WHO EMRO | Health literacy among schoolteachers in Çorum, Turkey

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المعلومات الصحية لدى معلمي المدارس في تشوروم بتركيا

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: إن المعلومات الصحية لدى المعلمين هي جزء مهم من برامج تعزيز الصحة المدرسية .الخلاصة
قامت هذه الدراسة - التي أجريت في عام 2013 بتقييم المعلومات الصحية والعوامل ذات
الصلة لدى معلمي المدارس في تشوروم بتركيا . ففي دراسة مقطعية أجاب 500 من معلمي
المرحلتين الابتدائية والثانوية على استبيان حول السلوكيات الصحية التي يُبلَّغ عنها
ذاتياً وقاموا بتعبئة استمارة المقياس الأحدث للعلامات الحيوية المكون من 6 بنود .
فكان متوسط الدرجات المحرزة على مقياس المعلومات الصحية 2.12 (1.82 SD). وبوجه عام كانت
المعلومات الصحية محدودة جداً لدى 44.0% من المعلمين، ومحدودة لدى 29.8% منهم، وكافية
لدى 26.2% منهم . وكانت المستويات المقبولة من المعلومات الصحية أعلى بكثير لدى أولئك
الذين لا يعانون من أمراض مزمنة، ولا يدخنون، ولا يتعاطون الكحول، ولدى الذين يهتمون
بالموضوعات المتعلقة بأنماط الحياة الصحية في وسائل الإعلام . وفي تحليل التحوُّف
اللوجستي الثنائي كانت مخاطر محدودية المعلومات الصحية أكبر بكثير لدى الفئات
العمرية الأكبر سناً، ولدى الرجال، ولدى أولئك الذين كانت زوجاتهم معلمة مربية أو ربة
منزل . ونظراً لانخفاض مستويات المعلومات الصحية فإننا نرى أن المرشحين لمهنة التعليم
يمكن أن يستفيدوا من برامج التثقيف الصحي بعد التخرج .

ABSTRACT Teachers' health literacy is an important part of school health promotion programmes. This study in 2013 assessed health literacy and related factors in schoolteachers in Çorum, Turkey. In a cross-sectional study, 500 primary and secondary teachers answered a questionnaire about self-reported health behaviours and completed the 6-item Newest Vital Sign tool. The mean score on the health literacy scale was 2.12 (SD 1.82). Overall, 44.0% of the teachers had very limited, 29.8% limited and 26.2% adequate health literacy. Adequate health literacy levels were significantly higher among those without chronic disease, non-smokers, non-alcohol users and those interested in healthy lifestyle topics in the media. In binary logistic regression analysis, the risk of limited health literacy was significantly greater in the older age groups, in men and in those whose partner was an educator or a housewife. In view of the low health literacy levels, we suggest that teacher candidates could benefit from health education programmes after graduation.

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Niveau des connaissances en matière de santé des enseignants à Çorum (Turquie)

RÉSUMÉ Les connaissances en matière de santé des enseignants sont une part importante des programmes de promotion de la santé en milieu scolaire. La présente étude menée en 2013 a évalué les connaissances en santé des enseignants ainsi que les facteurs en la matière à Çorum (Turquie). Dans une étude transversale, 500 enseignants d'établissements primaires et secondaires ont répondu à un questionnaire sur leurs comportements en santé autodéclarés puis aux questions de l'instrument en 6 items intitulé Newest Vital Sign scale. Le score moyen sur l'échelle des connaissances en matière de santé était de 2,12 (ET 1,82). Globalement, 44,0 % des enseignants avaient des connaissances très limitées, 29,8 % des connaissances limitées et 26,2 % des connaissances en santé adéquates. Les niveaux de connaissances en santé adéquats étaient nettement supérieurs chez les enseignants qui n'étaient pas atteints d'une maladie chronique, qui ne fumaient pas, qui ne consommaient pas d'alcool, ainsi que chez ceux qui s'intéressaient aux sujets portant sur les modes de vie sains dans les médias. À l'analyse de régression logistique binaire, le risque lié aux connaissances en santé limitées était significativement plus important dans les groupes plus âgés, chez les hommes et chez ceux dont le/la partenaire était un éducateur ou une femme au foyer. À la lumière de ces faibles niveaux de connaissances en santé, nous suggérons que les futurs enseignants puissent bénéficier de programmes d'éducation en santé après l'obtention de leur diplôme.

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Introduction

Health literacy is "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (1). It is a wide spectrum of skills and competencies that people develop in order to seek out, comprehend, evaluate and use health information and concepts to make informed choices, reduce health risks and increase quality of life (2). Today, health literacy is seen as one of the

most important influences on health care (3). Adequate health literacy allows individuals to make decisions and deliberate authorization in relation to health care, disease prevention and health promotion (4). In contrast, low health literacy affects individuals' level of knowledge about a disease and its symptoms as well as their ability to learn about disease management (5). In addition, it is more likely that these individuals use fewer preventive services and fewer medical services at the later stages of their disease. Poor health literacy reduces a patient's understanding of their illnesses, leading to lower levels of adherence with treatment. This too can greatly increase the likelihood of patients seeking treatment from emergency services which creates a financial burden on the health-care system, delays in inpatient treatment and higher cost of hospitalization (3,5–10).

Regardless of a country's development level, the health literacy levels of populations are found to be low all over the world. In 2011, in a study of health literacy conducted on over 8000 people aged 15+ years in 8 European countries (Germany, Austria, Bulgaria, Netherlands, Ireland, Spain, Poland and Greece), respondents were classified into 4 groups—insufficient, problematic, adequate and very good—based on their Newest Vital Sign and Health Literacy Measurement Index scores. In the Netherlands 29.0% of respondents and in Bulgaria 62.0% were in the insufficient and problematic groups, whereas in Ireland 60.0% of respondents and in the Netherlands 72.0% had very good scores. The rates of adequate and very good scores were the lowest in Bulgaria (37.0%) and in Spain (42.0%) (11).

Teachers' health literacy is increasingly seen as an important part of school health promotion programmes (12) and many studies have been conducted on how to improve mental health literacy among educators (13–15). In Turkey, studies on health literacy in the general population are limited and, to our knowledge, there has been no study among teachers. It is desirable that teachers' health literacy levels should be high because their roles involve teaching students about health information and health-related behaviours as a part of basic education at the primary and secondary school levels. Enhancing health literacy levels of teachers is necessary for the Project of Health Promoting Schools in Turkey. The objectives of the study reported here were to assess the health literacy levels and related factors in primary and secondary schoolteachers in Çorum province of Turkey.

Methods

Study setting

This cross-sectional study was carried out in 2013 in the province of Çorum, Turkey. Çorum is located inland in the central Black Sea region of Turkey and has a population of 527 220. This study was planned in accordance with the Helsinki Declaration and approved by the Erciyes University ethics committee.

Study sampling

The study population was primary and secondary schoolteachers in public schools in Çorum. Official records of the provincial directorate of education showed that there were 21 primary and 15 secondary schools with a total of 580 teachers in the province. In primary schools the teachers work as class teachers, whereas in secondary schools teachers have a specialty in teaching a specific subject (mathematics, history of literature, social science, science and technology, English language, religious and cultural science, sports or arts). We intended to sample the whole population of teachers, but the final analysis was done on questionnaires from 500 teachers. The response rate was 86.2%. Reasons for non-participation were absence during the study period (5.0%), incomplete questionnaires (2.8%) and unwilling to fill out the questionnaire (6.0%).

Study tools

A self-administered, anonymous questionnaire was used to collect data regarding each teacher's sociodemographic characteristics (age, sex, marital status, education, occupation of wife/husband), occupational characteristics [type of teacher (class/subject), school level (primary/secondary), years of seniority], chronic health conditions, smoking, alcohol use; and self-reported health behaviours (general health perception, pattern of health service use, medical services preferred, interest in health subjects). All these items were analysed as independent variables. Self-reported health behaviours were assessed with the following questions: How would you assess your general health? (very good, good, moderate, bad, very bad; in analysis responses were collapsed into good, moderate, bad); How often do you go for preventive care regardless of whether you are sick or not? (always, sometimes, never); Which medical services do you visit first? (family physician, public/university hospital, special hospital/polyclinic); Which health subjects interest you in the media? (more than one option possible from: healthy life, alternative medicine, policies of the Ministry of Health, scientific discoveries, disease and treatment methods, medicine and medical products).

Teachers' health literacy was assessed using the Newest Vital Sign (NVS) scale. The NVS is a 6-item instrument developed by Weiss et al. in 2005 as a literacy screening tool for health information (16). Participants are shown a nutrition label from an ice cream container specially designed for the test and 6 questions are verbally administered (e.g. how much ice cream has 60 g carbohydrate?). For each correct answer 1 point is given and the sum of the points indicates the level of health literacy. Health literacy levels were classified into 3 categories: very limited (score 0–1), limited (score 2–3) and adequate (score 4–6). The scale was translated into Turkish by Ozdemir et al. in 2010 and the reliability and validity of the Turkish scale was assessed (17); the scale's internal consistency (Cronbach α = 0.70) and item validity (r = 0.52, P

Data collection

For data collection, the researchers informed the teachers about the study, gave guarantees

about confidentiality and took verbal consent from them. Teachers were allowed to respond to the questionnaire in their free time. Each teacher needed approximately 10 minutes to complete the questionnaire.

Data entry and analysis

Health literacy scores and levels were calculated according to the guidelines of the NVS. For analysis we combined the very limited and limited health literacy categories to create binary categories: adequate and very limited/limited. The data were analysed using SPSS, version 17.0 software. Continuous data were presented as mean and standard deviation (SD). In categorical data, the chi-squared test was used to compare groups. Also binary logistic regression analyses were used to predict significant factors for limited health literacy. Odds ratios (OR) and 95% confidence interval (CI) were calculated. P

Results

Background characteristics

Of the study participants, 66.4% were male and 33.6% were female. The mean age was 42.9 (SD 8.8) years. Just over half of teachers (53.8%) were working in primary schools and 46.2% in secondary schools; 47.6% were class teachers and 52.4% were subject teachers. Of the study group 41.0% had work experience of 11–20 years and the mean number of years of seniority was 19.6 (SD 9.3) years.

Health literacy scores

Table 1 shows the percentage of correct responses for each of the 6 NVS questions; 46.2% of the whole group gave correct responses to question 4, 41.4% to question 5 and 36.8% to question 1. Women gave significantly more correct responses than did men for all items in the scale except for question 3 (about the grammes of saturated fat in 1 serving of ice cream).

The mean health literacy score of the whole sample was 2.12 (SD 1.82), within a score range of 0–6. The distribution of teachers' health literacy scores showed that 44.0% had a health literacy score classified as very limited, 29.8% as limited and 26.2% as adequate (Table 2).

Health literacy level by demographic and educational characteristics

The rate of adequate health literacy level according to the demographic and educational characteristics of teachers is shown in Table 3 . Significant differences were found in adequate health literacy according to individual's age group, sex, spouse's occupation, graduation level and years of seniority. Adequate health literacy levels were higher in the 25–34 age group compared with other age groups (P

Health literacy level by self-reported health behaviours

Table 4 shows self-reported health behaviours according to the health literacy level of teachers. Among the whole sample of teachers 79.2% had positive health perceptions, 63.4% reported that they saw a doctor for check-ups always/sometimes and 55.2% stated that they primarily visited a family physician for health problems. Compared with those with limited/very limited health literacy, slightly fewer teachers with adequate health literacy had a positive health perception or saw a doctor for check-ups. There was a significant difference in health literacy levels of teachers according to which medical service they primarily used; teachers who primarily visited public/university hospitals or special hospitals/polyclinics were more likely to have adequate health literacy than those who visited a family physician (P

The rate of adequate health literacy according to whether a teacher had a chronic disease or not are also shown in Table 4. Having one or more chronic health conditions was reported by 36.4% of teachers. Chronic disease was found to be associated with age and seniority. Chronic disease was more prevalent in those of older age groups (35–49 and 50–64 years) (P

Health literacy levels of teachers according to smoking and alcohol use showed that a quarter of teachers (25.2%) reported being a current smoker and (23.8%) were alcohol users. Among teachers with adequate health literacy, 24.5% were non

-smokers and 25.2% were non-alcohol users and there was no difference in the health literacy level of teachers according to smoking and alcohol use (P > 0.05) (Table 4).

The health literacy levels of teachers were analysed according to their interest in information from the media about healthy living and alternative medicine (Table 4). Health literacy was significantly higher among teachers who reported that they were interested in topics related to healthy lifestyles (P = 0.007). In contrast, an interest in alternative medicine had no significant affect on health literacy (P = 0.109).

Factors predicting limited health literacy levels

Table 5 shows the significant factors predicting limited health literacy levels of teachers in the binary logistic regression analysis. Limited health literacy risk was 3.29-fold higher in the 35–49 year age group and 2.85-fold higher in the 50–64 year age group than in the 25–34 year age groups. Also the risk of having limited health literacy was significantly higher in men than women (OR 3.18); in those whose partner was an educator (OR 1.95), housewife (OR 2.27) or other/self-employed (OR 2.77) than those whose partner was a health-care professional. The effects of other independent variables were not significant.

Discussion

The mean score of all teachers on the NVS was 2.12 (SD 1.82) out of a maximum score of 6, therefore demonstrating an overall limited level of health literacy among the study sample. In another study of health literacy in Turkey, the mean score of the NVS was 2.60 (SD 0.08) in individuals aged ≥ 17 years in Bursa and in 28.1% of them the health literacy level was adequate (17). In Ankara too, it was found that 29.6% of university students had an adequate level of health literacy (18). In studies conducted abroad, the NVS scores and the rate of adequate health literacy were relatively higher than in Turkey. Adequate health literacy levels were found in 55.9% of adults in Serbia (19), 26.0–50.0% in the United States of America (USA) (20–22), 79.0% in Australia (23), 75.5% in Japan (24), 61.0% in England (25) and 43.0% in Ireland (26). When comparing the level of health literacy between the current study and other studies we found similar results with our study and Mississippi in the USA (22).

Less than half of the study group were able to respond correctly to all the items of the scale. The ratio of responses indicated a higher level of health literacy in women teachers. However, health literacy skills were inadequate in both sexes. We also found that adequate health literacy level varied according to age group and was significantly lower in those aged 50–64 years than in other age groups. In other studies, age was found to influence health literacy (17,19,23,24,27,28). It has been suggested that health literacy decreases with declining age as a result of reductions in cognitive function and sensory abilities (29–31). Another factor we found to affect health literacy level was the individual's sex, with women having better health literacy than men. In many studies, it was established that a higher level of education increased the adequate health literacy levels by creating a positive and synergistic effect on women's health (19,23,24,27,28).

In the present study, health literacy was significantly higher in teachers whose wife/husband worked as health professional. This agrees with the results of another study showing that adequate health literacy levels were higher in individuals having a health professional among their family members (18). Presumably having a health professional within the household can increase knowledge and awareness related to health and disease among other family members. We also found that health literacy differed according to individuals' educational level and was significantly higher in those who had a bachelor's degree. This is consistent with the results of other studies from other countries showing that individuals with higher levels of education had adequate health literacy levels (17,19,23,24,28,29). Adequate health literacy levels in the present study were significantly lower among those with ≥ 31 years' of seniority. Other studies have also shown that the duration of graduation from formal education leads was associated with lower health literacy (30–32).

Teachers who had chronic diseases and those who evaluated their general health as

moderate/poor had lower adequate health literacy levels. This agrees with research showing a strong relationship between weak physical and psychological well-being and lower health literacy, as people with limited health literacy were more likely to evaluate their health as moderate/poor (1,24,33) and people with chronic health problems have lower health literacy levels (1,21,34).

We found that individuals who preferred to visit a family physician for an initial health problem were less likely to have adequate health literacy levels than those whose utilized hospitals. In contrast, in other studies it was found that adequate health literacy levels were higher in people utilizing primarily primary health-care services (23,35,36).

In the European Health Literacy Study, smoking and alcohol use were shown to be risk factors associated with low health literacy (32). In addition, national and international studies showed that adequate health literacy levels were higher among non-smokers and non-alcohol users (18,24,37,38). We also found that in teachers with an adequate health literacy level the rates of non-smoking and non-alcohol using were higher.

Media that can reach a wide audience of individuals can be effective in improving healthy lifestyle behaviours and we found that teachers with an interest in healthy lifestyle topics in the media had significantly higher rates of adequate health literacy. This agrees with the results of other studies (39–44).

Individuals' age group, sex and spouses' occupation were identified as demographic variables that had a significant impact on limited health literacy levels in our study, which agrees with many other studies showing the impact of age and sex on limited health literacy (19,22–25,27,28).

Conclusion

Levels of health literacy in primary and secondary schoolteachers in Çorum were found to be limited. Knowledge of health literacy in schoolteachers should be improved. It may be a useful approach to focus on the health curriculum at all levels of the education system and provide teacher candidates with health education programmes after graduation.

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