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Ophthalmologist in Patients' Eyes

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A B S T R A C T

It seems that patient's knowledge about ophthalmologist's work is very insufficient, especially about what type of examination should be undertaken for refraction condition during the »simple« eye check-up and which serious systemic diseases could be discovered thorough eye examinations. The aim of the study was to determine patients' knowledge about ophthalmologist examinations during the check-up for refraction condition, knowledge about differences between ophthalmologists and opticians, main sources of patients' ophthalmologic cognition and the main reasons for coming to special locations. Patients (311) were examined by applying the questionnaire, immediately before the eye check-up at three various refraction units. Statistical analysis used Chi-square test and test of significance between proportions, except for patients' age where Student t-test was used. Differences were statistically significant at p=0.05. The findings show that the patients' knowledge about eye examination during the check-ups for refraction abnormalities was not satisfactory. Twenty-two percent (22%) of examined patients did not know the differences between ophthalmologists and opticians and 16 % believed that after computer testing of refraction further ophthalmologic examinations were not necessary. The main sources of medical cognition were the mass media while twenty percent (20%) of the participating patients named doctor's lectures as the source of their cognition. This study revealed that a lot of work needs to be done to improve patients' education and indirectly for better screening of very serious systemic diseases and blind threatening diseases which could be discovered during the first visit for spectacle prescription.

Key words: *refraction, patients' knowledge, cognition sources*

Introduction

Systemic diseases and eye diseases are for most patients two separate and unrelated conditions.The knowledge about very strong correlation between the two mentioned issues seems insufficient among the patients who are coming for eye check-ups in various refraction units. Most patients are very unclear about which serious systemic and eye diseases could be discovered by a so-called »simple« check-up for refraction condition. This can be seen in their intention to get the spectacles as soon as possible, thinking that the simple eye check does not take a lot of doctor's time and that computer testing is enough for spectacles prescription. It seems that patients do not even know the difference between an optician and ophthalmologist. The aim of this study was to determine the level of patients' knowledge about ophthalmologic examinations during the check-up for refraction condition, about some differences between ophthalmologist and opticians, main sources of patients' ophthalmologic cognition and the main reasons for coming to special locations for medical check-ups.

Subjects and Methods

Patients visiting various refraction units were examined in the waiting hall immediately before their eye check-up, on a voluntary basis. 311 patients participated in the research at three refraction units (University Hospital »Sisters of Mercy«, at the »Ghetaldus« optical shops and Polyclinic Ghetaldus Ophthalmology). The specific questionnaire consists of three groups of questions:

1. general questions on: age, gender level of education, and previous experiences with eye diseases

2. questions on: ophthalmologic check-ups and some differences between ophthalmologists and opticians, computer testing of refraction

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3. questions on: main sources of their ophthalmologic knowledge and reasons for coming to the specific location for eye examination.

Statistical analysis used Chi-square test and test of significance between proportions, except for patients' age where Student t-test was used. Differences were statistically significant at p=0.05.

Results

The participating patients (311 patients) were examined at three various locations as shown in Table 1. The age of patients ranged from 16 to 81-year-old patients and the average age is approximately 49. Patients' age at the location 2 was younger statistically significant than at the location 1. There were more females than males (60%/40%) at all locations without statistically significant differences between locations. The level of education divided participants into four groups – those who completed primary school, secondary school, some type of tertiary degree or university. 23% of participants had a university degree and 16% patients with high school, which differs from statistical data for population in Zagreb (2001, Central Bureau of Statistics). Also we had statistically significant differences between location 2 and 3 (Fig. 1).

For thirty percent of patients it was their initial eye check-up, and for 50% of examined patients their main reason for coming was spectacles prescription. The spectacles were the most frequent reason for this particular check-up as well as for previous visits to ophthalmologist. Other reasons for their visit, such as inflammation, cataract problems, glaucoma and diabetes were found in a small percentage of patients and they differ according to the type of location (Fig. 2 and 3). Seventy five percent (75%) of participants expected examination with subjective method for spectacles prescription, fifty percent (50%) expected computer method of examination while a small percentage of patients expected other eye tests such as measurement of eye pressure, fundus examination and cornea examination. Such specific tests were expected by 24% to 38% of patients depending on location. In all locations patients expected more examinations now then in previous examinations. (Figs. 4 and 5).

TABLE 1
REFRACTION UNITS

Location 1 (University Hospital »Sisters of Charity«)	10
Location 2 (Ghetaldus optician shops)	94
Location 3 (Polyclinic Ghetaldus Ophtalmology)	207
Total number	311

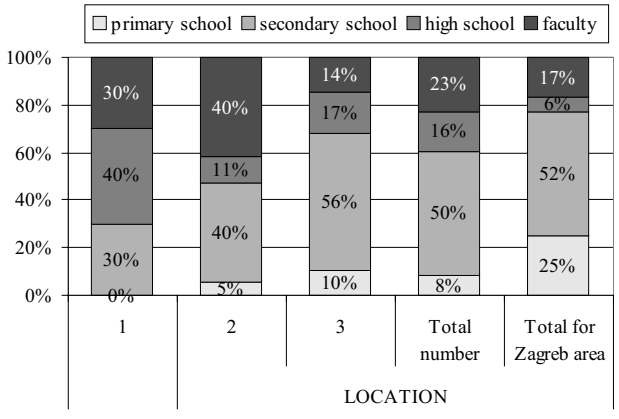

Fig. 1. The level of patients' education.

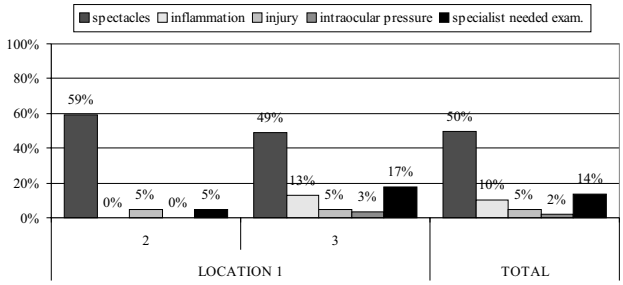

Fig. 2. The main reasons for visiting ophthalmologist for the first time.

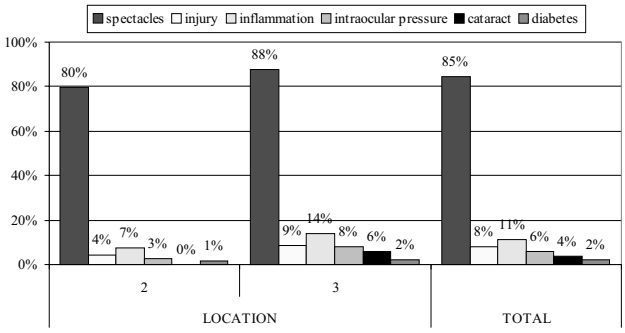

Fig. 3. The main reasons of previous visits to ophthalmologist.

The knowledge of differences between ophthalmologists and opticians were examined and 22% of patients thought that an optician could prescribe spectacles. According to location 40% to 56% (mean 48%) of examined patients thought that computer testing is a better method for spectacles prescription than subjective method. Out of those who had such an opinion 37% thought that ophthalmologic examination is necessary after computer testing for spectacles prescription. Only 8% of all participants didn't need any further examination after computer testing while in a group of those who prefer computer testing that number is higher (16%). The main sources of ophthalmologic cognition were previous ophthalmologic experiences (44%), mass media like tele-

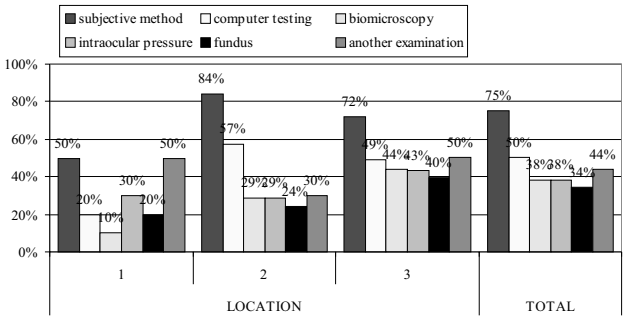

Fig. 4. Examinations expected from eye check up (%).

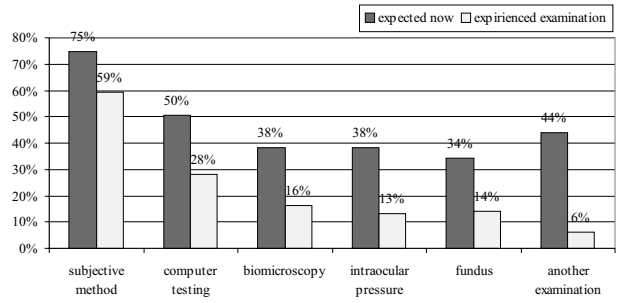

Fig. 5. Correlation between expected and experienced eye examination.

vision and health magazines in a similar percentages (34%/36%) while doctors' lectures were represented in 21%. We correlated the source of ophthalmologic cognition with their opinion on computer testing and their need for further ophthalmologic examination (Fig. 6).

Those who thought that computer testing is a better method of refraction examination as the main source of cognition stated their own ophthalmologic experience but also television and health magazines. Sixteen percent (16%) of them after computer testing didn't need further ophthalmologic examination for spectacles prescription and they mentioned their own experience as the source of ophthalmologic cognition in a smaller percentage (29%) than in a group who thought opposite and needed further examination after computer testing (47 % mentioned their own experience as the source of cognition). Their attitude towards specialist who worked at various locations were not affected by better or worse equipment, however they were very affected by kindness, quality of work and knowledge of each one and none of the locations were specially pointed out as the best location for examination.

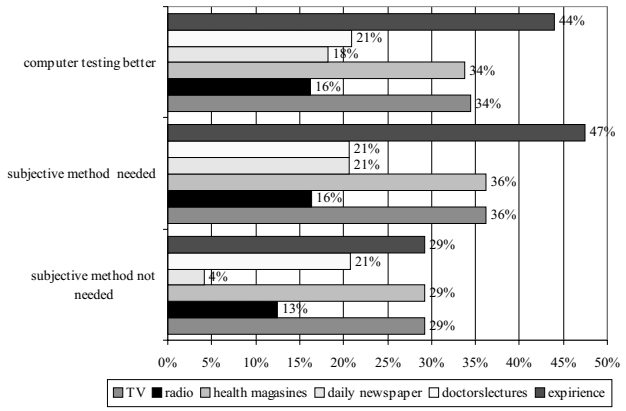

Fig. 6. Correlation between source of information and attitude to computer testing and necessity of further ophthalmological examination.

The main reasons for coming to special location varied dependent to location of testing. At the location 1 the recommendation of others and the necessity of second opinion were prevalent, while at the location 2 short waiting time for examination appointment and vicinity of the place of work and living, were main reasons for coming. At the location 3 vicinity and short waiting time were dominant reasons for coming to that specific location. (Fig. 7).

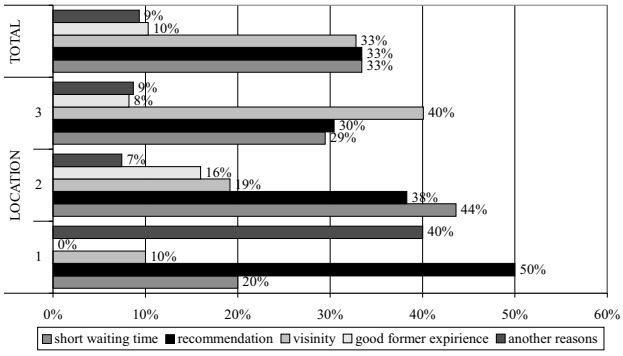

Figure 7. The main reasons for coming to special location.

Discussion

Cataract, glaucoma, age related macular disease (ARMD), and diabetic retinopathy are leading causes of blindness worldwide[1–4]. Although 80% of cases with reduced vision are not due to refractive error but the result of these four eyes' diseases, which are not only the eye disease but also one of the manifestations of systemic metabolic disease. Mostly patients are not aware of importance for early detection of these conditions. They are also not well informed about the correlation between systemic diseases and eye.

There are many references worldwide about education of patients about different eye diseases and about level of patients' knowledge on eye diseases. Despite the importance and the link with visual disability and blindness, their knowledge level is quite low. Most patients (90%) have heard about cataract and glaucoma but cannot explain signs and treatment for these conditions[5]. properly. However, awareness of ARMD was less than 1% in Hong Kong[5] and 5% in Australia[6]. Some

studies researched special educational programs lasting during the waiting time for check up and in the perioperative time[7,8].

In Croatia we didn't find any similar studies about patients' knowledge in field of ophthalmology. Our results about some expectation of patients from ophthalmologist's examination indicate that they mostly expect only subjective or computer testing of refractive error (50–75%). Eight percent of them after computer testing didn't expect any further examination. In a group of those who prefer computer testing to subjective method (48%) the percentage of those who don't need any further ophthalmologic check up is higher (16%). Popularization of computer testing had negative effects on other examination (intarocular pressure, biomicroscopy, fundus examination) that should be done in order to discover initial phase of leading conditions of blindness worldwide. These examinations are necessary for diagnosing initial phase of eye diseases and eye manifestation of systemic diseases such as diabetes, hypertension, hyperlipidaemia and immunology diseases.

Those patients who had previous ophthalmologic experience because of some eyes disease or because of presbyopic glasses, expected more examinations during the simple eyes check up.

Most patients, above 70%, know the difference between optician and ophthalmologist, although we didn't expect such high percentage. The main source of their knowledge were their own experiences and mass media. The doctors' lectures were in 20% represented. Such a miserable low percentage of lectures indicate that ophthalmologist have to intensify their work in patients education and prevent serious consequences of blind threatening diseases. In our questionnaire we didn't put Internet as a source of information because of small number of Internet users and the age of patients, but it could be very interesting to examine that source and its impact on patients' knowledge in future work.

The main reasons for coming to various locations, as it was shown, were the short waiting time for check-up and the vicinity to the place of work and living. The high quality of work and equipment as well as the recommendations of specialists are not such an important factor to the examined patients.

Conclusion

The number of examined patients and the questions asked are rather small for a general conclusion. However, we wanted to point out the direction for our future work in order to educate patients and to prevent blind threatening conditions with early diagnose. So, the first check up for the refraction condition, should be the proper time for checking the eye condition of all and proper time for educating patients. We cannot allow patients to come again with developed stages of glaucoma and diabetic rethinopathy because they expected only the change of spectacles from the ophthalmologists.

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OFTALMOLOG U OČIMA PACIJENTA

SAŽETAK

Znanje pacijenata o radu oftalmologa čini se vrlo insuficijentno, posebno o tome kako treba izgledati temeljiti oftalmološki pregled i koje sistemske bolesti mogu biti otkrivene u toku oftalmološkog pregleda pa čak ako se radi samo o oftalmološkom pregledu za ustanovljenje refrakcionih anomalija oka. Cilj studije bio je detektirati stupanj osnovnih spoznaja o oftalmološkom pregledu medju pacijentima koji dolaze u ambulantu za otkrivanje refrakcionih anomalija, o razlikama oftalmologa i optičara, najčešćim izvorima spoznaje i razlozima dolaska na odredjenu lokaciju pregleda. Pacijenti (311) su testirani anketnim listićem neposredno prije oftalmološkog pregleda na tri različite lokacije pregleda i na dobrovoljnoj osnovi. U statističkoj analizi korišten je χ^2 test i test signifikatnosti medju proporcijama, osim za dob pacijenta gdje je korišten Sudentov t-test. Razlika je smatrana značajnom uz vjerojatnost p=0,05.

Analizom anketa otkriva se da znanje pacijenata o oftalmološkom pregledu u sklopu utvrdjivanja refrakcinih anomalija oka nije zadovoljavajuće. Dvadeset dva posto pacijenata (22%) ne zna razliku izmedju oftalmologa i optičara dok 16% ispitanika smatra da nakon kompjuterskog testiranja refrakcije nije potreban daljnji oftalmološki pregled. Glavni izvori spoznaje su sredstva javnog informiranja poput televizije i časopisa o zdravlju, dok su predavanja liječnika kao izvor informacija prisutna u 20% ispitanika. Prema rezultatima studije vidljivo je da još dosta toga treba učiniti na području edukacije pacijenata a time i indirektno utjecati na ranije otkrivanje sistemskih i očnih bolesti koje mogu dovesti do sljepoće, a koje je moguće detektirati pri prvom pregledu za naočale.