. The progression of "carcinoma in situ" to "invasive squamous cell carcinoma" takes approximately 15.6 years. Consequently, the probability of early diagnosis of the disease by screening methods is high[7].

Cervix is an internal organ suitable for clinical examination. Consequently, it is possible to detect cervical malignancies at an early stage by screening and also by abnormal symptoms. In other words, diagnosis and treatment opportunities are much better than any other cancer. Estimations suggest that screening for cervical carcinoma is cost-effective. In some urban areas, cytological screening is used as the method of choice, although not covering the whole population at risk. The data on the application of the same method in rural areas are inadequate[8-9].

Information on the prevalence of problems related to reproductive health remains limited. Community based studies are required on this issue. In this study, we aim to identify the sociodemographic features and gynecologic problems of married women above the age of 15 living in a rural region, Dogankent, Adana, Turkey. We also aim to investigate the prevalence of cervical neoplasia in this population by using Pap smear.

Materials and methods

This cross-sectional study was carried out in Dogankent Health Center region, located in the Dogankent Health Training and Research Region (HTR) of the Public Health Department of Cukurova University Medical Faculty, Adana, Turkey. EPI INFO 6.0 software was used for sample size calculation. The population consisted of 2502 individuals. Confidence Interval (CI) was taken as 90% with the prevalence rate of 50%. We took 50% so as to allow for selection of the largest sample size. The calculated minimum sample size was 244. Based on this result, 300 subjects were targeted to satisfactorily represent the population. The "Household Cards" present in the health center were used to determine 2502 married, non-pregnant women over the age of 15. 300 of these were selected by stratified systemic sampling method with respect to age groups. Of the 300 participants, 18 women (%6) were excluded because of reasons such as moving out of the region, rejecting the physical examination and not being at home at the time of the visit. Subsequently, 282 women were included in the study.

Data was collected in February-April 2001. The women in the survey were invited to the health center by midwives. Women were informed about the goal, procedures, and the benefits of the survey and their informed consent was obtained. The individuals were asked to come to the health center 10 days after the last menstruation and avoiding sexual intercourse and vaginal wash 24 hours previously. Prior to the survey, the physician in charge of the implementation of the survey received refreshment training at the Gynecology Department of the Medical Faculty and also had 6 weeks of supervised practice in a maternal and child health and family planning center.

The social and demographic, gynecologic and obstetric features, personal and family history and complaints of the individuals were recorded by face-to-face-interview technique. Subsequently, gynecologic examination was performed. The vulva and surrounding areas were evaluated by inspection, whereas the cervix, fornices and vagina were examined by a vaginal speculum.

The cervical smear specimens were placed on clean slides and were fixed by a spray before drying. Subsequently, slides were kept in closed bottles containing 95% ethyl alcohol. The specimens were stained by the Papanicolaou technique and examined under microscope. Pap test results were evaluated according to the Bethesda criteria developed by the US National Cancer Institute for cytological reports. In cases of abnormal cell transformation, patients were invited back to the health center. Three specimens were prepared for smears of Chlamydia, HSV and HPV. Anti-virus screening was performed and Chlamydia immuno-histochemical staining was used for Chlamydia[6,10].

Descriptive statistics were used for summarizing data and the chi-square test was used for comparison of the variables.

Results

The age range of the study group was between 17 to 75, with a mean age of 31.9±11.3. Of the women in the study, 150 (53.2%) were illiterate; 271 (96.1%) were married once; 11 (3.9%) were married twice or more. 131 women (46.5%) were using any one of the medical contraceptive methods. The methods used were the intrauterine device (48.4%), condom (23.2%), withdrawal (12.9%), tubal ligation (8.4%) and others (7.1%). Other features of the surveyed women are presented in Table 1.

Table 1. Distribution of the participants according to various sociodemographic characteristics and contraceptive use (Dogankent, Adana, Turkey, 2001)

Sociodemographic Characteristics (n=282)	n of women	%
Age		
<20	47	16.7
20-29	90	31.9
30-39	74	26.2
40-49	45	16.0
>50	26	9.2
Educational status		
Uneducated	174	61.7
Educated (at least primary school graduate)	108	38.3
Occupation		
Housewife	255	90.4
Other	27	9.6
Marital status		
Married (living with the spouse)	263	93.3
Other	19	6.7
Smoking status		
Never smoked	241	85.5
Currently smoking or had quit	41	14.5
Contraceptive use		
Modern method	131	46.5
Traditional method or not using any method	151	53.5

The mean age of menarche was 13.9±1.4. 171 women (60.6%) had regular menstruations; 13 (4.6%) stated they were in menopause. The mean age of first marriage was 17.5±2.8. 173 (67.8%) of the 255 (90.4%) women who had ever become pregnant had their first pregnancy under the age of 20. Fifteen (48.4%) of them had primary infertility whereas 16 (51.6%) of them had secondary infertility. Other features of fertility of these women are presented in Table 2.

Table 2. Fertility characteristics of the participants (Dogankent, Adana, Turkey, 2001)

Fertility characteristics (n=282)	Mean	Sd
Age at menarche	13.8	1.30
Age at first marriage	17.5	2.85
Age at first pregnancy	18.7	2.82
Total number of births	3.91	2.93
Total number of abortions	0.53	0.99

The total number of pathologic findings in participants was 463, while the mean number of pathological findings per woman was 1.6. Twenty-eight women (80%) had cystocele, 2 (5.7%) had rectocele, and 5 (14.3%) had cysto-rectocele. Two women had undergone hysterectomy operations. Physical examination revealed that 13 (4.6%) of the 280 individuals excluding the hysterectomy group had abnormally large cervices; 9 (3.2%) had small and 258 (92.2%) had normal cervices. On the other hand, 34 women (12.1%) had large uteruses and 13 (4.6%) had small uteruses. 230 women (82.2%) had normal sized uteruses. For three individuals (1.1 %), it was not possible to reach a definite conclusion on uterine size. Other findings are presented in Table 3.

Table 3. Distribution of the participants according to the signs identified in physical examination (Dogankent, Adana, Turkey, 2001)

Signs (n=282)	n	%*
Vaginitis	152	53.9
Cervical erosion	72	25.7**
Cervical discharge	35	12.4
Pelvic relaxation	35	12.4
Large uterus	34	12.1*
Emmet tear	27	9.6
Cervical hyperemia	21	7.4*
Large cervix	13	4.6*
External hemorrhoid	11	3.9
Cervical polyp	10	3.6*
Nabothi Cyst	10	3.6*
Perineal tear	8	2.8
Ectropion	7	2.5*
Cervical atrophy	6	2.1*
Uterine tenderness	4	1.4*
Sensitive Over	4	1.4
Inguinal Tinea	3	1.1
Other	11	4.0

* Total number of signs identified was 463. Percentages are out of 282 women who had a physical examination.

** 2 women who had had hysterectomy operations were excluded from the analysis (n=280).

Cervical erosion was diagnosed in 25.7% of the study group. 10.4% of the group had not ever given birth. 9.4% of this group had cervical erosions. A significant relationship is demonstrated between the childbirth status and the presence of cervical erosions (p=0.037) (Table 4).

The findings of the smear specimens are presented in Table 5. Samples for smear tests could not be

Table 4. Distribution of participants according to cervical erosions and childbirth status (Dogankent, Adana, Turkey, 2001)

Childbirth Status (n=280)	Cervical erosion (+)	%	Cervical erosion (-)	%	Total	%
Ever given birth	69	27.6	181	72.4	250	89.3
Never given birth	3	10.0	27	90.0	30	10.7
Total %*	72	25.7	208	74.3	280	100.0

* Row percentage χ^2=4.34, sd=1, p=0.037

** Column percentage

obtained from two individuals who had undergone hysterectomy. Cocobacilli were reported in 17 (6.0%) women, while Candida was detected in 6 (2.1%).

Table 5. The findings of the smear specimens of the participants (Dogankent, Adana, Turkey, 2001)

Findings (n=280)		n	%*
Normal cell population		61	21.8
Benign cell transformation		212	75.7
Inflammation		73	26.0
Inflammation and squamous metaplasia		120	42.9
Inflammation and atrophy		16	5.7
Atrophy		3	1.1
Abnormal cell transformation		5	1.8
squamous cell transformation			
	ASCUS	3	1.2
	LSIL	1	0.3
	HSIL	1	0.3
Endocervical and metaplastic cells are not observed (insufficient sample)		2	0.7
Total	%**	280	100.0

%*Row percentage

%**Column percentage

ASCUS: Atypical squamous cells of undetermined significans

LSIL: Low-grade squamous intraepithelial lesion

HSIL:High-grade squamous intraepithelial lesion

All abnormal cell transformations were of the squamous type. Five women were in this category and three of them revealed "atypical squamous cells of undetermined significance" (ASCUS), while one had "low-grade squamous intraepithelial lesion" (LSIL) and one had "high-grade squamous intraepithelial lesion" (HSIL) (Table 5). The patient with HSIL was in the 45-49 age group, whereas the patient with LSIL was in the 40-44 age group. Two of the women with the diagnosis of ASCUS were in the 30-34 age group, the third being in the 40-44 age group. The women with HSIL and LSIL both had a first marriage age of 13. None of the five women had a history of tobacco smoking. Other findings are shown in Table 6.

The repeat smear specimens of patients with abnormal cell transformation were all negative for HSVII, HPV and Chlamydia tests. The patients diagnosed as LSIL and HSIL were referred to the Obstetrics Hospital of Adana, Turkey.

Discussion

The mean age of the women in the study group was 31.9±11.3. Most of the participants (61.7%) were not a graduate of any school. The proportion of women using modern contraceptive methods was 46.5%. According to the study of Kirik and others, modern methods were implemented by 42% in 1990. Currently, 38% of married women use effective modern contraceptive methods in Turkey. The rate of modern contraceptive method use in this group was higher than the country average, because the location of the study was a health and training center with strengthened health care provision[11,12].

Starting sexual intercourse at an early age is a risk factor for cervical carcinoma. Age at first sexual intercourse differs greatly among societies. The Turkish Population and Health Survey of 1998 has revealed that the median age of first marriage is 18.9 in rural regions. The proportion of women having their first sexual intercourse before age 20 was 14.2%. Since pre-marital sexual intercourse is very limited in Turkey, we accepted the age at first marriage age as the age of first sexual intercourse.

The mean age of first marriage in the study group is 17.5±2.8; 11% had married before age 15. A study conducted in Hong Kong revealed that the proportion of women marrying before age 20 years was 79.4%. The percentage of first sexual intercourse before age 20 was significantly high compared to the Hong Kong study. The reason for this

Table 6. Distribution of the participants according to abnormal cellular changes and to some characteristics (Dogankent, Adana, Turkey, 2001)

Case Characteristics	Abnormal Cellular Changes				
(n=5)	1st ASCUS	2nd ASCUS	3rd ASCUS	LSIL	HSIL
Age	44	31	31	40	47
Education	Illiterate	Literate	Primary school graduate	Illiterate	Literate
Occupation	Housewife	Housewife	Housewife	Housewife	Farm worker
Monthly income	<Minimum wage	<Minimum wage	<Minimum wage	<Minimum wage	<Minimum wage
Age at first marriage	21	23	19	13	13
Age at first pregnancy	23	24	22	17	15
Number of children	6	2	2	9	10
Number of abortions	0	0	0	0	0
Family planning method	None	None	IUD	None	None
History of smoking	No	No	No	No	No
History of cancer in the family	No	No	No	No	No
Menstrual period (days)	27	30	28	30	15
Cervix size	Normal	Normal	Normal	Normal	Large
Cervical erosion	Present	Absent	Absent	Absent	Absent

finding is the early age of marriage in this society[12,13].

The majority of the sexually transmitted diseases are without clinical symptoms. Some of these diseases end up with infertility. According to the Turkish Population and Health Survey (1998) the infertility rate for married women of 15- 49 years of age is 4.9%[12,14]. In our study, 31 (11%) women were infertile. This high rate of infertility may be explained by the presence of genital inflammation in three out of every four women in the study group.

According to the 1998 Turkish Population and Health Survey (TPHS), the median age of first delivery was 20.7. The age of first pregnancy of three-fourths of the women in our study was under 20 years (Table 2). The mean age of first pregnancy was18.7±2.8 and the average number of deliveries was 3.9±2.9. According to the 1998 TPHS, the fertility rate is 5.0 in rural areas, compared to the 3.8 of urban regions. The total fertility rate in this study is lower than the Turkish average due to the high rate of using modern contraceptive methods[3,12].

Vaginal infections, cervical erosions and pelvic relaxation were the most common diseases in this study. The total number of pathologic findings at examination was 463. The average number of pathologic findings per woman was 1.6 (Table 3). According to a similar work by Apan, the number of pathologic findings per woman was 1.7, which is similar in this study[15].

Cervical erosion was diagnosed in 25.7% of the women in the study group. There was a significant relationship between the childbirth status and the presence of cervical erosions. Similar findings were also detected in a previous investigation[15].

In this study, the results of 217 (76.9%) women were reported as pathologic. While benign cellular changes were detected in nearly all of the pathologic results, only 5 (2.3%) women displayed cellular changes that were defined as abnormal. In a similar study conducted by Bumin and others, smear results were reported as Class I (normal) in 4.8%, Class II in 91.8% (inflammation and atrophy) , Class III in 2.4% (cervical displasia), Class IV in 0.5% (carcinoma in situ), and as inadequate in 0.5%. In a study from Brazil, the rate of abnormal pap smears was 8% while LSIL, HSIL, and hemorrhagic results were reported in 5%, 2%, and 1% of the cases, respectively. In addition, in a study conducted in Zimbabwe, inflammation was present in 13.4% of the women, while 11.4% showed ASCUS, 9.8% LSIL, 4.2% HSIL, 0.2% squamous cancer; adenocarcinoma was present in <0.1%. These results demonstrate that our results are concurrent with other

studies from Turkey. They are, however, different and lower than the results from Brazil, and Zimbabwe[12,16-18].

In this study, three-fourths (75.2%) of the smear test results were reported as benign cell changes due to infection. A study in Gambia revealed a percentage of 47.3% for vaginal infection. However, in a study from Zimbabwe, it was detected to be 13.4%[18,19]. Our study revealed considerably higher results compared with those of other studies. In a study conducted among women living in rural regions of Vietnam, no Candida was detected in cytologically positive smears; however, high rates of Candida were reported in negative smears. Besides, Candida was not detected in cytologically positive smears, whereas high Candida presence was observed in negative smears. The investigators have suggested the possibility of the hypothesis that Candida infection prevents or slows down cervical carcinogenesis in populations where Candida infection rate is high but the chance of treatment is low. Nevertheless, the investigators pointed out that their findings were not sufficient to confirm this hypothesis. In our study, Candida infection could not be demonstrated in abnormal cell transformation cases[20,21] in compliance with this hypothesis. The patient with the HSIL diagnosis was in the 45-49 age group, whereas the woman with the LSIL diagnosis was in the 40-44 age group. In a study by Tutuncu and others, the mean age of the patients with cervical displasia was 40.84±10.7. This may be due to the fact that the disease makes a peak in women with age over 35 and that shows the significance of surveying women over 35. The number of the patients with abnormal cell changes was insufficient to determine the etiologic factors[22].

The abnormal smear findings of low educated women in rural areas are higher as a result of the inadequacy in the knowledge of and the possibility of having a smear[23].

Cervical cancer is a disease of high mortality with preinvasive and invasive latent periods. 100% cure is possible only with early diagnosis. Screening programs will be beneficial for reducing cervical cancer incidence and mortality, as well as lowering health expenditures[3,24].

More comprehensive studies are needed to investigate the prevalence of gynecologic problems in Turkey. We believe it is long time that a surveillance program is set up especially for women in rural areas who have difficulty accessing such services. Primary health care units such as health centers and maternal and child clinics can be utilized for this purpose. In addition, education on avoiding early marriage and early pregnancy, and sexually transmitted diseases will be beneficial for the community.

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Community Oriented Primary Care (COPC): features of practice and training

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Abstract

The Community Oriented Primary Care (COPC) approach involves the implementation of Community Health Programs for a total defined population.

There are different forms of application of COPC in different health service systems where the principles are adopted and the methodology is adapted to the local situation. Basic elements are the responsibility by the team on the health care for the total defined population, intervention programs based on the identified health needs, evaluation of care, multidisciplinary team, community involvement and the use of epidemiology at the primary care level.

COPC is considered as public health functions at regional and local level. The integration of individual health care and public health requires that the team be trained in the skills needed for this purpose. The teaching methods and specific characteristics of three COPC Workshops conducted in Turkey are described and analyzed.

Key words: Community-Oriented Primary Care, COPC, Turkey

There is a common understanding that Primary Care is characterized mainly by being the first contact between an individual and a health worker, member of a health service team. The particular features, the scope of the activities, the achievements and the constraints in each country vary according to the health service system and to the particular socio-economic-cultural-political environment.

The attention and the actions related to primary health care worldwide, increased markedly after the World Health Organization (WHO) proposal of Health For All (HFA) in 1978.[1] But the political decisions and changes for the proposed re-organization are still lagging behind.

Approaches of Primary Care vary, and may be based only on demand, or may take initiative in the delivery of care; it may emphasize medical or health aspects, and it may have the role of gatekeeper, or the role of coordination and continuity.

These different approaches pose a challenge for practitioners and policy makers, who need to adapt the service in a way that will be understood, accepted and applied. The inclusion of a community approach is a new dimension in which practitioners may not have training or experience.

Therefore, the question is whether there are approaches that meet the principles established by HFA, and that have also been evaluated regarding the impact on the state of health of the community/population. Community-Oriented Primary Care (COPC) is considered as a practical approach to rationalize, organize, and systematize the existing resources, through health interventions reflecting the main principles of Alma Ata in this way.

The COPC approach

The Community Oriented Primary Care (COPC) approach was originated in the 1940's in a rural area of South Africa by Sidney and Emily Kark[2]. The model was originated as an extension of Family Medicine, and later developed the conceptual and methodological components of Community Health Programs through the use of epidemiology and social-behavioral sciences in primary care. The development took place in the application of these principles at the Community Health Center of the Department of Social Medicine of Hadassah and the Hebrew University in Jerusalem[3].

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According to SL Kark, COPC is "…a way of practicing medicine and nursing, or of providing primary care, which is focused on care of the individual who is well or sick, or at risk for illness or disease, while also focusing on promoting the health of the community as a whole, or any of its subgroups"[4].

Recently, COPC is being defined as "a continuous process by which primary care is provided to a defined population on the basis of its defined health needs by the planned integration of public health with primary care practice"[5].

The COPC health services take responsibility for the health of all members of the defined total community, whether or not they seek care. i.e: users and non-users. In this way COPC implies public health functions at local or regional level.

The development of COPC, whether as a re-orientation of an existing service, or as the creation of a new health service, requires a clinical individual care setting and the interest of the health practitioners to extend their clinical practice to the practice of community medicine.

There is a significant documentation on different forms of application of COPC programs in different health services systems, whether as an integration of a Family Practice and Mother and Child Health Care in Israel[6-7]; Community Health Centers in the U.S.[8]; in General Practice of the NHS in the UK[9-10]; in large urban areas of the U.S.A.[11]; in the Family Medicine clinics of Spain[12]; in populations under a transition process in Russia[13]; in sub-urban areas in China.[14] There are also illustrations of an analysis of the relevance of the approach although there are not yet the contextual conditions to develop, like dealing with changing health problems in rural areas in S. Africa[15].

The main elements of COPC

a) A defined population, which could be a real community, a defined neighborhood, a school, a working place, or people registered with a practitioner or a clinic. In all these cases is essential to have demographic information of all members of the community selected as the target population. This will enable access to the total population for intervention and the implementation of the necessary ongoing measurement procedures with an established denominator;
b) An assessment of the health needs of the community that will be used for prioritization setting and for the subsequent planning of intervention;
c) Community Health Programs which integrates a health intervention that covers all the stages of the Natural History of Disease (by an integration of promotion, prevention, treatment and rehabilitation functions) and a comprehensive focus addressing all the physical, mental and social determinants of health;
d) Accessibility to the services taking into consideration of economic, fiscal, religiosity, political and cultural barriers;
e) A multidisciplinary health team composed by different disciplines according to the specific health needs of the community and the available resources. Together with the clinical skills to provide high quality health care, there is a need to have the epidemiological and socio-behavioral skills to respond to the community diverse health needs while performing the activities required by the COPC approach.
f) An outreach approach ("working outside the clinical walls") to enable the team to assess directly the physical and social determinants of health and the resources at the microenvironment level;
g) Community involvement. As another expression of the HFA principles COPC requires, promotes and facilitates community participation in the health care activities as a means for an active involvement (individually and collectively) in the improvement of health. Important determinants of health (behavior, attitudes, beliefs) are closely related to individual decisions in their social environment, and therefore the involvement of members of the community can enhance the positive effects of the community-oriented health interventions. Health services are not able today to meet all the needs of the population and therefore a COPC program must also include an intersectorial coordination with other services serving the population.

From the methodological point of view, COPC is required to answer what Kark called the "five cardinal questions"[3] that constitute the frame of the process to be followed by the health team:

1. What is the state of health of the community?
2. What are the factors responsible for this state of health?

3. What is being done about it by the community and by the health service system?
4. What can be done and what is the expected outcome?
5. What measures are needed to continue health surveillance of the community and to evaluate the changes taking place?

Stages in the development of COPC

a) Definition of the community and its characterization:
   The team and the health services should decide on the population to be included (names and addresses), which will depend on the type of population (neighborhood or school or list of people registered in the clinic) served by the services. Then the characterization of the population should be made with regard to: physical features of the area, population information (demography, social features), and the services available to the community and the health status and health related behaviors;
b) Decision on the priorities among the health needs perceived and identified in the previous stage, by using a pre-established criteria of selection. It has been suggested to use the following criteria for prioritization in COPC.[16] For each identified health need in the community consideration must be given to:
– The relative importance of the health condition (magnitude, seriousness, economic impact);
– The feasibility of intervention (resources, conformity with health policies, interest by health personnel);
– The predicted effectiveness of intervention (evidence of effectiveness, local factors related to effectiveness);
– The community concern/interest (common to all the three previous components)
   This process needs to be accompanied by an appropriate method for the scoring in each criterion, to be decided by the local primary care team, and members of the community when feasible.
c) Planning a detailed assessment ("community diagnosis") by measuring the distribution and determinants of the selected condition[17];
d) Decision on the adequate intervention based on the findings of the assessment, evidence of effectiveness and adapted to the local situation. The program to be implemented should have clear and achievable objectives and well defined activities in accordance with the resources available. A records system should be developed as the basis for surveillance and evaluation. The program should integrate specific actions to promote community involvement in the implementation of the activities beyond compliance.
f) Planning the methods of monitoring the activities, the surveillance of health and evaluation of the effectiveness of care[18], which will provide the team with opportunities for deciding on modifications if needed. This should already be considered within the planning stages of the program.

COPC programs following the above process can be illustrated by examples from different countries. The effectiveness of the COPC programs from the early 1940's in South Africa and up to the late 80's, in different health service contexts, was extensively documented[19] with regard to a reduction in infant mortality, decreased rates of infectious diseases, increased rates of immunization, control of risk factors of chronic diseases, changes of health behavior, growth and development. Recently the series of eight COPC articles in the 2002 November issue of the American Journal of Public Health[6,11,13,15,21,30], illustrates furthermore the accumulated experience on the impact of this approach in the delivery of primary care at the community level.

Training for the Practice of COPC

The integration of individual health care and community medicine as presented in this paper requires that the health team be trained in the skills needed for this purpose.

The training on COPC needs to have an appropriate and relevant method of teaching. Because of the different domains related to COPC, and also to the features of the teaching-learning process, we think that this approach should not be taught in a frontal lecture-based course, but based on a Workshop format. This can be done in the framework of MPH Programs, Family Medicine Residency Programs or special courses of health care planning. These methods have been applied by us in various countries.[12,20-21]

The COPC Workshop

The objectives of this training are: a) to study the principles and methods of COPC and b) to apply the principles to the specific communities where the participants work. The training is an active process in a practical environment in which the participants are involved by "learning by doing". This requires the use of data from the participants' service/practice, in order to develop a COPC program applicable for the particular community. The participants work in small groups resembling a health team, allowing the participants to be in a "real life situation" while still in the classroom. The final assignment is for the group to develop a COPC program following the process of the COPC development stages as outlined. The Workshop that we conducted in different countries is based on a 5-day 40 hours, activity (70% of the time devoted to the work of the small groups). The work of the groups is assisted by a document on an "Overview of COPC" [22], bibliography and local relevant material.

Content of the Workshop

The first session of the Workshop is structured by a discussion on the features and scope of Primary Care as experienced by the participants. After the introduction on the conceptual and methodological characteristics of COPC, the Workshop is geared to the COPC stages as described above. In the last part of the workshop, each group presents and discusses its proposal with the entire group of participants and the teachers. The Workshop concludes with a general discussion on the opportunities and constraints of the applicability of COPC in the country of the participants, by making an assessment on the practicability and relevance of COPC and of the proposals.

Training in COPC in Turkey

There have been three COPC workshops in Turkey in the last few years, conducted by the authors, according to the methods mentioned above.

While the general organization and direction of the Workshops was made by the authors, three Turkish physicians, who are graduates of the International MPH of the School of Public Health and Community Medicine in Jerusalem and who were themselves exposed to the COPC model in the MPH Program, took an active role in the work with the small workgroups, Belgin Unal in Izmir; Pinar Ay in Istanbul and Ankara and Umit Sahin in Ankara.

The workshops in Izmir (2000) and Istanbul (2003), supported by the Public Health Departments of Dokuz Eylul University and Marmara University respectively, were conducted as a COPC special training program of 5 days (40 hours) with 25 participants in each. The participants coming from different parts of the country were mainly physicians working in the Departments of Public Health at various Universities, in the District Health Authorities, and a few being general practitioners. In Ankara (2002) the workshop was a component of a Health Care Management training program for 160 physicians working in management at different positions on the Ministry of Health from all over the country. The program was supported by the World Bank and organized in partnership by Bilkent University and Hadassah Medical Organization from Jerusalem. The COPC workshop as part of this program was organized in the same format of the other workshop in Turkey, although had duration of 20 hours and participants were divided into smaller groups.

The evaluation of the three workshops by the participants was very positive with regard to the lectures and the work of the small groups, and a general satisfaction with the teaching program. The evaluation also expressed a careful assessment about the possibility of future COPC application in the country, 2/3 indicated "to some extent" and 1/3 "to a great extent".

In relation to the amount of data the possibility to "complement" existing data of the communities or to use simulated data, was rejected, adhering to the principle of basing the work on the reality of existing data (with partial information or lack of particular aspects). One indicator of the active involvement by some of the participants (in itself an important condition for the internalization of the learned material) was demonstrated by members of each group by the feeling of "belonging and ownership" to their community and proposals as expressed in vivacious discussions during the work of the groups and in the final presentations.

The process in the groups encouraged the participants to "bring their work" to the training process by referring frequently, during the discussions, to the activities in primary care in which they were involved. This created controversies between those who claimed that they were already doing in the field "what the Workshop is teaching" while others

disagreed and claimed that those activities were "not systematic", "not planned", "not completed", as they were in practice in the Workshop.

Discussion

For discussion of the feasibility of application of COPC it would be appropriate to analyze the relevance, opportunities and constraints of this approach in Turkey.

Relevance

The trends of ageing, and of increasing internal migration from rural to urban areas in Turkey, may benefit from an appropriate re-organization of primary care with a community-orientation such as COPC[10] to respond to these additional specific needs at the population level.

The COPC approach has shown that the introduction of this approach is followed by an increased use of primary health care services[23], which could be an important element in the assessment of the health status at the community level, and furthermore, help to reduce the use of the hospital as a primary care setting.

The experience of the three workshops in Turkey, with an active involvement of Turkish health practitioners working on data from Turkish communities, showed that the content and scope of their proposals was an indication of the relevance of the approach to the country. The COPC programs proposed by the 10 workgroups in the three different workshops, were considered as relevant to the health service system, although obstacles for application were mentioned.

Opportunities

The basic units of care at the primary care level are the health centers and the health posts, which together with the reform process of the Turkish Health System[24] offer the opportunity for organizational changes such as the decentralization of health management, the provision of accessible health care, and the setting up of a health information system. This could constitute an appropriate framework for introduction of a systematic approach of delivery of primary care like COPC. More specifically, the reform process[25] created an appropriate environment with the involvement of different professionals and organizations with the proposal of re-orientation and integration of health services to decide on the priority health problems of the country. All of these elements are in line with the COPC approach.

Given the central role of family physicians in primary care in general, and in COPC in particular, the introduction of the family medicine system into primary care, as proposed by the MOH of Turkey[24], constitutes a key opportunity to introduce the community approach. The capitation system facilitates the implementation of promotion and preventive activities, and the follow up of patients with coordination with secondary and tertiary care level.

Recommendations by the national medical education congresses of 1998 and 2001 in Turkey, to introduce changes in the curriculum and in the organization and teaching methods of medical schools,[26] could constitute an important facilitator in the introduction of a community orientation in primary care.

There is a trend for the integration of medicine/individual health care and public health activities, in which COPC is one of the recommended approaches for this integration[27]. This integration may also facilitate in resolving the worldwide problem with the existing, also in Turkey, fragmentation of health services.

Constraints

According to comments by WHO on the proposed reform of the primary care system in Turkey[24], "…there is not sufficient relevance to PHC personnel (PC physicians and nurses)" and motivation of staff "is not high enough". Since motivation constitutes an important element in any process of change, in the case of COPC lack of motivation constitutes a barrier that needs to be removed by adequate training, incentives and academic and administrative support.

The health care system in Turkey is based on multiple sources of providers, and different schemes of financing, which constitute a very complex framework to manage in times of reform and changes.

A study carried out among senior medical students in Turkey[28] showed a low level of knowledge and skills in providing primary care services. In a smaller sample of interviewees in the same study, students criticized an overloaded curriculum at the time of their training course on Primary Care, the focus of medical studies having been based on

"complicated cases" at the cost of much less time and study for primary care health problems.

When the health policies prevailing in a country do not include a community orientation, the re-organization of the services to that effect becomes very difficult. The decisions for changes are usually taken in a top-down fashion, which does not necessarily reflect the interests of the team nor that of the local health needs, while COPC facilitates the bottom-up re-organization process.

Conclusions

Why is it important and relevant for public health professionals/practitioners to focus on the policy and activities of primary care? The attribute of primary care of "first contact" and face-to-face relationship with members of the community is unique. But this attribute needs to have an additional, essential element for public health, a relationship with "all members of the particular community" and an outreach approach. Usually primary care as such does not have this type of coverage that is provided by the COPC approach. A necessary corollary is that public health professionals should collaborate with the primary care services to decide, plan and implement required activities on the particular population.

COPC requires the active involvement of the community, whether with the formal organizations and/or with individual members, who are willing to take part in the implementation of activities related to health care. This process needs to be a shared commitment by the team and the community that will enable them to identify, assess and intervene in the main health problems. In this respect, it is important to consider the experience on community participation for perinatal health in Istanbul[29]. Different methods used by the team allowed this partnership to achieve better health outcomes, even though there were problems with partnership sustainability. Community participation[30-31] of this type may constitute an essential element in community social and economic development.

The interdependence between training and practice has also an expression in COPC. The training programs of COPC in Spain[6,12] and in the UK[9] based on the same type of intensive workshop described in this paper, are recognized as promoters of re-orientation of primary care practice. The training introduces understanding of the relevance of the approach and in this way an interest in the implementation of COPC programs that eventually could develop towards the formulation of health policy.

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A peace call for children

Sukru HATUN[a], Erdem GONULLU[b]

While Turkey tries to heal its wounds with all its people and culture, after a long period of armed conflict in a large geography and as we start experiencing the positive outcomes of this peace environment in our everyday lives, recent days unraveled unwanted incidents that reminds us of the "old days". We are all apprehensive to enter a new dark era in this country as Ivo Andrich describes it: "We are playing games. We are preparing new wreckage upon which we can vow words of agreement, brotherhood and unity in tears." We all know that peace is a virtue by itself and that there is no other reason for asking for peace apart from being a human. But still, we would like to call out to those concerned as pediatricians who see the light reflected from the face of the children everyday.

Peace saved the lives of thousands of children in the east of Turkey…!

Usually a child dies from a known disease, which is reported in the death certificate by the physician. However, in reality, a mass of physical, biological, cultural, economic and political problems exist beyond the death of each child. After each conflict, only the number of deaths are reported through the media and the official reports. Yet the number of children who die because of the indirect consequences of the war receives no attention. However children are exposed to the most unpleasant consequences of the conflicts as poverty, migration, under nutrition, increase in communicable diseases, deterioration of primary heath care services and a decrease in schooling rate.

That is the reason that the infant mortality rate in the east of Turkey reached its peak and increased from 60 per thousand in 1993 to 61.5 in 1998 during the most intense years of the conflict, according to the data obtained from the Hacettepe University Institute of Population Studies[1,2]. The difference of the infant mortality rate between the west and the east had increased from 17.3 per thousand to 28.7 in 1998. Similarly the mortality rate for under five had been reduced from 48 per thousand to 38 per thousand in the west, but increased from 70 per thousand to 76 in the east. Hence the difference for under five mortality rate between the west and the east had increased from 22.4 per thousand to 37.6 in 1998.

According to the recently published results of the eighth Turkish Demographic and Health Survey conducted in 2003 by Hacettepe University Institute of Population Studies, infant and under five mortality rates had decreased nearly 15 per thousand during the past five years[3] in Turkey. This reduction observed for the country had been attributed to the decrease of 20 per thousand in the east. In other words peace had played a major role in saving the lives of thousands of children in the east. Similarly the proportion of undernourished had been considerably reduced from 17.1% in 1998 to 7.7%, stunting rate which indicates chronic malnutrition decreased from 30% to 22.5% in 2003 and the proportion of fully immunized increased from 24% to 35% in 2003.

All these findings clarify the favorable outcomes of peace for the last five years on the health of children. With the end of the war, in spite of the political decisiveness to deteriorate the primary care health services, infant mortality rate, stunting and under nutrition rates had declined. Both increased accessibility of the health services and development of the socioeconomic life due to the cessation of the armed conflict had played roles in this outcome. These findings alone are sufficient to show the irrationality of the war.

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Conclusion and a call

Turkey has other needs than mines and bullets such as food to eat, clean water to drink, vaccines to protect from disease, and peace to teach to avoid armed conflict in the future.

We would like to speak to those all concerned and to demand peace on behalf of children in order to provide them a safe environment in the east to save the lives of thousands of children.

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Building Better Health: A Handbook of Behavioral Change

C. David JENKINS

Pan American Health Organization, Scientific and Technical Publication No.590, ISBN 92-75-11590-7

This book is written for a wide audience of people interested in how to improve health in the broader sense. It advocates a shift in the focus from "disease care" to "health care." Dr. Jenkins mentions that about 98% of all budgets in the world are spent on "disease care" and only about 1% to 2% on genuine care of health. As mentioned in the preface, this handbook "devotes itself fully to health care, defined as improving and maintaining good health - which consists of feeling well and functioning well, physically, mentally and interpersonally; as well as having a high likelihood of continuing to live healthfully in the future."

The book is structured into five sections, which detail theoretical and practical aspects of health promotion. Within the handbook's pages you will find an overview of principles of disease prevention and strategies of community health intervention, including practical examples and step-by-step planning. The book also includes an in-depth examination of the causes of morbidity, disability, and premature mortality that most seriously burden broad age groups across the life cycle and a review of the protective and risk factors for each of the leading forms of disability and death. Throughout its chapters, the book recommends simple, hands-on preventive interventions.

Part 1 sets the background for the book by providing definitions of health promotion and disease prevention and introducing the principles of community health intervention. Part 2 takes specific age groups and looks more closely into health problems in children, adolescents, adults and the older people. Part 3 is more about specific risk factors and disease groups such as brain and behavioral disorders, diseases of the heart and blood vessels, cancers, chronic lung disorders and injuries and violence. Part 4 provides principles and methods of successful interventions for behavioral change.

The book can be ordered online from http://publications.paho.org or from the address below:
World Health Organization, Distribution and Sales, 20 Avenue Appia, 1211 Geneva 27, Switzerland Fax: (41 22) 791-4857

Violence Against Women: The Health Sector Responds

Pan American Health Organization

Occasional Publication No. 12, ISBN 92-75-12292 X

This book calls out the voices of women, from the countries of Americas, who were exposed to gender- based violence and reviews the integrated strategy addressed to this prevalent public health problem. The book begins with emphasizing the magnitude of the problem and reviews the associated factors with gender-based violence that is influenced by social, cultural and economical means.

The main focus of the book is PAHO's (Pan American Health Organization) comprehensive strategy to address this problem. PAHO had initiated a number of studies named "Critical Path that Women Follow to Solve Their Problem of Domestic Violence" in different countries in order to propose realistic intervention activities. One of the chapters elaborates this study, which did not only analyze the extent and, determinants of the problem but also served as a way for raising awareness.

The next chapters discuss "what happens in the clinic" and "beyond the clinic: violence prevention with other community partners". It addresses how a strategy was shaped integrating the health sector, community, policy makers and lessons learned throughout.

The book also provides a section on resource materials concerning gender-based violence that can be accessed from PAHO and similar organizations.

The book can be ordered from the address below:
Pan American Health Organization, Pan American Sanitary Bureau, Regional Office of the World Health Organization 525 23rd Street, N.W. Washington, D.C. 20037 U.S.A.

Vaccines: Preventing Disease & Protecting Health

Ciro A. de QUADROS

Pan American Health Organization, Scientific and Technical Publication No.596, ISBN 92-75-31596-5

This book underlines and discusses the successes achieved through comprehensive immunization activities during the last century. It brings together the experience of countries related to immunization in order to propose effective strategies to overcome emerging and reemerging infectious diseases by means of vaccination and vaccine development. A special emphasis is made to the efforts of the countries of Americas, which was the first region to eradicate small pox and polio in the world. Vaccination strategies for polio, measles, rubella, congenital rubella and yellow fever are discussed in this context.

The book reviews the efforts to test the efficacy of several vaccines in different parts of the world. It also discusses the need for the development of new vaccines as shigellosis, cholera, typhoid fever, human papilloma virus, Helicobacter pylori and the progress made in this area. Recent vaccine delivery systems, technological advances and new concepts including DNA vaccine technology are also introduced to the reader.

Regulatory and safety issues are discussed from three different viewpoints: the public health, industry, and consumers' perspectives. In the last chapter the role and the future of vaccines in the area of public health are discussed with a special emphasis on financing models, their sustainability and the challenges faced concerning the economics of vaccines.

The book can be ordered from the address below:

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Zoonoses and Communicable Diseases Common to Man and Animals

Pedro N. ACHA; Boris SZYFRES

Pan American Health Organization Scientific and Technical Publication No.580

The book is presented in three volumes. Volume 1: "Bacterioses and Mycoses"; Second Volume is namely "Chlamydioses, Rickettsioses and Viruses" and the Volume 2: "Parasitoses".

A large variety of diseases listed in alphabetical order in each section are discussed according to etiology, geographical distribution, occurrence in man and animals; the disease in man and animals, source of infection and mode of transmission; role of animals in the epidemiology, diagnosis and control.

Tables indicating occurrence in several countries and figures explaining mode of transmission of different diseases present all valuable information.

In the book special attention is paid to the epidemiological and ecological aspects, so that the reader can begin to understand the determining factors of the infection or disease.

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39th National Immunization Conference	21 March 2005	Washington, D.C.	United States	NIPNIC@cdc.gov
World Vaccine Congress Montreal 2005	19 April 2005	Montreal	Canada	noreen.meehan@terrapinn.com
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