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Original Article

Knowledge of Diabetic Retinopathy Among Saudi Population in Makkah City

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مدى معرفة سكان مكة المكرمة السعوديين بمرض اعتلال الشبكية السكري، دراسة تشمل المراكز الصحية الأولية

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الملخص

المقدمة: يعد اعتلال الشبكية السكري أحد الأسباب التي تؤثر على الإبصار بسبب تغييرات السكري على العين. وتشمل تأثيرات مرض السكري على العين: الاعتلالات التي لا تسبب زيادة في الشعيرات الدموية في الشبكية مثل الارتشاح في مركز الإبصار والاعتلالات التي تسبب زيادة في الشعيرات الدموية في الشبكية.

الأهداف : قياس مدى وعي سكان مكة المكرمة السعوديين حول هذا المرض.
منهج البحث : تم توزيع استبيانات تختوي على مجموعة أسئلة لقياس مدى وعي الناس بمرض اعتلال الشبكية السكري على ٣٨٧ من المراجعين لدى المراكز الصحية الأولية بمكة من هم فوق عمر ال٤٠ عاما. وتم تحليل البيانات عن طريق الإحصاء الوصفي.

النتائج : لم يعرف ٥٢.٧٪ من سكان مكة المكرمة السعوديين أن اعتلال الشبكية السكري يؤثر على البصر. ٧٢.٧٪ لم يعرفوا أن هذا المرض يمكن أن يؤدي إلى العمى الكلي. ٥٢.٢٪ لم يعرفوا أنهم يحتاجون إلى مراجعات منتظمة في عيادات العيون . ٦٨.٧٪ لم يعرفوا أن هذا المرض يمكن علاجه جراحيا بينما لم يعرف ٥٨.٩٪ أن هذا المرض يمكن علاجه عن طريق الليزر.

الخاتمة: معرفة سكان مكة المكرمة من السعوديين عن مرض اعتلال الشبكية السكري تعد ضئيلة ويجب بذل المزيد من الجهد لزيادة معرفتهم بهذا المرض.

ABSTRACT

Background: Diabetic retinopathy causes vision loss due to various diabetes-related changes in the eye. These changes include non proliferative retinopathy, proliferative retinopathy, macular edema and complete visual loss. The progression of diabetic retinopathy
Purpose : Purpose : To assess the knowledge of Saudi population in Makkah city about diabetic retinopathy.
Methods : Questionnaires consisting of items assessing knowledge of diabetic retinopathy were administered to 387 persons aged 40 years or above years. The participants were attending Primary Health Care Centers in Makkah city. Descriptive statistics were used to analyze the data.
Results : 52.7% didn't know that diabetic retinopathy causes blurring of vision, 72.7% didn't know that it can lead to blindness and 52.2% didn't know that they need regular visits to the ophthalmology clinic for follow up. 68.7% didn't know that diabetic retinopathy can be treated by surgery and 58.9% didn't know that diabetic retinopathy can be treated by laser.
Coclusion : : Saudi population in Makkah city 40 years old or above have poor knowledge about cataract and efforts should be done to increase the knowledge and awareness of the disease.
Keywords : *Knowledge, Diabetic Retinopathy*

INTRODUCTION

Osteoarthritis Diabetes Mellitus (DM) is a clinical syndrome characterized by hyperglycemia due to an absolute or relative deficiency of insulin [1, 2] . Insulin deficiency may arise in various ways such as destruction of β– cells of the pancreas, an organ responsible for the production of insulin [2]. Insulin deficiency affects the metabolism of carbohydrates, proteins, fats, electrolytes and water leading to major organ function disorders throughout the body [2]. DM may be broadly divided into two main groups, each with differences in pathogenesis, clinical appearance, management and treatment [3]. Insulin Dependent Diabetes Mellitus (IDDM) or Type 1 DM, is due to lack of insulin and has a peak incidence at 10-20 years [3]. It is less common and estimated to account for 5 to 10% of all diagnosed cases of DM worldwide [3]. About 171 million people worldwide suffer from DM with 3.8 million deaths reported annually from complications of the disease [4]. It is projected that the number of people with DM will rise to 366 million by the year 2030 [4, 17]. The ocular manifestations of DM have been well documented [6-15]. Ocular changes such as diabetic retinopathy and macular edema are leading causes of blindness amongst diabetic patients [12-14]. Gender (males), race, control of diabetes, as well as pregnancy have been identified as risk factors for diabetic retinopathy [2,5]. The early phase of diabetic retinopathy (non-proliferative) is characterized by weakened vessels that leak forming haemorrhages [12-14]. Cotton wool spots (micro-infarctions in the nerve cell layer), hard exudates and venous dilatation are also common features of diabetic retinopathy [12-14]. The late phase (proliferative stage) is characterized by retinal detachment which results from retinal traction by scar tissue, often in the wake of haemorrhages after rupture of fragile new vessels (neovascularization) [12-14]. Other visual and ocular complications include higher prevalence of cataracts, secondary glaucoma, tritan colour vision deficiencies

and reduced corneal sensitivity et cetera [15]. Studies have suggested that up to 25% of all Type 2 diabetics show some degree of diabetic retinopathy when they are first diagnosed and 60-80% of these patients show evidence of diabetic retinopathy after 15 years from the onset of diagnosis [16]. Early detection and treatment of DM may therefore reduce the risk of severe vision loss from diabetic retinopathy. It has been recommended that patients diagnosed with mild to moderate non-proliferative retinopathy require annual eye assessments, and those with severe non-proliferative retinopathy need 3 to 6 month ocular assessments [16]. The proliferative stage requires urgent referral to an ophthalmologist (within two to four weeks) as well as follow up monitoring within 2 to 3 months of the specialist visit [16]. An estimated 12 000 to 24 000 diabetic sufferers lose their sight every year, making it one of the leading causes of blindness in adults between the ages of 20 and 74 years [17]. Studies have been undertaken to investigate the consequences of DM and the knowledge that the public and diabetic sufferers have of the disease [18-31].

The prevalence of diabetes in Saudi Arabia is 16.7% [32]. 31% of diabetics in Saudi Arabia have diabetic retinopathy [33].

MATERIAL AND METHODS

This The study was conducted in Makkah city of Saudi Arabia , between April 2011 and September 2011. It is a cross sectional study which includes all the Saudi population in Makkah city who are 40 years old or older and according to the latest officially announced census. . The Saudi population in Makkah who are 40 years old or above according to the last census was 805206 and by calculating the sample size using (Roasoft) program at margin of error 5% and level of confidence 95% was 384 as the minimum recommended size for this survey. A questionnaire was structured to assess knowledge about cataract. Questions were developed by the researchers and subsequently scrutinized by a panel of experts to establish content validity. The questionnaire was pretested on a volunteer sample of 20 persons aged above 40 to assess questionnaire comprehension. To assess reliability of the questionnaire, 50 persons aged above 40 years volunteered to complete the questionnaire twice within a 1-week time frame. Test-retest reliability for the knowledge section was as follows for the two trials: knowledge about diabetic retinopathy and its treatment (r = 0.87) and for best sources to get information about diabetes (r = 0.83). Given these findings, the questionnaire was considered to be a reliable instrument. The questionnaires were then distributed and administered from 384 participants by the researchers at primary health care centers in Makkah city. Data entry and analysis was done by using SPSS version 17 . Data were presented using descriptive statistics in the form of frequencies and percentages. Statistical significance was considered at p-value = 0.05

RESULTS

The total number of participants was 387. 79.8% were males and 20.2% females. 4.2% were of elementary education, 4.4% of intermediate education, 22.9% of high education, 64.4% of university education and 4.4% of higher education.19.9% of population thought that they know about diabetic retinopathy, 68.8% have got information from other friends and 62.3% from the television. 52.7% didn't know that diabetic retinopathy causes blurring of vision, 72.7% didn't know that it can lead to blindness and 52.2% didn't know that they need regular visits to the ophthalmology clinic for follow up. 68.7% didn't know that diabetic retinopathy can be treated by surgery and 58.9% didn't know that diabetic retinopathy can be treated by laser. Previous diagnosis of diabetic retinopathy increased the knowledge of population about the disease but previous diagnosis of diabetes didn't. 24.5% of population were diagnosed

as diabetics, 43.9% of them had dilated eye exam before 5-6 months and 37.8% had dilated eye exam before 7-12 months. 43.9% were following up at the ophthalmology clinic every 7-12 months, 25.6% every 5-6 months and 23.2% every 3-4 months. 82.4% of population wanted to know more about diabetic retinopathy. 93.2% thought that they could get more information from the media, 90.2% from campaigns and 85.9% from the internet. 82.4% of population wanted to know more about diabetic retinopathy.

DISCUSSION

A 19.9% is considered to be a very low number as a percentage of population who thought that they have had previous information about diabetic retinopathy. The results showed that vast majority of Makkah population above 40 years old know that diabetis retinopathy is a disease, but other than that, their knowledge of diabetic retinopathy and its treatment is poor. It was expected that diabetic retinopathy patients were having more information about diabetic retinopathy than other persons in the population. It was expected that the population needs more information which has been proven subjectively as 82.4% of population wanted to know more about diabetic retinopathy. The media, educatory campaigns and internet should be stressed to be a source of information for the population about diabetic retinopathy in the future.

CONCLUSIONS

Saudi population in Makkah city 40 years old or above have poor knowledge about diabetic retinopathy and efforts should be done to increase the knowledge and awareness of the disease.

The researchers have not found any educatory programs in Makkah city for Saudi population about diabetic retinopathy. From that point and since that there are no educatory programs in Makkah city about diabetic retinopathy, the idea of the research comes aiming to know the knowledge of Saudi population about this disease.

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