

Artificial Reproductive Technology – A Risk Factor for Retinopathy of Prematurity

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Abstract

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Keywords: Premature; Assisted conception; Risk factor; Retinopathy of prematurity; Artificial reproductive technology

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BACKGROUND: Retinopathy of Prematurity (ROP) is a potentially blinding vasoproliferative disease in premature babies. The presentation and course of ROP are determined by a complex interaction of a series of risk factors, including artificial reproductive technology (ART).

AIM: To analyse and combine the information relating ART as an independent risk factor for retinopathy of prematurity.

METHODS AND MATERIAL: The article is systematic review and meta-analysis using RevMan 5. Pubmed, Scopus and Medline were searched for articles from 1990 to 2018.

RESULTS: Studies suggest that ROP is observed more frequently in ART children. They are more likely to be premature and of low birth weight than those conceived naturally. Results vary from just a tendency to a five-fold increase in risk to develop ROP in ART babies. At the same time, they might develop ROP later, and more mature newborns might be affected.

CONCLUSION: The data relating ART as a risk factor for ROP is inconclusive, but most studies show at least a tendency. The ART newborns need to be considered as a risk group for ROP and observed with greater suspicion. Even more mature ART newborns might need to be screened in order not to miss any significant pathology.

Introduction

Retinopathy of Prematurity (ROP) is a potentially blinding vasoproliferative disease in premature babies. Recent advances in neonatal care have improved the survival rates for premature infants, and this has been accompanied by an increase in the incidence of ROP [1] [2]. If it remains unrecognised and untreated, it can cause severe visual impairment and blindness in children. Nowadays ROP can be prevented by timely screening [3].

The presentation and course of ROP are determined by a complex interaction of several risk factors like gestational age, birth weight, as well as systemic risk factors like anaemia, sepsis, jaundice

and multiple blood transfusions [4]. Other significant risk factors for developing ROP are: artificial ventilation (for more than 5 days), respiratory distress syndrome, intraventricular hemorrhage and periventricular leukomalacia, congenital heart disease, sepsis [5], low Apgar score in the first and fifth minutes, longer duration of oxygen therapy [3]; intrauterine hypotrophy, bronchopulmonary dysplasia [6]. Poor postnatal growth in the first weeks of life [7] [8] and early postnatal hyperglycemia [9] [10] [11] are also associated with later development of ROP, while phototherapy used to treat hyperbilirubinemia is considered a protective factor [6].

This study aims to analyse and combine the information relating ART as an independent risk factor for ROP.

ON SOME ASPECTS OF THE WORK OF GPs IN THE INFORMATION ENVIRONMENT

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Abstract. Electronic health systems improves the efficiency and effectiveness of medical activity, raising its quality, while facilitating the access to patient care. The study aims to compare characteristics between physicians and medical students on several factors. A Questionnaire was passed and filled by GPs. The most significant differences between students and physicians are in language competence and self-made websites. Responses showed a relatively good level of preparedness for the introduction of e-health. Still the possibilities of using e-mail for communication are not used enough.

Keywords: e-health, general practitioner, health system, internet access, quality

Introduction.

E-health is the next logical step in the development of health care systems. Electronic health systems improves the efficiency and effectiveness of medical activity, raising its quality, while facilitating the access to patient care. In spite of the number of advantages and benefits for the patient as well as the doctors, this implementation faces current and future physicians and patients with a new obstacle which they have not met and are differently prepared to overcome. The study aims to fulfill the following tasks:

- Analysis of willingness to work in the information environment.
- A study of computer and foreign language competence.
- Awareness and readiness of GPs for working with patient-oriented information.
- A comparative characteristics between medical students and graduate physicians in each of the indicators.

Materials and Methods.

Doctors and medical students were interviewed. A questionnaire of 101 questions was presented in which some major groups are:

- Age
- Educational level
- Additional qualifications
- Experience / seniority
- Foreign language competence
- Using the PC system / Internet
- Self-perceived computer competence
- Scientific activity and e-science
- Problems from the perspective of the patient and others.

**TAKING CARE OF VISION OF PATIENTS WITH DIABETES: COMPARISON
BETWEEN HOSPITAL AND OUTPATIENT CARE**

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ABSTRACT

Introduction: Diabetes mellitus is one of the most often diseases of contemporary society. About 8,3% of elderly population is affected by it. Only in 2014 the disease caused the death of 4,9 million patients. The regular control and follow-up of patients plays a vital role in preventing its complications.

Aims and tasks: Assessing the change of satisfaction and knowledge of patients after hospital admission.

Methods and material: Anonymous questionnaires were handed out after examination of ocular fundi of patients with diabetes. Selected questions were thoroughly analyzed and compared.

Results and discussion: Filled and fit for analysis were 21 questionnaires of hospitalized patients and 18 of non-hospitalized patients. The admitted patients have at least basic information concerning their disease in 76 % of cases compared to 55,5% of ambulatory patients. The satisfaction between the two groups is similar – 95% vs 94%.

Conclusion: Only after the disease damages the patients' organs and hospitalization becomes more frequent do the patient become interested in it.

Keywords: *diabetes, hospital admission, vision*

Introduction: Diabetes mellitus is one of the most often diseases of the contemporary society. About 8,3% of elderly population is affected by it. Only in 2014 the disease caused the death of 4,9 million patients. The regular control and follow-up of patients plays a vital role in preventing its complications.

Patients' knowledge about the disease is one of the main factor contributing to compliance in treatment, early detection of negative consequences and seeking help in time. At the same time patient satisfaction levels are of upmost importance, since an unsatisfactory telescreening program could distance the patient and result in permanent damage which could have been preventable.

The importance of patient satisfaction is established and all new technologies must adhere to its call. This becomes without any doubt more important when telemedicine is involved. The first studies about satisfaction level from telemedicine date back to 1999 when Holle et al evaluate the implementation and benefits of new information and communication technologies in biomedicine [2].

As Rani et al show patient satisfaction level with new technology is usually high especially when their vision is threatened [5].

Improved access, reduced cost and waiting time as well as quick examination and the ability to consult with a specialist even in rural areas are the main reasons for the excellent acceptance and high satisfaction level of new technologies. Paul et al focus their 2006 study on rural areas and report higher levels of satisfaction compared to city environment [4].

The difference is even greater in developing countries. A study from 2013 in Africa from Kurji et al reports limited or no access to specialized healthcare in most rural regions which is the

DIABETIC RETINOPATHY SCREENING IN HOSPITAL SETTINGS

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ABSTRACT

Introduction: Diabetes affects about 8,3% of elderly population on the planet. Its complications affect all organs and systems as there is a heavy effect on vision. Diabetic retinopathy is one of the leading causes of blindness. Timely screening and treatment can prevent it and slow the worsening of vision.

Aims and tasks: Assessing the implementing of new screening technique in hospital settings.

Methods and materials: Pictures were taken of the fundi of 29 patients in the Clinic of Endocrinology in Medical University-Plovdiv. Afterwards anonymous questionnaires were handed and filled by each patient.

Results and discussion: Visual opacities in the cornea did not allow us to take pictures of two of the ocular fundi. The methods shows high sensitivity and specificity (over 80%). All questionnaires were returned fit for analysis. The patients demonstrated high level of knowledge of their disease and admit to be very satisfied with the methodology.

Conclusion: The presented methodology shows great promise for implementation not only in general practice settings, but also in hospital settings.

Key words: hospital care, diabetes, retinopathy

Introduction: Diabetes affects about 8,3% of elderly population on the planet. Its complications affect all organs and systems, which includes heavy reduction in visual acuity. Diabetic retinopathy is one of the leading causes of blindness. As such the importance of screening for it are established. Timely screening and treatment can prevent it and slow the worsening of vision [2].

Telescreening presents us with an opportunity to increase efficiency and efficacy while reducing cost. In the last decade different telescreening trails are performed and tested in a variety of settings which allows us to find the best place for its implementation.

First large scale trials date back to 2000, when Liesenfeld et al test the emerging digital fundus photography and compare it to the golden standard for retinal photography. Results are promising showing similar specificity and sensitivity [2].

With the development of new technology new and improved methods for telescreening emerged. In 2003 Neubauer et al tested a retinal thickness analyzer with a combination of wide-angle fundus photography and macular thickness mapping. The results proved that the methodology offers all the prerequisites for establishing a successful tele-screening program [4].

In the following years the scale of the telescreening project quickly escalated. In 2004 a large multicenter took place. The trials demonstrated that it is feasible to electronically transmit and grade retinal images remotely using the TOSCA process with built-in quality assurance procedures proving acceptable [3]. At the same time quality assurance was needed to prove the required image quality. Schneider et al showed the benefits of such quality assurance process [7].

As screening devices need to be portable and easy to use the focus for telescreening changes to hand-held and light devices. In 2008 Neubauer et al try to use a 200° ultra-widefield scanning

EARLY DETECTION OF EYE DISEASES IN GENERAL PRACTICE

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Abstract: Most of the time general practitioners are the first to face an ophthalmologic complaint of a patient. Many of the eye diseases are more easily treated when caught in early stages and this brings up the importance of their early detection. However, the patient often does not have any complaints at the beginning of an eye disease, and does not know that he needs to see a specialist. Here comes the role of general practitioners who can look for risk factors and take part in eye screening. **Objective:** The aim of the study was to assess the knowledge of general practitioners about the risk factors for eye diseases and their readiness to take part in screening of eye diseases. **Methods:** Thirty randomly selected general practitioners were given written questionnaires **RESULTS:** 67% of the general practitioners that took part in the survey think that they know most of the risk factors for eye diseases and they also proved that knowledge of the most important ones in an open-ended question. Many general practitioners are confident and willing to take part in screening for eye diseases. **Conclusion:** General practitioners can play a significant role in early detection of eye diseases. They should be encouraged to look for risk factors and be included in screening programs.

Key words: general practitioner, risk factors, screening

BACKGROUND

Most of the time general practitioners are the first to face an ophthalmologic complaint of a patient. They can have a significant impact on their patients' visual health by screening for vision problems, aggressively controlling known risk factors for visual loss and by timely referral of specific patient populations to qualified eye care professional. (10) They can ensure that appropriate patients are screened for common serious eye diseases, such as glaucoma, and that patients with vision problems are assessed for treatable conditions, such as cataracts or refractive error.

OBJECTIVE

The aim of the study was to assess the knowledge of Bulgarian general practitioners about the risk factors for eye diseases and their readiness to take part in their screening

METHODS

Thirty randomly selected general practitioners were given written questionnaires. They included 10 different questions, 9 of which were closed, and one was open. The first 5 questions included passport information. The other 4 closed questions had yes or no option.

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RESULTS

Results from the investigation show that 46% of the participants were male, and 54% female. 66% were general medicine residents, and 24% were specialists. The average work experience was between ten and twenty years and nearly half of them were between 35 and 45 year-old. 65% were working in towns and 35% in the village.

There are many risk factors for the vision that general practitioners should be aware of. For example hypertension has profound effects on various parts of the eye. It results in a series of retinal microvascular changes called hypertensive retinopathy. Furthermore, hypertension is one of the major risk factors for development and progression of diabetic retinopathy. In addition, several retinal diseases such as retinal vascular occlusion (artery and vein occlusion), retinal arteriolar emboli, macroaneurysm, ischemic optic neuropathy and age-related macular degeneration may also be related to hypertension.(3)

Data from population-based surveys indicate that one in 40 adults older than 40 years has glaucoma with loss of visual function, which equates to 60 million people worldwide being affected. Even in developed countries, half of glaucoma cases are undiagnosed. Glaucoma is mostly asymptomatic until late in the disease when visual problems arise. Vision loss from glaucoma cannot be recovered(12). Risk factors associated with open-angle glaucoma are higher age(over 40 years) and positive family history, myopia over 4 dioptres.(5) Vascular risk factors are also assessed for associations with glaucoma- like migraine, hypertension, (1), diabetes. Glaucoma is a common, insidious cause of blindness in the general population, especially in older patients. (2)Although much is still unknown about the symptoms and pathogenesis of this group of ocular diseases, primary care physicians can make a major difference in reducing vision loss by identifying high-risk patients at an early stage of disease (10)

EFFECTS OF COMPUTER USE ON EYE COMPLAINTS

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Abstract

Background: Personal computers are part of our everyday life. Work time could be anywhere between several minutes to eight and more hours. With their increased usage ocular complaints are also increased, with the different complaints grouped together as Computer Vision Syndrome.

Aims and tasks: To make a connection between increased computer usage and ocular complaints

Methods and materials: literature review; free search, Pubmed, Embase

Results: Reviewed sources show increased ocular complaints with computer usage, with leading symptoms being eye strain, itching and burning. Visual acuity and color vision are also shown to be affected after prolonged computer usage. Most studies report additional complaints from the wrists, back and neck. Symptoms could be alleviated with proper posture, increased distance from the computer, increased frequency of breaks, working in a bright room and with LCD monitors.

Conclusion: Ocular complaints from frequent computer usage are common occurrence and proper procedures are critical for the control of their gravity and frequency.

Key words: *ocular symptoms, personal computer, computer vision syndrome*

Background:

Before the advent of computers, the office work involved a range of activities, including typing, filing, reading and writing etc. All these activities are different from each other and needed different types of posture and vision, causing a natural break from each activity. With the computer all these activities were combined and needed no change of posture or vision of the user from his desktop. (18)

Nowadays personal computers are part of our everyday life. Computer exposition is no longer limited to desktop computers, most people have access to laptops, tablets, book readers and smartphones. Work time could be anywhere between several minutes to eight and more hours, with additional hours spend on entertainment media, watching TV or playing video games. With their increased usage ocular complaints are also increased, with the different complaints grouped together as Computer Vision Syndrome (CVS). Bankers, account section workers, professional computer workers, excessive near work by mobile, laptop or tab users are commonly affected (4). The subject of "Computer vision syndrome", it is defined by the American Optometric Association as a complex of eye and vision problems related to the activities which stress the near vision and which are experienced in relation, or during, the use of the computer. There is little research on the topic in Bulgarian literature.

ЕФЕКТИТЕ НА БРЕМЕННОСТТА ВЪРХУ ЗРИТЕЛНАТА СИСТЕМА

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EFFECTS OF PREGNANCY ON VISUAL SYSTEM

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Резюме. Целта на проведеното проучване е да се разгледат промените на зрителния анализатор, които могат да възникнат във връзка с бременността. Извършено е търсене на литературни източници чрез свободно търсене, Pubmed и Embase. Получените резултати са разделени на физиологични и патологични промени. Патологичните промени по своята характеристика могат да се разделят на очни прояви, появяващи се за първи път по време на бременността, влошаване на вече съществуващ очен проблем и очни усложнения от общи заболявания. Необходимо е познаването на влиянието на бременността върху зрението от общопрактикуващите лекари с цел правилно и навременно насочване към офталмолог. Познаването на ефектите на бременността върху зрителната система, би помогнало в предварителната подготовка и проследяването при жени със системни заболявания, с цел подобряване прогнозата за тяхното зрение.

Ключови думи: зрителен анализатор, бременност, промени

Summary. The aim of the study is to examine the changes of the visual analyzer that may arise in connection with pregnancy. A systematic review of the literature was made using free search, Pubmed and Embase. The changes of visual system during pregnancy were divided into physiological and pathological changes. The pathological changes are divided into ocular events occurring for the first time during pregnancy, worsening of existing eye problem and eye complications of systemic diseases. The effects of pregnancy on vision need to be known by general practitioners in order to refer patients to an ophthalmologist right and on time. By knowing the effects of pregnancy on visual system, they can help with preliminary preparation and follow-up of pregnant women with systemic diseases which would lead to a better visual prognosis.

Key words: vision, pregnancy, changes

ВЪВЕДЕНИЕ

Женският организъм е подложен на съществени промени през време на бременността, обхващащи почти всички системи. Зрителният анализатор не прави изключение. Хормоналните, метаболитните, хемодинамичните, съдовите и имунологичните промени, настъпващи по време на бременност, могат да засегнат и функцията на очите. Тези промени

най-често са преходни, но понякога могат да останат постоянни, с последствия и след раждането [8].

Целта на настоящия обзор е да се разгледат промените на зрителния анализатор, които могат да възникнат във връзка с бременността

Извършен беше литературен обзор чрез търсене на литературни източници в Pubmed, Embase и чрез свободно търсене.



E-HEALTH IMPLEMENTATION – READINESS OF BULGARIAN OPHTHALMOLOGISTS

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ABSTRACT

PURPOSE: E-health can be defined as the use of information and telecommunications technologies (ICT) to provide or support a group of activities related to health care. With the aging of the population and the increase demand for ophthalmological consultation, E-ophthalmology as a subsection of E-health can be used to compensate the lack of specialists, reduce traveling distance, and decrease expenses. We aim assess the readiness of ophthalmologist for e-health implementation. **METHODS:** A written questionnaire was personally distributed to 21 randomly selected ophthalmologists in the Stara Zagora region. **RESULTS:** While most ophthalmologist rate their computer skills as excellent or above average and are willing to participate in computer improvement courses, they think that e-health would not benefit them or their patients. **CONCLUSIONS:** E-ophthalmology is a new and very fast developing part of ophthalmology. While it offers many benefits it requires a well prepared and trained medical staff to make full use of them. The results from the current article suggest that while a larger part of the ophthalmologist are at least partly prepared, additional research is needed on the subject.

Key words: Tele-ophthalmology, screening

INTRODUCTION

E-health can be defined as the use of information and telecommunications technologies (ICT) to provide or support a group of activities related to health care. (1) With the aging of the population and the increase demand for ophthalmological consultation, E-ophthalmology as a subsection of E-health can be used to compensate the lack of specialists, reduce traveling distance, and decrease expenses. (2)

AIMS AND TASKS

To assess the readiness of ophthalmologist for e-health implementation.

MATERIALS AND METHODS

A written questionnaire was personally distributed to 21 randomly selected ophthalmologists in the Stara Zagora region. Standard statistical analysis was used.

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RESULTS

E-ophthalmology is a new and very fast developing part of ophthalmology. It can offer many benefits if properly implemented and open a lot on new opportunities for developing countries like Bulgaria. While it can improve healthcare drastically it requires a well prepared and trained medical staff to make full use of its abilities. (3) Developments in the field of telemedicine such as the mobile based ophthalmoscopy (4) and teleophthalmology with optical coherence tomography (5) can be very useful for rural areas and those lacking appropriate specialist. Some services such as teleconsultation reduce the financial resources strain on the health care system, making e-ophthalmology very cost-effective. (6) Most studies on the subject show that e-health systems are feasible (7) and do not sacrifice accuracy or reliability of the diagnostic process (8, 9), in fact increasing both speed and accuracy (10, 11) Tele-ophthalmology shows great promise for improving patient care and increasing access to specialty care not available in under-served areas. In developing countries tele-ophthalmology may be a cost-effective method by which richer countries can

ELECTRONIC HEALTH RECORDS – BENEFITS, SAVINGS AND COSTS

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ABSTRACT

Background: The electronic health record is a systematic collection of electronic health information about an individual patient.

Research question: What are the costs, benefits and savings of electronic health records?

Method: Review of existing literature

Results: The Electronic health record offers physicians access patient information available in one place, with an easy to read unified structure.

Conclusions: Since 15.04.2013 Electronic health records are available in Bulgaria and can be accessed by patients via a personal 10 digit code.

Keywords: EHR, Internet, patient information

Background: The Electronic Health Record (EHR) is a secure, real-time, point-of-care, patientcentric information resource for clinicians. An electronic health record is a representation of all the data a patient has that would originally be found in the paper based record. It contains a broad spectrum of health information – medical history, medication and allergies, immunization status, laboratory test results, vital signs, as well as demographic and billing data. The health record is not limited to text data only, it could have images from different specialities – radiology, pathology, ophthalmology.

The first ideas for electronic storage of medical information date back to 1960. The concept for electronic patient records was created in 1990 and its' aim is to help physicians cope with the increasingly complex medical care and give them constant access to up-to-date patient information. [10] Since their creation the content, structure, and technology of such records were frequently changed and adapted. The electronic health record of today is a systematic collection of electronic health information about an individual patient.

Before being implemented an electronic health record must respond to certain criteria accepted in the U.S. and European Union. [3,11]

The core requirements for any EHR include: use of computerized order entry for medication orders; implementation of drug-drug and drug-allergy checks; ability to generate and transmit permissible prescriptions electronically; ability to record demographics; maintain an up-to-date problem list of current and active diagnoses; maintain active medication list; maintain active medication allergy list; record and chart changes in vital signs; record smoking status for patients 13 years old or older; implement one clinical decision support rule; report ambulatory quality measures; provide patients with an electronic copy of their health information upon request; provide clinical summaries to patients for each office visit; capability to exchange key clinical information electronically among providers and patient authorized entities; protect electronic health information (privacy & security).

The menu requirements include: implement drug-formulary checks; incorporate clinical lab-test results into certified EHR as structured data; generate lists of patients by specific conditions to use for quality improvement, reduction of disparities, research, and outreach; send reminders to patients per patient preference for preventive/ follow-up care; provide patients with timely

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**РОЛЯ НА ОБЩОПРАКТИКУВАЩИТЕ ЛЕКАРИ В ГРИЖАТА ЗА
ЗРЕНИЕТО НА ЗАСТАРЯВАЩОТО НАСЕЛЕНИЕ**

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**TAKING CARE OF THE VISION OF THE ELDERLY – THE ROLE OF
GENERAL PRACTITIONERS**

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Abstract:

The main goal of the study is to assess the role of general practitioners in Bulgaria in taking care of the vision of elderly patients. Written anonymous questionnaires were handed out and returned fit for analysis by 200 general practitioners and 432 patients. Most of general practitioners (70%) admit that they don't apply any prophylactic measures for the vision of their elderly patients. They show lack of knowledge considering some of the most often eye diseases of aging population. From the patients over the age of 55 years only 12,2 % have received any advices for their vision by general practitioners and only 50% have been referred for intraocular pressure measurement. We can conclude that the role of general practitioners in Bulgaria considering prophylactic measures for the vision of aging population is insufficient.

Key words: prophylactic, questionnaire, aging population

Въведение: Застаряващото око преминава през серия от структурни и физиологични промени. Превантивни мерки в старческа възраст и по-рано в живота могат да помогнат за забавянето на тези промени и намаляването на заболяемостта [4]. Семейните лекари имат основна роля в оценяването, идентифицирането, лекуването и предпазването, както и забавянето на загубата на зрението при застаряващата популация.

Цели и задачи: Оценка на ролята на общопрактикуващите лекари по отношение на зрението на застаряващото население.

Методи и материали: Представяме ви само част от резултатите от по-мощно



EMEDICINE AND COMPUTER LITERACY

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ABSTRACT

Introduction: E-medicine has become an integral part of modern health care. Besides the well-known advantages, there are barriers to its effective use. One of which is the level of computer literacy of consumers.

Aims and objectives: To examine the level of computer literacy among doctors and medical students through shortlisted issues of basic questionnaire

Materials and methods: Target groups of doctors and medical students from Bulgaria, USA, Hungary, Greece, Italy and Austria. Statistical processing with SPSS 17

Results: More than half of the participants in the Bulgarian group (54.71%) declare participation in courses or training, with no difference between doctors and medical students (a result similar to that of the Italian group). Even fewer of them (30%) can confirm that training with a certificate. More than half of the Bulgarian doctors and students do not know what broadband is - the lowest score of all groups. These issues are discussed in the context of some demographic and qualifications of the participants.

Discussion: Given the new realities of global e-health and job requirements in terms of eHealth Bulgarian doctors and students need targeted training in this area to be able to practice successfully in the coming decades.

Key words: ehealth, general practitioners

Introduction: The development of information and communication technologies gradually covers all aspects of medicine. E-medicine has become an integral part of modern health care. Besides the well-known advantages, there are a number of difficulties and barriers to its effective use. One of which is the level of computer literacy of consumers.

Studies show that training opportunities for medical professionals significantly expand. E-learning as part of emedicine provides an excellent opportunity for learning regardless of time and place. In a study Avitzur and colleagues report that low computer literacy was a major barrier to full use of online resources and even pushed away a significant proportion of consumers from further eLearning usage [1].

After a web-based survey among graduate otorhinolaryngologists Fraser and colleagues report high or very high self-assessment of

computer literacy among respondents [2]. Most of them are dissatisfied with the telemedicine elements presented to them, and find them lacking compared to their knowledge.

The difference in assessment of computer literacy does not occur only with doctors, but also for nurses. Kezias' team examines computer literacy among dermatological nurses and also found misalignment between generations. In the results, however, they reported that after appropriate training nurses have significantly greater access to modern technology, which improves the quality of patient care. [5]

Key predictors of computer literacy according to Hoss and team are the level of education and age of user. Respondents with a bachelor's or higher degree of education show higher results, which is also observed among younger participants [4].

A similar study conducted by Rababi and team, who report similar results. A high percentage of students have personal computer (77.1%) while their knowledge vary from minimal - the ability to work on the Internet to in-depth

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EYE DEVELOPMENT SCREENING THE THE GENERAL PRACTICE SETTING

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Introduction: General practitioners play a central role in monitoring the development of children. The evaluation of the visual analyzer is part of this activity. It's injuries are not limited to reduced vision, but can also become severe cosmetic and psychological problems and limit the opportunities for further professional development. The vast majority of eye diseases are hereditary or are manifested during the first years of life. When caught early enough and timely referred to an ophthalmologist for treatment, lasting damage can be prevented and they can be controlled or cured.

Aims and tasks: To analyze the role of general practitioners in child eye care

Methods and material: Literature review

Results and discussion:

Conclusion: Unlike Bulgaria, in most developed countries the primary care physician examine red reflex and visual acuity is examined between 3-5 years of age. General practitioners have a role in discovering hereditary cataract, amblyopia, retinoblastoma and retinopathy of prematurity.

Keywords: *eye care, children, general practitioner*

Introduction: General practitioners play a central role in monitoring the development of children. The evaluation of the visual analyzer is part of this activity. It's injuries are not limited to reduced vision, but can also become severe cosmetic and psychological problems and limit the opportunities for further professional development. The vast majority of eye diseases are hereditary or are manifested during the first years of life. When caught early enough and timely referred to an ophthalmologist for treatment, lasting damage can be prevented and they can be controlled or cured.

Aims and tasks: To analyze the role of general practitioners in child eye care

Methods and material: Literature review

Results and discussion: General practitioners could have a major role in early detection of diseases such as congenital cataracts, amblyopia, strabismus, retinoblastoma, whose early detection is the only guarantee for the best visual outcome (20).

The National Health Insurance Fund in Bulgaria has developed a program "Children's health" for children between 0-18 years. This program is executed by the general practitioner of the child or by a pediatrician. It defines all preventive activities (examinations, immunizations) that are required in monitoring the growth and development of children - from birth to 18-year age (6). A Physician chosen by the parents visits the child at home. He conducts a full examination of the newborn within 24 hours after its discharge. The first visual assessment takes place after birth, then at 6 and 12 months. Between 7 to 18 years children are tested for visual acuity and color vision once a year. Between 2 and 7 years there is only one examination for visual acuity

GENERAL PRACTITIONERS AND ONLINE CONSULTATION

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ABSTRACT

Introduction: Internet and online services are part of everyday life. We perceive as normal their use in various activities. It's normal for healthcare and medicine to use them.

Aim: To investigate e-mail use for online consultation by GPs.

Materials and methods: Written questionnaire.

Results: Physicians don't have business e-mail and don't use their personal one for online consultation. Desire for this type of consultation is low, telephone consultation is preferred.

Conclusion: Online consultation is a promising method which is not used in Bulgaria. Significant part of the physicians would use it if compensated properly.

Key words: *General practitioner, online consultation*

Introduction: In modern society, Internet and high technologies have become part of everyday life. Online services are perceived as something simple, their use for trade, communication, decision making, administrative and legal activities is completely normal. The great opportunities, wider range of activities and conveniences which online services provide are not limited to daily and household use, medicine as a science and healthcare systems can also to use them.

Email consultation has the potential to become "routine" procedure because of its effectiveness, efficiency and low cost. A potential for abuse and violations for this type of written communication also exists with clinical and ethical implications [4].

Studies show that change and the introduction of such consultation should be gradual rather than promptly. [20]

Literature review of the situation in the world shows that e-mail consultation is not widely used [6], despite its recognition and potential. [7]. Several groups demonstrated the use of email consultation in various medical specialties. [8] [9] [13] [14] [15] [21] Several studies were made on the motivation of people to use online consultation [3] [10] [11] [12] and its potential to meet the growing needs for consultation. [19] [16] [17]. Partial usage of the online consultation are showed by a number of other authors. [1] [2] [5] [18]

Aims and tasks: To investigate Internet use by GPs, to see what portion of GPs have email, do they have a professional one and whether they use it for online consultation. Also the availability of subscriptions among them for online sites in their area of expertise.

Materials and methods: The use questionnaire contains ten closed questions. The questionnaires were distributed personally to GPs selected by random mechanism. After filling in the answers a chance for comment was given if desired.

Results: The survey involved 30 general practitioners in the country, selected at random mechanism. Of these, 10 were men and 20 women. The group included doctors with practices in university towns, municipal and regional cities, small towns and villages. The average work experience is over 10 years. The average age is 45 years. Average size of the practice is about 1500 people. A small group of 6 doctors were specializing at the moment.

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РОЛЬ ВРАЧЕЙ ОБЩЕЙ ПРАКТИКИ В РАННЕЙ ДИАГНОСТИКЕ ПЕРВИЧНОЙ ОТКРЫТОЙ УГЛОВОЙ ГЛАУКОМЫ

Аннотация

Цель исследования состоит в том, чтобы оценить роль врачей общей практики в Болгарии в постановке раннего диагноза первичной открытой угловой глаукомы при помощи письменных анонимных анкетных опросов, заполненных врачами общей практики, пациентами и офтальмологами.

Ключевые слова: анкетные опросы, направление к врачу, внутриглазное давление.

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THE ROLE OF GENERAL PRACTITIONERS IN THE EARLY DIAGNOSIS OF PRIMARY OPEN ANGLE GLAUCOMA

Abstract

The aim of the study is to assess the role of general practitioners in Bulgaria in the early diagnosis of primary open angle glaucoma by using written anonymous questionnaires filled by general practitioners, patients and ophthalmologists.

Keywords: questionnaires, referral, intraocular pressure

Introduction: Glaucoma is the second leading cause of blindness in the world despite the variety of investigations and new diagnostic techniques. There are 60 million people that have the disease and 7 million that are blind (1).

At the moment in Bulgaria general practitioners' engagement considering glaucoma is prescribing the medicines, reimbursed by the Healthcare insurance fund, even though they could refer patients to ophthalmologists by taking good history and even only by considering their age. This doesn't happen because of the lack of obligations, the restrictions of referrals and insufficient emphasis on the matter. Primary care physicians can make a major difference in reducing vision loss by identifying high-risk patients at an early stage of the disease (2). Risk factors for open angle glaucoma are for example advanced age, family history, diabetes (3), (4) and hypertension (5). Since many of those patients are seen periodically by their primary care physicians their office is a logical site for screening of open angle glaucoma (6).

Aim: The aim of the study is to assess the role of general practitioners in the early diagnosis of primary open angle glaucoma (POAG).

Methods and materials: Three types of written anonymous questionnaires were used, filled in and returned fit for analysis by 200 general practitioners, 70 ophthalmologists and 432 patients in the region of Stara Zagora, Plovdiv, Sliven and Sofia, Bulgaria, in the beginning of 2012. Here we report part of the results focused on the role of general practitioners in the early diagnosis of POAG. The data was analyzed using SPSS 16 statistical quantity descriptive and nonparametric analysis. Cross-tabulation with Chi-square test was also used. The level of significance is $P < 0,05$.

Results: It is difficult to define glaucoma precisely, as it encompasses a diverse group of disorders. All forms of the disease have in common a potentially progressive and characteristic optic neuropathy which is associated with visual field loss as damage progresses, and in which intraocular pressure is usually a key modifying factor (7). Primary open-angle glaucoma (POAG) is characterized as a chronic, slowly progressive, optic neuropathy with characteristic patterns of optic nerve damage and visual field loss. (8). Asymptomatic in the early stages, it gradually and progressively reduces the visual field and leads to blindness if untreated (9). Screening testing for glaucoma is justified, because only the diagnosis in very incipient stage will preserve the visual function (10).

Since GPs in Bulgaria are not obligated to have ophthalmoscopes in their offices, neither they have any devices for intraocular pressure (IOP) measuring (11), the only way that they can participate in the early diagnosis of glaucoma is by timely referral of their patients. That is why we chose to ask the three groups questions considering the referral of glaucoma patients to ophthalmologists.

We asked the ophthalmologists: "When do general practitioners refer patients to you for measuring of IOP?" We used multiple response analysis test. A significant percentage of the ophthalmologists (36%) pointed out that general practitioners do not refer patients for IOP measuring. None of the participants has given the answers "because of advanced age" and "other reasons". The most often answer is "when patients insisted" (26,5%), followed by "when they have certain complaints" (22,9%). Only 14,5% have given the answer "because of glaucoma relatives". This data shows that GPs are not clear with the main risk factors for POAG according to the participating ophthalmologists.

The question that we asked the general practitioners considering patients with risk for glaucoma was as follows: "Which patients do you refer for IOP measuring?" We used multiple response analysis. As you can see in table 1 the main reason (37,6%) for referral are patients' complaints.



GP READINESS FOR SCREENING OF ORL DISEASES

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ABSTRACT

Introduction: General medicine is a relatively new specialty in Bulgaria, the methods and system of training GPs are also new and still changing and evolving. Faced with a diverse stream of people in their ambulatory practice we reach the question of what level of skills and knowledge must GPs have in different specialties.

Aim and tasks: To investigate self-evaluation of GP for their knowledge and activities in the field of ORL.

Materials and methods: A written questionnaire was used, with closed questions personally distributed at random.

Results: The results show that most doctors believe they know the main risk factors for occurrence of ORL diseases and actively seek them. They assess their preparations as good and are ready to participate in screening programs in conjunction with ORL specialist.

Conclusion: The results obtained show that GPs assess their knowledge and skills high. Their readiness to participate in screening programs is also high, which presents us with an opportunity with great potential. Through cooperation between GPs and ORL specialists we can achieve a better level of health among the population in terms of ORL diseases.

Key words: General Practitioners, Screening, ORL

INTRODUCTION

General medicine is a relatively new specialty, not only in Bulgaria but in Europe. As a medical specialty less than two decades old, its methods and training system for general practitioners are also significantly new and still undergo changes, development and improvement. In the conditions of ambulatory practice the general medicine practitioner is facing a diverse stream of people covering all disciplines of medicine. In this situation the question arises how far to extend knowledge and skills of practitioners in each specialty.

From ORL diseases are among the most frequently encountered by GPs in their practice. Ranging from acute life-threatening conditions to chronic debilitating, GPs should recognize symptoms in time and refer to a specialist. Investigation of Al-Qudah (1) on acute supraglottitis shows that despite the sudden onset and the threat to life symptoms may be nonspecific - sore throat, discomfort in the neck above the hyoid cartilage, laboratory tests are also not indicative. It is imperative that differential diagnosis of edema and foreign body is made. Hearing loss is one of the most

common congenital anomalies (2-4 newborns per 1000). Brunger K et al (2), Shore SE (3) and Roy D (4) et al in their studies on tinnitus give a lot of information for GP usage. Charfi A et al (5) and Klimek L (6) present in their researches the actions a GP needs to take in case of allergic reaction.

Anne M De Michele et al (7) examine the quality of hearing screening in newborns proving that early detection and intervention can prevent severe psychological, educational and communicative effects (Table 1). Stilianos A et al (8) makes a similar research for the main reasons for hearing loss in neonates.

Mo L et al (9) and Mylanus EA (10) with their studies on ear diseases, Sieskiewicz A et al (11)'s studies on nasal diseases and Yasan H et al (12)'s studies on throat diseases give specific directions for GP's to follow in each case.

The third most important diseases for screening are tumors. In 1999, Gustavo D. et al (13) made screening and research on the prevalence of oral carcinomas and knowledge tested for risk and

INTERDISCIPLINARY INTERACTION BETWEEN GENERAL PRACTITIONERS AND OPHTHALMOLOGISTS

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Key words: ophthalmologists, communication, information, screening, general practice

Introduction: A significant number of eye problems present to general practitioners. [14] That is why, general practice settings are a perfect place for early diagnosis and referral of patients with ophthalmic problems to a specialist. In order to accomplish the best care for these patients a very good communication between both types of specialists has to exist.

There is a program called "Children healthcare" signed by the Minister of Health, supported by the National Healthcare insurance fund in Bulgaria for children until the age of 18. This program includes all the compulsory examinations by general practitioners (GPs). They have to make general assessment of children's vision after birth and at 6 and 12 months and to examine the acuity of vision every year after the age of 7 as well as the colour vision. There is only one examination included in this program between the age of 2 and 5 years of age and it's not strictly established at what age exactly it has to be performed. There are no compulsory examinations supported by the healthcare insurance fund by ophthalmology specialists during this period. That is why, the care of children's vision is in the hands of general practitioners. They are the ones to decide when to refer children for eye examination. Regarding patients over the age of 18, general practitioners have to examine the acuity of vision every year. [2] There are compulsory examinations by ophthalmologists only for patients that have diabetes and/or hypertension. As we can clearly see, the whole prophylaxis of vision, especially for children, is in the hands of general practitioners. The role of GP's in Bulgaria is crucial for the early diagnostics of eye diseases.

Aims and tasks: To assess the readiness of ophthalmologists to interact with general practitioners and define the level of communication between both specialties. This problem has not been investigated in our country by the moment.

Methods and materials: A prospective study was performed by written anonymous questionnaires that were given to ophthalmologists on a National Conference. Seventy of them were returned fit for analysis. SPSS 16 Descriptive Analysis was used.

Results and discussion: General practitioners have a very important part as "gatekeepers" in the healthcare system. There are many investigations considering their "gatekeeping" role. For example two of them were made in California in 1997 and 2001. According to them almost all patients valued the role of primary care physicians as a source of first- contact care (94%) and coordinator of referrals. (89%) [11] Specialists' attitudes toward the coordinating role of

primary care physicians are influenced by the practice setting in which the specialists work and by financial interests that may be threatened by referral restrictions. [15]

In our investigation we aimed to assess the readiness of ophthalmologists in Bulgaria to interact with general practitioners as gatekeepers in the healthcare system and to assess the level of communication between both specialties. The questionnaires that we used consisted of 28 questions. We used in this article only part of them that were connected to the aim of the study, the results of two passport questions and 5 closed specialized questions are being reported. The questionnaires were given randomly to 70 working ophthalmologists as 23 of the participants were residents in ophthalmology and the other 47 were ophthalmology specialists. 23 of them (32%) were male and 47(68%) were female. Those ophthalmologists that are all from different parts of Bulgaria took part in the Fifteenth National meeting of the Bulgarian Ophthalmic Union. At this meeting they were given the questionnaires and were asked to fill it anonymously.

First, the participants were asked if they would take part in additional ophthalmology training courses for general practitioners in order to raise their knowledge in the specialty. Most of them agreed to take part in such courses (table 1).

Table 1

Yes	No
71%	29%

Many investigations prove the good influence of such courses to the level of competence of general practitioners in ophthalmology. For example in Australia in 2003 the level of competence of general practitioners was determined before and six weeks after an upskilling program. Mean scores for multiple choice questions increased from 53% before the course to 84% after. [5] In Washington the effect of 4- hour course in recognition and management of diabetic retinopathy was studied. Scores of written examination increased from 48% to 79%. (6) Two other similar examinations were made in Britain [7, 8].

In order to check the results from such courses at the beginning of 2012 we checked the knowledge of general practice residents in Trakia University, Stara Zagora, before and after series of lectures focused on eye diseases most often met in general practice. We gave the 27 participants examination tests before and after the lectures. The results from the test were improved with 30%. [20] The results in the

THE INTERNET AS A SOURCE OF HEALTH-RELATED INFORMATION - GENERAL PRACTITIONERS' AND PATIENTS' POINT OF VIEW

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Abstract

Background: Lack of information, inadequate patient-physician relationship or curiosity drive patients to search for additional details concerning the condition of someone close to them or their own. The Internet is usually the main source for that knowledge. **Research question:** Can patients be trusted to search for health-related information on the Internet by themselves?

Method: Anonymous questionnaires were distributed in the region of Stara Zagora.

Results: Questionnaires were distributed to 30 general practitioners and 50 patients. Older physicians consider health information reliable only when coming from a physician (34.8%), younger physicians recognize the Internet as an adequate source for health information. The same relation is observed in the patient group – older patients rely on their general practitioner for health related information (31.7%), while the younger generation use the Internet frequently (68.3%).

Conclusions: Our results show us the existence of a digital divide between different generations and residence location.

Background: Lack of information, inadequate patient-physician relationship or curiosity drive patients to search for additional details concerning the condition of someone close to them or their own. The Internet is usually the main source for that knowledge. Topics most often explored through the Internet included sexually transmitted diseases; diet, fitness, and exercise; and sexual behaviors. [1]

Research shows that over 50% of patients use the Internet for medical information. [2,3] Several studies focused on online health-related activity identified the search for health information as the most common. [4,5]

Physicians should recognize the increasing trend among patients and should be prepared to offer suggestions for Web-based health resources and to assist patients in evaluating the quality of medical information available on the Internet. [2,4]

Despite the substantial amount of health-related information available on the Internet, little is known about the accessibility, quality, and reading grade level of that health information. Research shows that accessing health information using search engines and simple search terms is not efficient. [6] At the same time studies suggest that specialized medical search-engines are no better than general search-engines in both in access and quality when consumer health information is concerned [7]

Research on the factors influencing using the Internet to search for health information

INTERPROFESSIONAL COLLABORATION IN E-HEALTH ENVIRONMENT

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ABSTRACT

Purpose: Analysis of the need and benefits of interprofessional collaboration in e-health environment. **Methods:** Review of existing literature **Results:** Literature evidence suggests that ineffective collaboration between physicians results in suboptimal patient healthcare. The main difficulty arises from the different working environments and perspectives. The data suggests that for optimal results physicians must see themselves as having complementary and non-competitive roles in patient care. **Conclusion:** To alleviate the tension and improve the results from interprofessional collaboration an environment with open communication is required, in which the patients' safety is the primary concern.

Keywords: *Physicians, communication, healthcare*

Introduction: As e-health becomes an integral part of the healthcare system the ability to consult and communicate between physicians improves. In this new setting the ability to efficiently collaborate with other specialists becomes of paramount importance.

Health care is a team sport, but too often practitioners act as individual players.(1) For example, evidence suggests that doctors and nurses do not always work collaboratively in health care settings and that this contributes to suboptimal patient care. (2) Perceived competition, leadership struggles and confusion about the role have hindered collaboration between nurse practitioners and physicians. (3)

Interdisciplinary collaboration has the capacity to affect both healthcare providers and patients. Research has shown that the lack of communication and collaboration may be responsible for as much as 70% of the adverse events currently reported. (4) Interdisciplinary healthcare teams have become the new model for patient care delivery in today's complex healthcare environment of increased specialization and disciplinarity of healthcare providers. (5)

Aims and Tasks: Analysis of the need and benefits of interprofessional collaboration in e-health environment

Material and methods: Review of existing literature

Results: There are different barriers in the interprofessional collaboration. For example the power of seniors (experienced) over juniors (inexperienced), are a barrier to interprofessional working. New developments in health care such as the generic skill-mixing approach, and a drive towards true patient-centred care - using patient power to govern the priorities of interprofessional teams - may be the way to overcome these barriers. Professional groups are known to have differing moral and ethical philosophies of care. The paternalistic approach of the cure-oriented medic versus the public health and social advocate stance of the health visitor are examples. Professionals have markedly different pay scales according to their professional group and their role within it. Resource allocation can be a source of conflict. There is the issue of funding for staff. Seeing money being used to employ staff from one group to provide a service normally provided by another can cause resentment. Staff shortages can also damage interaction as groups withdraw in an attempt to limit demands made upon them. (6)

БОЛКА В КРЪСТА И ОБЩОПРАКТИКУВАЩИЯТ ЛЕКАР

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LOW BACK PAIN AND THE GENERAL PRACTITIONER

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Резюме. При общопрактикуващия лекар е първият контакт на пациента със здравната система. Поради това неговата основна задача е да отдели пациентите, които биха имали благоприятна прогноза, от тези с лоша, изискваща насочване към специалист. Целта и задачите са анализ на ролята и мястото на ОПЛ при лечение на болка в кръста. Раздадена бе писмена анкета на 34 случайно избрани общопрактикуващи лекари от Старозагорски регион. При лечението на болката в кръста ОПЛ е само едно звено. За нейното овладяване е необходим мултидисциплинарен подход и многостранен екип от специалисти – ОПЛ, ерготерапевт, физиотерапевт. Основната задача на общопрактикуващия лекар е да контролира болката чрез медикаменти, да търси основните признаци за злокачествена болка, да насърчава пациента да остане физически активен и да го подкрепя.

Ключови думи: общопрактикуващ лекар, болки в кръста, мултидисциплинарен подход

Summary. The patients' first contact with the healthcare system is realized by the general practitioner. Therefore, her/his main task is to separate the patients with favorable prognosis from those with a poor one, requiring a referral to a specialist. The aim and objectives of this study were to analyze the role and place of the general practitioner in low back pain treatment. A written questionnaire was given to 34 randomly selected general practitioners in the Stara Zagora region. The general practitioner is only one link in the treatment of low back pain. For its complete remission, a multidisciplinary approach is needed as well as multilateral team of specialists – general practitioner, occupational therapist, physiotherapist. The main task of the general practitioner is to manage pain with drugs, to search for the main signs of malignant pain, to encourage the patient to remain physically active and support her/him.

Key words: general practitioner, low back pain, multidisciplinary approach

ВЪВЕДЕНИЕ

Болката в кръста е едно от най-често срещаните оплаквания в съвременното общество. Честотата на болката в долната част на гръбначния стълб е много висока – само в САЩ над 7 млн. души са с ограничена работоспособност заради нея, а много по-висок е броят на хората, продължаващи да работят въпреки болката.

Във Великобритания около 1,1 млн. души на възраст 50 и повече години се консултират с личния си лекар поне веднъж годишно относно болки в кръста. 13,2 млн. работни дни са изгубени именно поради такива оплаквания.

Аналогична е ситуацията и в останалите развити държави. Болката в кръста обхваща 63% от причините за отсъствие от работа и за-

PROPHYLAXIS OF CHILDHOOD VISION IN PRIMARY CARE SETTINGS IN BULGARIA

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ABSTRACT:

Background: The whole prophylaxis and early diagnosis of childhood vision disorders in Bulgaria is in the hands of primary care physicians.

Aims: Assessing the level of prophylaxis of vision disorders during childhood

Materials: Written anonymous questionnaires

Results: According to the parents, the acuity of vision of 41% of their children has never been measured. Most of the children with strabismus have been referred to an ophthalmologist immediately after the discovery of the disorder. Half of the children that were born prematurely have never been referred for an ophthalmic assessment.

Conclusion: The level of prophylaxis of vision disorders during childhood in primary care is insufficient.

Key words: general practitioners, questionnaires, childhood, vision disorders

Background: The National Healthcare Insurance fund in Bulgaria has created for the children between the age of 0 and 18 a programme called "Childhood healthcare", which is accomplished by a general practitioner or a pediatrician, chosen by the parents of the child. All the prophylactic measures (examination, investigations, immunizations) that are compulsory are defined by this programme. The chosen physicians visit the newborns at home. They make thorough examination of the newborn during the first 24 hours after being released from the hospital. After the birth, at the age of 6 and 12 months a general assessment of the vision is performed, between the age of 7 and 18 years visual acuity and colour vision are measured once every year. Between the age of 2 and 7 only one compulsory examination is included without the exact time being defined. (6)

There is no mandatory check-up by an ophthalmologist in childhood even though, results from studies conducted on the territory of Bulgaria on the level of prevention of ocular disorders in children are generally anxious. (1-2) In a screening study conducted on 171 children in kindergarten "Eighth March" in Plovdiv in 2010, conducted by V. Marinov, abnormal ocular status was found in 46 (26.9%) children, while only 10 of them had been examined by an ophthalmologist before that. (3) Another similar study among preschool children in the city of Sofia, also shows an extremely low number of children examined by an ophthalmologist. (7)

Purpose: Assessing the level of prevention of ocular disorders in primary health care in childhood.

Materials: Written questionnaires were distributed to parents of children in two kindergartens in Plovdiv, two schools in Stara Zagora, an elementary school in Stara Zagora and Asenovgrad, filled out completely anonymously, of which 178 questionnaires were returned suitable for analysis.

Results: Measuring visual acuity at the age of 3-5 years is very important in order to discover and treat on time amblyopia and strabismus. The earlier the disease is treated, the better visual results. If amblyopia is not treated on time its prognosis is worse and it can lead to permanent loss of function. (9) In order to check the role of general practitioners in Bulgaria in the early detection

READINESS OF GENERAL PRACTITIONERS FOR eHEALTH IMPLEMENTATION

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Background: Internet and high technologies have become an integral part of everyday life and in some countries they're becoming a part of the Healthcare system - eHealth. Their integration in healthcare allows for a lot of improvements and as a final agenda lead to higher level health and wellness. Unfortunately, there are a lot of obstacles that could hinder the implementation of eHealth. In most countries preliminary investigations have been done on these obstacles, but in Bulgaria there are none. **Aims and Tasks:** To assess and analyze readiness of general practitioners for eHealth implementation. To get a better understanding of the most common obstacles and barriers that could be encountered. **Material and Methods:** A questionnaire was created for the research. It was given personally to thirty randomly selected general practitioners. **Results:** The answers show that the majority of general practitioner have Internet access and rate their computer skills above average. There are a few cases with no Internet access or below average skills answers. Almost all of the participants show an interest and willingness to attend a course for computer skill improvement if available. **Discussion:** The current paper is a preliminary research that will be expanded upon in the final questionnaire. **Conclusion:** Research about the obstacles in eHealth implementation in Bulgaria is little to non existent. If investigated on a larger scale, many of the obstacles could be avoided.

Key words: Internet, e-Health, General Practitioner

BACKGROUND

In modern society the constantly improving and changing technologies are an integral part. They facilitate almost of every aspect of our life and it is only natural for them to be used in healthcare. Already there are countries that managed to incorporate Internet and high technologies in their Healthcare systems creating eHealth. This ultimately leads to a higher level of health and wellness. Unfortunately, there are a lot of obstacles that could hinder the implementation of eHealth. In most countries preliminary investigations have been done on these obstacles (2,7,12,13,15), but in Bulgaria there are very few (1). A lot of author focus on eHealth implementation in a certain field: psychiatry (3), nursing education (6), primary care (9). There are larger researches focused on entire countries: Belgium (10), England (11,16), Thailand (14), Greece (19). Most important are those researching readiness (5,7,18) and the impact of eHealth (4,8,20).

AIMS AND TASKS

- To assess and analyze the readiness of general practitioners for eHealth implementation.

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- To get a better understanding of the most common obstacles and barriers that could be encountered.
- To research methods that mentioned obstacles could be avoided and encountered problems solved.

MATERIAL AND METHODS

The main tool of the research was a questionnaire. All of the included questions were closed. Thirty general practitioners participated in the survey. All participants were selected randomly and were given the questionnaire personally. After completion a chance to comment was given.

RESULTS

There were six parameters by which participants were separated (Table 1.) by gender, age (Average age was above 45 years), work experience (average work experience above 15 years), practice location (majority of the participants work in villages, followed by small cities), size of practice (average size of the practice is above 1500 people for females and between 1000 and 1500 for males). Almost all of the participant were doing their general practitioner residency during the survey. In the given chance to comment only two of the questioned general practitioner mentioned they work in group practices, both of which had over 2000 patients. The main part of the survey (Table 2.) focused on internet



THE ROLE OF GENERAL PRACTITIONERS FOR TAKING CARE OF OPEN- ANGLE GLAUCOMA PATIENTS

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ABSTRACT

PURPOSE: To investigate the possible role of general practitioners, considering glaucoma patients. **METHODS:** Written questionnaires were given to forty randomly selected general practitioners considering their role for glaucoma patients, SPSS statistic analysis. **RESULTS:** At the moment in Bulgaria general practitioners' engagement, considering glaucoma is prescribing the medicines, reimbursed by Healthcare insurance fund. Only 27% of the participants would measure the eye pressure if they had the necessary equipment because they don't have enough time, or they don't think that they would manage to do it. **CONCLUSION:** General practice settings are the perfect place for early screening of glaucoma. General practitioners as well as their patients should be provided with more information which is part of the future work of the team.

Key words: questionnaire, eye pressure, screening

BACKGROUND

General practitioners could contribute to taking care of glaucoma, which is a socially important disease, by controlling the risk factors and timely referral to a specialist. The disease takes second place as a cause of blindness, despite the numerous investigations and new methods of diagnostics. There are 60 million people suffering from glaucoma and 7 million of them are blind. (1) The organization of the ophthalmic help considering this disease is of great importance.

PURPOSE

To investigate the possible role of general practitioners considering glaucoma patients

METHODS

Written questionnaires were given to forty randomly selected general practitioners considering their role for glaucoma patients, SPSS statistic analysis.

RESULTS AND DISCUSSION

Glaucoma affects up to 2% of those over the

age of 40 years globally and up to 10% over the age of 80. (2) It is a multifactorial, chronic, progressive neuropathy, characterized by loss of ganglion cells, leading to atrophy of the optic disc nerve and the nerve fibre layer with characteristic changes in the visual field. (3, 4)

At the moment in Bulgaria general practitioners' engagement considering glaucoma is prescribing the medicines, reimbursed by Healthcare insurance fund, even though they could refer patients to ophthalmologist by taking good history and even only by considering their age. This doesn't happen because of the lack of obligations, the restrictions of the referrals and insufficient emphasis on the matter.

There are many articles considering the possibilities and the level of screening for glaucoma in the general practice settings in different countries. For example an investigation took place in Brisbane, where a questionnaire was distributed to 130 randomly selected GPs. Only 15% of the participants were satisfied with their current knowledge and skills concerning primary open- angle glaucoma. 88% felt that patients over 50 years should be screened for the disease. (5) According to an investigation that took place in the UK non-ophthalmically trained staff

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THE LEVEL OF VISION SCREENING IN GENERAL PRACTICE SETTINGS- SURVEY AMONG PATIENTS

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Abstract

Background: General practitioners can play a vital role in vision screening by checking for risk factors and timely referral of patients to an ophthalmologist.

Aims and tasks: Assessing the level of screening of ocular diseases in general practice according to patients

Methods and materials: Written anonymous questionnaires filled by patients, 436 were fit for analysis.

Results: The visual acuity of 57% and the colour vision of 67% of the participants have never been checked by their general practitioners. Fortunately, 71% of patients with diabetes admit that they are being referred annually to an ophthalmologist. However, out of 146 patients with hypertension 44% have never been referred to an ophthalmologist. Out of 163 participants over the age of 45 only 42% (n=70) have been referred for measuring of their eye pressure.

Conclusion: The level of screening of ocular diseases performed by general practitioners is insufficient.

Background: Vision screening is the most important step to early diagnosis of ocular diseases. A significant number of eye problems present to general practitioners. That is why, general practice settings are a perfect place for early diagnosis and referral of patients with ophthalmic problems to a specialist.

In Bulgaria the main general practice procedures in the area of ophthalmology covered by the National Healthcare Insurance fund are – measuring of visual acuity, without diopters, reviewing the eyelids, conjunctiva, sclera, iris, pupils, orientation perimetry, general assessment of damages of the position and eye movements, colour vision assessment and conjunctival lavage. (2) According to the Bulgarian medical standards in ophthalmology general practitioners have the right to measure visual acuity, to measure eye pressure with palpation, to perform confrontational perimetry, to assess the eye movements, pupil reactions, to look for risk factors for eye diseases, to refer patients to an ophthalmologist and to recognize patients with urgent pathology and refer them to an ophthalmologist. (1) General practitioners in Bulgaria are obligated to have only visual acuity and colour vision charts, unlike GPs (general practitioners) in many other countries like Estonia, England, Turkey, Australia and New Zealand. (7, 11, 17, 20, 21) Red reflex examination is a screening technique for many ocular diseases.

ПРОФЕСИОНАЛНИТЕ ВРЕДНОСТИ КАТО РИСКОВ ФАКТОР ЗА МЕЛАНОМ НА УВЕЯТА

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Occupational hazards as a risk factor for uveal melanoma
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Резюме

Увод: Меланомът на увеята, макар и рядко заболяване, е най-честият вътреочен тумор. Заболяването е с лоша прогноза и крайно неясна етиология. Анализирането на професиите, при които се наблюдава повишена честота на меланом на увеята, би ни помогнало да научим повече за етиологията на това заболяване.

Цели и задачи: Да се систематизират професионалните етиологични фактори, водещи до завишена честота на меланом на увеята.

Материали и методи: Извършен е литературен обзор на статии чрез свободно търсене, Pubmed, Embase.

Резултати: Най-много доказателства има за връзката между меланом на увеята и професията електроженист, заради вредното влияние на изкуствената УВ-светлина. Завишена честота на меланом на увеята се наблюдава при фермери и работещи с агрокултури, при готвачи и работещи с химични агенти. Радиоманнитните лъчения при професиите, свързани с увеличено използване на мобилни телефони, засега не са доказани като етиологичен фактор.

Заклучение: Изучаването на различни професионални вредности като евентуални етиологични причинители за меланом на увеята биха ни помогнали да подобрим превенцията спрямо развитието на това заболяване.

Ключови думи: тумори, офталмология, професионални вредности

Abstract

Introduction: Melanoma of the uvea, although a rare disease, is the most frequent intraocular tumor. The disease has a poor prognosis and extremely unclear etiology. Analysis of professions which show an increased incidence of melanoma of the uvea, would help us to learn more about the etiology of this disease.

Aims and tasks: To systemize professional etiological factors, leading to increased frequency of melanoma of the uvea.

Materials and methods: A literature review of articles via free search, Pubmed, Embase.

Results: Most evidence support the connection between melanoma of the uvea and the profession electric welder, because of the harmful effect of artificial UV light. Increased incidence of melanoma of the uvea is also observed in farmers and people working in agriculture, chefs and those working with chemical agents. Radio-

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Върху някои аспекти на работата на ОПЛ в информационна среда

On some aspects of the work of GPs in the information environment

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Абстракт

Въведение: Електронното здравеопазване несъмнено има много предимства както за пациенти, така и за лекари, но неговото въвеждане изправя бъдещи и настоящи лекари пред стена, която те имат различна готовност да преодолеят.

Цел и задачи: Анализ на готовността за работа в информационна среда и разликите между студенти по медицина и дипломирани лекари.

Материали и методи: Анализ на материали, натрупани от проучванията на доцент Деспотова.

Резултати: Разликите между студенти и лекари са малки, с изключение на чуждите езици и самостоятелно направените уеб сайтове, в които студентите имат значителна преднина, и информацията за сайтове, които могат да се препоръчат на пациенти, където превес имат практикуващите лекари.

Заключение: Резултатите показват сравнително добро ниво на готовност за работа в информационна среда, въпреки това възможностите за комуникация с електронна поща не се използват достатъчно.

Ключови думи: Общопрактикуващ лекар, електронно здравеопазване, информационна среда.

Abstract

Introduction: Electronic health systems improve the efficiency and effectiveness of medical activity, raising its quality, while facilitating access to patient care.

Aims and Tasks: To compare characteristics between physicians and medical students on several factors.

Material and Methods: Questionnaire.

Results: The most significant differences between students and physicians are in language competence and self-made websites.

Conclusion: Responses showed a relatively good level of preparedness for the introduction of e-health. Still the possibilities of using e-mail for communication is not used enough.

Keywords: General practitioner, ehealth, information environment.

Въведение

Електронното здравеопазване е следващата логична стъпка в развитието на системите за здравеопазване. Системите за електронни здравни грижи могат да подобрят ефикасността и ефективността на медицинската дейност, водят до повишаване на нейното качество, като същевре-

менно се улеснява достъпът до здравни грижи за пациентите. Независимо от многобройните предимства и ползите за пациента, както и за лекаря, въвеждането на тези системи изправя сегашните и бъдещи лекари и пациенти пред нови препятствия, с които те не са се срещали и са различно подготвени за справянето с тях.

МУЛТИДИСЦИПЛИНАРЕН ПОДХОД ПРИ БОЛКА В ОБЛАСТТА НА ДЯСНОТО ОКО – КЛИНИЧЕН СЛУЧАЙ

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MULTIDISCIPLINARY APPROACH TOWARDS PAIN AROUND THE RIGHT EYE – A CASE REPORT

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Резюме: При поставянето на диагноза на пациент с болка в главата е необходим мултидисциплинарен подход, в който са ангажирани общопрактикуващ лекар, невролог, неврохирург, психиатър, очен лекар, УНГ специалист и стоматолог. Целта и задачите на статията са да се представи изграждането на диференциална диагноза при пациентка с болка в областта на дясното око. Доклада се клиничен случай на пациентка с болка в областта на дясното око, приета в очна клиника поради гранични стойности на вътреочното налягане. След направените консултации с невролог и УНГ специалист се установява киста в областта на десния максиларен синус. Пациентката е насочена за хирургично лечение в ушна клиника. Болката в главата е една от най-сложните диференциални диагнози и тук ролята на общопрактикуващите лекари е правилно да насочат пациентите към нужните специалисти.

Ключови думи: вътреочно налягане, максиларен синус, диференциална диагноза

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Summary: A multidisciplinary approach is required during diagnosis of a patient with a headache, in which general practitioners, neurologists, neurosurgeons, psychiatrists, ophthalmologists, otorhinolaryngologists (ENT specialists) and dentists are involved. This paper aimed at building a differential diagnosis for a patient with pain in the right eye area. Clinical case report: A patient with pain in the area of the right eye was hospitalized in the department of ophthalmology because of borderline levels of intraocular pressure. After the consultations with neurologist and ENT specialist, a cyst in the maxillary sinus was found. The patient was referred to surgical treatment in the ENT department. Differential diagnosis for pain in the head is very complicated. Here comes the role of general practitioners in correctly referring the patients to the right specialists.

Key words: intraocular pressure, maxillary sinus, differential diagnosis

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Възрастното население и интернет

(ползване на интернет за търсене на медицинска информация)

Adult population and Internet

(Use the Internet to search for medical information)

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Резюме: Въведение: С превръщането на интернет в интегрална част от ежедневието увеличаващ се брой пациенти започват да го използват за медицинска информация. Хората в напреднала възраст като потребителска група представят някои интересни проблеми: 1) Ролята на интернет като източник на здравна информация за възрастните. 2) Остаряването и увеличаващата се роля на населението в напреднала възраст и техните здравни потребности. 3) Хората в напреднала възраст като таргетна група за услугите на електронното здравеопазване.

Цел: Да се оценят и анализират публикации по проблема.

Задачи: Да се подобри разбирането за най-честите препятствия и бариери, с които хората в напреднала възраст се сблъскват. Честотата на използване на интернет като източник за здравна информация и съществуващите възможности за търсене онлайн и съществуващи бази данни.

Материали и методи: Proquest.com, Pubmed.gov, Web of knowledge.com, свободно търсене и статистически анализ.

Резултати: Проучените материали показват тенденция за устойчиво намаляване в интернет използването с напредване на възрастта, като повечето статии показват значителен спад след 65-годишна възраст. Въпреки това работни колективи от всички страни изказват мнение, че хората в напреднала възраст са готови и имат желание да се научат, което ни предоставя неизползвана възможност за подобряване на електронното здравеопазване за хората в напреднала възраст.

Дискусия: Текущата тема е част от проучване на автора, протичащо в момента. Резултатите от него ще бъдат сравнени от резултати, получени от аналогично проучване в България.

Заключение: Проучвания за използването на интернет от хора в напреднала възраст в България са от малки до несъществуващи. Недостатъчната информация по темата или липсата на такава показва нуждата от бъдещи проучвания.

Ключови думи: Интернет, хора в напреднала възраст, електронно здравеопазване

Abstract: Background: As the Internet becomes an integral part of everyday life a growing number of patients start to use it for medical information. The elderly as a user group present some interesting problems: 1) The role of the Internet as a source of health information for the elderly. 2) Aging and the increased role of the elderly population and their healthcare needs. 3) The elderly as a target for e-Health services.

Aims: To assess and analyze existing publications on the subject.

Tasks: To get a better understanding of the most common obstacles and barriers that the elderly encounter. Their usage frequency of the Internet as a health information source and the existing possibilities for searching online and existing databases.

Material and Methods: Proquest.com, Pubmed.gov, Web of knowledge.com, free search, statistical analysis.

Results: The researched materials show a tendency for a steady decline in internet use with age advance. With most paper showing a significant drop after the age of 65. However, teams from all countries suggest that older adults are ready and willing to learn, which presents and untapped opportunity for improving e-Health for the elderly.

Discussion: The current paper presents a part of author's ongoing research. The results from it will be compared to the results gained from an analogical study in Bulgaria.

Conclusion: Research about Internet use of the elderly population in Bulgaria is little to non-existent. The insufficient information on the subject or lack of it suggests need of future research.

Keywords: Internet, Elderly, e-Healthcare

Електронно здравеопазване и палиативни грижи

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Абстракт

Въведение: Терминът електронно здравеопазване е сравнително нов и включва в себе си използването на информационни и комуникационни технологии в сферата на здравеопазването.

Цел и задачи: Да се проучи приложението на телемедицината в доставянето на палиативни грижи

Материали и методи: Литературен обзор

Резултати: Бързото развитие на медицината и медицинската техника в комбинация със съвременните информационни технологии значително намалява патовареността върху медицинския персонал, като едновременно с това подобрява качеството на предоставяните палиативни грижи и качеството на живот на пациента.

Заключение: Доставянето на палиативни грижи в дома на болния е голямо предизвикателство за лекаря и неговия екип. Електронното здравеопазване и телемедицината като негов клон могат да бъдат използвани като основен метод за доставянето на палиативни грижи, както и като допълнение към съществуващите методи, до нуждаещите се.

Въведение: Терминът електронно здравеопазване е сравнително нов и включва във себе си използването на информационни и комуникационни технологии в сферата на здравеопазването.¹ Въпреки широкото въвеждане на много от клоновете на електронното здравеопазване в различни медицински специалности, палиативните грижи остават на заден план в повечето случаи. Те изискват мултидисциплинарен подход към специализирана медицинска помощ, ориентирана към хора със сериозни заболявания. Основната им цел е облекчаване на симптомите, болката, физически и психически стрес, независимо от диагнозата.³ Палиативните грижи трябва да се прилагат от общопрактикуващия лекар и неговия екип от поставяне на диа-

Качество на първичната медицинска помощ

Quality of primary healthcare

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Резюме

Въведение: В съвременните представи качеството е съвкупност от характеристики на продукцията (услугите), която не само отговаря на технологичните стандарти и на очакванията на пациентите, но и осигурява скритите им потребности от медицинска помощ.

Цел и задачи: Систематизиране на наличната информация по темата.

Материали и методи: Литературен обзор.

Резултати: Качеството на медицинската помощ представлява съвкупност от условията, при които тя се извършва, и признаците и свойствата (характеристиките, параметрите), които притежава като специфичен вид услуга или дейност.

Заключение: Стандартите винаги ще бъдат обект на преразглеждане, консултации и продължаваща критична оценка от страна на професионалната общност.

Abstract

Introduction: The present day concept of quality is a set of characteristics of products (services) that not only meet the technological standards and expectations of patients, but also provides their underlying needs for medical assistance.

Aims and Tasks: Systematization of information available on this topic.

Materials and Methods: Literature review.

Results: The quality of medical care is a set of conditions under which it is performed and the properties and attributes (features, parameters) that has a specific type of service or activity.

Conclusion: The standards will always be subject to review, consultation and ongoing critical evaluation by the professional community.

Въведение

С термините „обща медицина“ се обозначава самостоятелна медицинска специалност, а с „обща медицинска практика“ – специфична медико-социална дейност и вид лечебно заведение (синоним на практика за първична медицинска помощ). В много отношения те се отличават от класическите медицински специалности и дейности. Това се отразява както върху формата, така и върху съдържанието на стандартите като специфични измерители на качеството.

Цел и задачи

Систематизиране на наличната информация по темата.

Материали и методи

Литературен обзор

Резултати

Дефиниция на качеството (според Американската медицинска асоциация) е „качеството на

Многостранно споделяне, пренасочване и преработване на веб-базирана информация за нуждите на обучението по обща медицина

Multilateral sharing, transferring and processing of web-based information needs of education in general medicine

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Абстракт

Въведение: Съвременните технологии позволяват споделяне на материали онлайн, които да са достъпни за всички, пренасочване на материалите за студенти, специализанти или специалисти и преработване и смяна на формата в зависимост от нуждите на конкретния потребител.

Цел и задачи: Оценка на резултатите от проект Meducator.net в България и останалите страни участници в проекта. Приложимост, успеваемост и резултати по проекта в различните страни от студенти до специализанти.

Материали и методи: Обзор на литературни източници и резултати по проект Meducator.net

Резултати: Съвременна програма с голям брой казуси, тестови въпроси и визуални материали, които могат да се използват от широка аудитория.

Заключение: Създават се нови възможности за пълноценно използване на натрупаните образователни ресурси, които да са полезни за различна аудитория, различни цели и лесно достъпни.

Ключови думи: Meducator, база данни, многостранно споделяне.

Abstract

Introduction: Project Meducator, funded under the program CONTENT PLUS, is developing methods for processing of medical information and sharing of content that are available to all and to adequately meet their needs.

Aims and Tasks: Examining existing standards and gathering educational materials.

Material and methods: Meducator database.

Results: So far available are 58 power point presentations – which are processed respectively 58 pdf file (116 files), 20 case, 100 test questions, 15 power point presentations on endocrinology that are processed by the word of 15 files (30 files), 7 word document, a case, 13 test questions.

Conclusion: Project MEDUCATOR presents us with unique new opportunities to make full use of the accumulated educational resources suitable for different audiences and for different purposes.

Keywords: Meducator, database, multilateral sharing.

Въведение

Съвременните технологии позволяват по-голям избор от възможности за споделяне, преработване и пренасочване на електронни учебни материали онлайн. Красноречив пример в този аспект е проектът Meducator, финансиран по Програма Content plus. Проектът участва в разработването на методи за обра-

ботка на медицинска информация и споделяне на съдържание, които са достъпни за всички и отговарят адекватно на нуждите на всеки клиент. Чрез промяна на формата на съдържанието тя може да бъде полезна за целия спектър от медицински специалности – от студенти, професионалисти и специалисти във всяка област.

**Обучение по палиативни грижи на медицински сестри
и доброволци от хосписи и домове за инвалиди
в старозагорски регион**

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Въведение: Палиативната медицина е специализирана медицинска дейност, дефинирана от Световната здравна организация. Целта на палиативните грижи е подобряване на качеството на живота на неизлечимо болни, чрез премахване или намаляване на болезнени симптоми, причинени от болестта.

Цели и задачи: Оценка на необходимостта от обучение по палиативни грижи за различните категории от професионалисти.

Материал и методи: Проведено е изследване върху удовлетвореността на участниците след края на обучението им по палиативни грижи.

Резултати: Голяма част от участниците са доволни от уроците, усвоени по време на курса - 34/37 (91.9%) и почти една трета от анкетираните смятат, че практически упражнения и работа "на място" биха подобрили курса - 12 / 37 (32.4%).

Заключение: Проучване ясно показва необходимостта от обучение по палиативни грижи за хората, участващи в тази отговорна работа, особено лекари, медицински сестри, социални работници и доброволци.

Ключови думи: Палиативни грижи, медицински работници, анкета

Въведение

Палиативните грижи представляват мултидисциплинарен подход към специализирана медицинска дейност насочена към хора със сериозни заболявания. Тя представлява отделна дисциплина определена в дефинициите на Световната здравна организация. Палиативните грижи целят подобряване качеството на живота на неизлечимо болните чрез премахване или от-

Пациент-ориентирана информация в университетски уебстраници

Patient-oriented information University web pages

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Резюме: Въведение: Повечето университетски болници имат свои уебстраници. Пациент-ориентираната информация на тези уебстраници варира по количество, качество и вид.

Цел: Да се анализира съществуваща пациент-ориентирана информация, достъпна на уебстраниците на университетските болници.

Задачи: Да се проучи голям брой уебсайтове на университети и университетски болници, да се изберат тези, които имат секция или подсекция с пациент-ориентирана информация. Избраните ще бъдат категоризирани по тип и ориентация на информацията (административна, проблем ориентирана, обща информация). Както и сравнение с уебсайтовете на българските университетски болници.

Методи и материали: Целенасочено търсене на уебсайтове на университетски/обучителни болници и статистически анализ.

Резултати: Проучени са 371 уебсайта на университетски болници от Европа, САЩ, Австралия, Азия и Канада. Предварителният анализ показва, че повечето сайтове имат административна информация и в повече от половината е налице пациент-ориентирана информация.

Заключение: Административна информация е налице в почти всички уебсайтове, обаче голяма част от чуждестранните сайтове притежават пациент-ориентирана информация или поне частична база данни, докато българските сайтове предлагат малко или никаква.

Ключови думи: Университетски болници, уебсайтове, пациент-ориентирана информация

Abstract: Background: University Hospitals in every country have their own websites. Patient-oriented information on these websites varies from one to another in quality, quantity and type.

Aims: To analyze existing patient-oriented information placed on the University Hospital's websites.

Tasks: To research a large number of universities and university hospitals websites, to select those of them which have a section or subsite with patient-oriented information. Those will be then categorized by type and orientation (administrative, problem oriented, general information etc.). As well as a comparison to Bulgarian University Hospital websites.

Methods and Materials: Topic-centered search on University Hospitals/Teaching Hospitals websites and statistical analysis.

Results: 371 web sites of University Hospitals from Australia, Europe, USA, Asia and Canada were examined. Preliminary research results indicate that all of the sites possess administrative information and more that half have additional patient-oriented information.

Conclusion: Administrative information is present in almost all of the targeted websites. However, a large number of foreign sites possess patient-oriented online services or at least a partial online database, whereas in comparison Bulgarian University Hospital web sites offer little or non at all.

Keywords: University Hospital, Website, Patient oriented information

Профилактика на зрителните нарушения в детската възраст в условията на общата практика

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ВЪВЕДЕНИЕ

Много очни заболявания, често срещани в детската възраст, се лекуват успешно единствено при навременна диагноза и терапия. Некачественият скрининг в условията на общата практика би довел до много тежки последствия.

МЕТОДИ

Раздадени са лично въпросници на случаен принцип на 50 ОПЛ, попълвани анонимно.

ЗАДАЧИ

Да се оцени качеството на профилактичните прегледи на зрението в детската възраст, извършвани от личните лекари в България.

РЕЗУЛТАТИ

Участниците в проучването имат следното полове и възрастово разпределение:

Пол	Мъже		Жени	
Процент		38%		62%
Възраст	25-35 г.	35-45 г.	45-55 г.	Над 55 г.
Процент	6%	32%	53%	9%

40% от участниците в проучването специализират обща медицина, 44% имат специалност обща медицина, а останалите 16% само работят в общи практики.

Националната здравноосигурителна каса в България е разработила за децата от 0- до 18-годишна възраст програмата „Детско здравеопазване“. Тази програма се изпълнява от общопрактикуващия лекар на детето или от лекар, специалист по детски болести. Тя определя всички профилактични дейности (прегледи, изследвания,

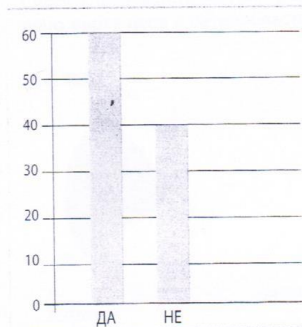
имунизации), които са задължителни при наблюдението на растежа и развитието на детето - от раждането до 18-годишната му възраст (3). Избраният от родителите лекар посещава детето вкъщи. Той извършва обстоен преглед на новороденото в първите 24 часа след изписването му. След раждането, на 6- и на 12-месечна възраст се извършва обща оценка на зрението, а от 7- до 18-годишна възраст се изследват зрителната острота и цветното зрение веднъж годишно. В периода от 2- до 7-годишна възраст е включен един преглед на зрителната острота на пет години, който не е уточнено кога трябва да бъде осъществен.

В проведеното от нас проучване имаме за цел да проверим мнението на общопрактикуващите лекари за това дали предвидените прегледи на зрението според про-

грамата „Детско здравеопазване“ са достатъчни. 60% (n=30) смятат, че тези прегледи са достатъчни, докато 40% (n=20) са на противоположното мнение. Статистическата разлика не е значима (p=0.203) и затова не можем да си правим съществени изводи от този резултат (фиг. 1).

Липсата на активно действаща скринингова програма в детската възраст увеличава тежестта върху лекарите от първичната помощ и води до тревожни резултати. Според скринингово проучване, проведено върху 171 деца в детска градина „Осми март“ в Пловдив през 2010 г., осъществено от В. Маринов, отклонения в очния статус имало при 46 (26.9%), а само 10 от децата били прегледани от офталмолог до момента (1). Друго подобно проучване, проведено сред деца от предучилищна възраст на територията на София, също показва изключително нисък брой на прегледаните от офталмолог деца (6). Като цяло данните сочат, че профилактиката на зрителните нарушения в детската възраст е недостатъчна.

Много очни заболявания, срещани в детската възраст, може да бъдат открити още след раждането, като най-често това са вродените аномалии. Ето за това личните лекари трябва да са наясно с нормалните анатомични и физиологични особености на очите на новородените и измененията, през които те преминават през първата година от живота. Според нашето проучване 78% от участващите общопрактикуващи извършват внимателен оглед на очите при прегледа на 6



Фиг. 1

РОЛЯТА НА ОБЩОПРАКТИКУВАЩИТЕ ЛЕКАРИ В ГРИЖИТЕ ЗА ПАЦИЕНТИТЕ С ОЧНИ ПРОБЛЕМИ СПОРЕД ОФТАЛМОЛОЗИТЕ В БЪЛГАРИЯ

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Цел:

Офталмологичните проблеми са много често срещани в общата практика. Между ролята на общопрактикуващите лекари и офталмолозите не са достатъчно установени в нашата страна, както и според данните в световната литература.

Цели и задачи: оценка на ролята на общопрактикуващите лекари в грижите за пациентите с очни проблеми, срещани в условията на общата практика

Методи и материали: писмени анонимни анкети бяха раздадени на 46 специалисти и общопрактикуващи лекари по офталмология в България на национална конференция

Резултати: 93% от участниците са изследвали пациенти, които са били лекувани от общопрактикуващи лекари (ОПЛ). Според тях ОПЛ лекуват предимно пациенти с конюнктивит и по-рядко други форми на очни заболявания. 78,3% изобщо не смятат, че общопрактикуващите лекари трябва да лекуват очни заболявания и 93% от тях са срещали грешки при лечението на очни заболявания, предимно от общопрактикуващите лекари. Най-често срещаните грешки, посочени от участниците са погрешно предписване на кортикостероиди и неразпознаването на други форми на синдрома на "червеното око" освен конюнктивит.

Изключение: Има известна необходимост от повишаване на знанията на общопрактикуващите лекари по офталмология според офталмолозите в България. Част от работата на нашия екип е създаването на информационни брошури и организиране на офталмологични курсове за общопрактикуващи лекари.

Цел: Офталмологичните проблеми са много често срещани в общата практика. Между ролята на общопрактикуващите лекари и офталмолозите не са достатъчно установени в нашата страна, както и според данните в световната литература. Установяването на качествена помощ на пациенти с очни проблеми е важно да има взаимодействие между общопрактикуващите лекари и офталмолозите. За да бъдат улеснени взаимноотносителните взаимоотношения, е необходимо да дефинираме работния профил на общопрактикуващите лекари в областта на офталмологията и да се подсигурием, че този профил е различен от ОПЛ и от специалистите. В България той се определя от „Стандарт Очни заболявания“, който беше вече разгледан. В него не става ясно кои очни заболявания ОПЛ имат право да лекуват, а само какви дейности имат право да извършват. Все още не са правени проучвания върху отношението и мнението на общопрактикуващи и офталмолозите.

Цели и задачи: оценка на ролята на общопрактикуващите лекари в грижите за пациентите с очни проблеми, срещани в условията на общата практика

Научни доклади и съобщения

Телекомуникацията между общопрактикуващия лекар и офталмолога

Резюме

Въведение: Телемедицината е потенциална възможност за подобряване на комуникацията между общопрактикуващия лекар и офталмолога. Чрез нея може да се изследват и диагностицират посредством новите технологии пациенти от специалист, макар и те да се намират в различни географски региони.

Цели: Да се проучи и анализира съществуваща информация по темата.

Задачи: Да се аргументира ефикасността на телемедицината за справянето с офталмологични проблеми в условията на общата практика, да се разяснят ползите и недостатъците ѝ.

Материали и методи: free search, Proquest .com, Pubmed.gov, анализ на информацията.

Резултати: Телеофталмологията може да редуцира пътуването и процента на направленията, да донесе ползи, свързани с обучението на общопрактикуващите лекари и осъществяването на скрининг за най-често срещаните очни заболявания. Трудности остават цената на технологията и проблеми при изпълнението и организацията.

Дискусия: Събраната информация може да бъде база за последващо изследване в нашата страна.

Заклучение: Телекомуникацията може да се превърне в нов начин

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Въведение

Комуникацията между общопрактикуващия лекар и специалиста е основен елемент за осъществяването на ефикасно и бързо лечение на пациентите. Общопрактикуващият лекар се явява първият, с когото пациентът се среща, когато има здравословен проблем, независимо от естеството му. Докато в големия град ОПЛ винаги може да изпрати пациента на всякакъв специалист и би могъл да играе ролята само на координатор, то в отдалечените селски райони това е невъзможно. Там той се оказва в повечето случаи единственият шанс за получаване на здравна помощ на много от пациентите. Тъй като офталмологията като наука изисква наличието на прекалено скъпа апаратура, практика и умения в изследването с нея, в повечето случаи справянето с много от офталмологичните проблеми от ОПЛ самостоятелно се оказва невъзможно. Тук идва ролята на телекомуникациите.

Цел и задачи

Да се проучат и анализират съществуващи публикации по темата и, да се аргументира ефикасността на телемедицината за справянето с офталмологични проблеми, както и да се разяснят положителните черти и недостатъците на въвеждането на телекомуникациите като средство за диагностика.

Методи и материали

Преглед на данни по темата в световни интернет сайтове: Proquest .com, Pubmed.gov, free search и анализ на информацията.

Научни трудове на Съюза на учениците в България – Пловдив, серия Г. Медицина, фармация и дентална медицина т. XIII. Научна сесия „Медицина и дентална медицина“, 25-26 октомври 2013 Scientific researches of the Union of Scientists in Bulgaria-Plovdiv, series G. Medicine, Pharmacy and Dental medicine, Vol. XIII, ISSN 1311-9427 Medicine and Stomatology Session, 25-26 October 2013.

ПРИЛОЖЕНИЕ НА ТЕЛЕОФТАЛМОЛОГИЯТА ЗА СКРИНИНГ В УСЛОВИЯТА НА ПЪРВИЧНАТА ЗДРАВНА ПОМОЩ

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Увод: Телемедицината представява предоставяне на здравни грижи и обмяна на медицинската информация на големи разстояния. Очните болести като медицинска специалност могат много лесно да бъдат приспособени към системата за телегрижи, поради голямата наличност от апарати, към които лесно може да се свърже камера.

Цели и задачи: Анализ на използваните в света модели за прилагане на телеофталмологичен скрининг в първичната здравна помощ

Методи и материали: Литературен обзор

Резултати: В световен мащаб приложението на телеофталмологията за ранен скрининг на очни заболявания не е нещо ново. ПIONEР в прилагането на телеофталмология е Индия, където специално оборудвани автобуси и обучен персонал спират на предварително уговорени места и извършват прегледи на събраното население. Получената информация и изображения се изпращат на централна болница, където се анализира от специалист офталмолог и се изпраща отговор за по нататъчното лечение и поведение на болния. Основните заболявания, за които се прави скрининг са диабетна ретинопатия и глаукома.

Заключение: Телеофталмологията все още се използва в ограничен мащаб, предимно в развиващи се страни за да обхване населението, което няма достъп до специализирани здравни грижи. Но възможностите, които тя предлага за скрининг и ранна диагностика на много заболявания водещи до трайно увреждане на зрението, могат значително да подобрят оното здраве в страните, които я използват.

Увод: Интернет и високите технологии са станали част от ежедневието ни. Използвани във всички аспекти от живота: за развлечения, научна дейност, свободни търсения, банкиране и т.н. те навлизат и в сферата на медицината. Прилагането на съвременните комуникационни и информационни технологии в системата на здравеопазването се отразява с термина електронно здравеопазване. Телемедицината е само един от много аспекти на електронна здравеопазване, тя представлява предоставяне на здравни грижи и обмяна на медицинска информация на големи разстояния. Ключовата роля на изображенията в офталмологията я прави приоритетен кандидат за телемедицината, с нейните възможности за предаване на видео време и снимки. Връзката между офталмолог и ОПЛ (асинхронна или синхронна) се развива чрез получената информация и изображения да се постави точна

на електронна почта и видеокоферентна връзка и редино време за теле консултации на пациентно болни. [2,3] Проектът носи името (ORHTEL) и на базата на получените от него резултати се създава нова система TOSCA – приложение за пациент-центрирани телеофталмологични услуги. С над 2500 пробни теста, системата се утвърждава като една от най добрите за момента. [4]

Друг проект базиран на ORHTEL, но в по-малък мащаб е ВУОРHTEL. Локализацията в България, той свързва група от 7 лекари, предоставяйки им възможност за обмяна на информация и теле-проследяване на глаукома и диабетна ретинопатия. [5]

Цели и задачи: Анализ на използваните в света модели за прилагане на телеофталмологичен скрининг в първичната здравна помощ

Методи и материали: Литературен обзор

Резултати: Въпреки големите възможности на теле-офталмологията, все още основно приложението остава скринингът. Ранната диагностика на тежки заболявания по-често временно вземане на мерки и предотвратяване на възникване на слепота.

Диабетна ретинопатия хваната в началните етапи е лечима, но тъй като те протекат асимптомно обикновено пациентът пристига с вече развити се усложнения.

ПIONEР във въвеждането на телеофталмология е Индия, където специално оборудвани автобуси и обучен персонал спират на предварително уговорени места и извършват прегледи на събраното население. Получената информация и изображения се изпращат на централна болница, където се анализира от специалист офталмолог и се изпраща отговор за по нататъчното лечение и поведение на болния. [6]

В Бейджинг, Китай се провежда аналогично изследване. Резултатите показват че телеофталмологичното поставяне на диагноза ДР е напълно възможно и приполезно като средната продължителност на изследването трае 5-7 минути т.е. малко по-кратко от функционално изследване. [7]

Сustainable и sine разширяват спектъра на проучването, като анализират не само приложението на телемедицината за скрининг, но и възможностите за теледигитална диагностика. [10]

Teleaid и sine показват предимствата при ползването на невидимата функция: свързване на скрининг - ниска цена, удобство за пациента и възможност изобразяванията да бъдат споделяни и изпратят на специалист. [11]

Генерална Web 2.0 в свое проучване демонстрира създаване и използване на ефективна инфраструктура за дистанционна диагностика на ДР. [8]

Функционният брой офталмолози, време и ресурси правят задължителни голямо участие на болните от диабет труден. Съвременните проучвания намират решение и провеждат в автоматизиран скрининг и проследяване на болни от диабет пифириран от специалист. [9]

Глаукомата е една от основните причини за слепота. Повече от 80 хиляди американци страдат от постоянна загуба на зрение от болестта. Широкият скрининг с от основно внимание за откриване на случаите на слепота свързана с глаукома. Пилотно проучване на Г.Н.К и sine изследва използването на стерео цифрови изображения, заснети в пилотна първична здравна помощ, след което те се изпращат за анализ. Резултатите показват че това е единствено на очни дъна с не мидриатична фундус камера от не медицински специалисти с това пилотен метод за ранен скрининг на глаукома. [12]

По-голямо, но значително по-разширено проучване провежда и експерт на Tishchenko A. I. по-голяма възможност за провеждане на цялостен офталмологичен преглед за глаукома и диабетна ретинопатия. В проекта са включени видео-конференцна връзка, видео блогинг, видео



ТЕЛЕСКРИНИНГ ЗА ДИАБЕТНА РЕТИНОПАТИЯ

Кирил Славейков, Иван Танев, Калина Трифонова, Валентин Стоянов

TELESCREENING FOR DIABETIC RETINOPATHY

Kiril Slaveykov, Ivan Tanev, Kalina Trifonova, Valentin Stoyanov

ABSTRACT: *Telemedicine is providing health services and exchanging health information from a distance. Telescreening is a part of telemedicine in which systems for exchanging medical data for early detection and treatment of diseases are used. The author aims to analyze the advantages, disadvantages and cost-effectiveness of telescreening for diabetic retinopathy.*

A high percentage of patients are not screened for diabetic retinopathy. With the improvement of technology digital images are no longer inferior to a classic investigation, making the teleophthalmological model of screening very useful. Patients monitored by telemedical devices declare high or very high satisfaction and would recommend it to friends and acquaintances.

Despite the greater initial investment for maintenance and staff training patients prefer the model of telescreening due to reduced waste of time, reduced costs for transportation and qualified healthcare.

Keywords: *telemedicine, ophthalmology, Health Care system*

Въведение

Захарният диабет е сред водещите причини за смърт, инвалидизация и слепота. Засяга между 1 и 10% от населението в различните държави, а в световен мащаб има около 285 млн. болни като до 2030 СЗО предвижда над 439 млн. [6]. Поради безсимптомното си начало голяма част от болните са без поставена диагноза. В САЩ Центъра за контрол и превенция на заболяванията съобщава за 18 млн. регистрирани болни от диабет и очаква още 6,4 млн. недиагностицирани [4]. В Дания 43% от населението не е обхванато от скринингова програма [5].

Диабетната ретинопатия (ДР) е често усложнение на дългогодишен диабет. Честотата ѝ варира според различни проучвания, като средно е около 40%. Значително по-често е при диабет тип 1, като застрашаващи зрението усложнения засягат около 10% от диабетичите [8].

Цели и задачи

Анализ на предимствата, недостатъците и икономическата ефективност на телескрининг за диабетна ретинопатия.

Материали и методи

Извършен е литературен обзор и анализ на научната литература относно приложението на телемедицината за скрининг на диабетна ретинопатия в амбулаторни условия. Използвана е база данни Medline, за период от 15 години.

Резултати

Първите мащабни проучвания за телескрининг на диабетна ретинопатия датират от 1999 г. В тях се доказва съпоставимостта на метода със златния стандарт, както и икономическата му ефективност [24]. Райони, където е приложен телескрининг за диабетна ретинопатия честотата на слепота е значително по-ниска, отколкото в популация без скрининг [15].

На този етап на развитие на технологиите, телемедицинският скрининг отстъпва на биомикроскопията, когато става въпрос за отчитане на клинично значим макулен оток, но при диабетна ретинопатия е валиден метод с чувствителност над 85% и специфичност над 90% [12]. Сравнителен анализ между цифрови изображения и такива изкарани на място, проведен от Tennant MT и сие, доказва съпоставимост между дигиталния и