Is Diabetic Eye Screening Beneficial? A Patient's Perspective

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Introduction

Diabetic retinopathy is a complication of diabetes resulting from high blood glucose levels which can lead to vision loss or blindness. The National Diabetic Eye Screening Programme (NDESP) was introduced by the UK in 2003, with its primary aim to reduce the risk of preventable sight-loss from diabetic retinopathy.[1] Diabetic retinopathy was the leading cause of blindness amongst working-age adults in the UK. [2]

The aim of this study was to get a patient's perspective of the diabetic eye screening service to see if they thought it was beneficial to them. The study also looked in to diabetes management, changes to the eye screening service and referrals to the hospital eye service (HES).

Method

A population-based cohort study was conducted (Jun-Sep 2018) using diabetic patients aged 12 years and over. A sample survey was distributed by 7 diabetic eye screening programmes (See Table 1) and 1 local ophthalmology department.

Sunderland and South Tyneside DESP
East Sussex DESP
West Sussex DESP
Birmingham, Solihull and Black Country DESP
North and East Devon DESP
North West Manchester DESP
East Yorkshire (The Humber) DESP

Table 1 – The 7 diabetic eye screening programmes used in the study

Results

A total of 750 surveys distributed, 648 surveys were returned and of those, 70 were made void due to either being incomplete or incorrectly filled in. 578 surveys were used for analysis.

Question 1

This question was used to identify the age of the patient, their gender and the year they were diagnosed with diabetes. The age of the patients were separated in to different age groups, along with the total number from each age range as illustrated in Table 2. The youngest participant was aged 16 and the oldest participant was aged 94 with the *mean* age shown in brackets for each age group. There was a total of 322 males (55.71%) and 256 females (44.29%) in the gender ratio as illustrated in Figure 1. The year of diagnosis ranged from as far back as 1968 up until 2017.

Age Range (Mean)	Total number of patients
Age 12 – 25 (20)	18
Age 26 – 40 (33)	43
Age 41 – 55 (48)	132
Age 56 – 70 (63)	221
Age 71 – 85 (78)	147
Age 86+ (90)	17
TOTAL	**578**

Table 2 - Age range (Mean) and total number of patients in each group

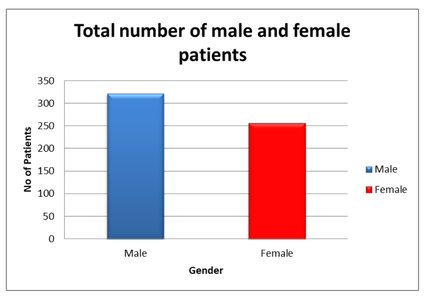

Figure 1 – Total number of male and female patients

Question 2

564 (97.6%) patients thought diabetic eye screening was beneficial and 14 (2.4%) patients did not (See Table 3). Figure 2 shows the patients responses to question 2..

Age Range	Yes	No	Total
Age 12 - 25	16	2	18
Age 26 – 40	42	1	43
Age 41 – 55	130	2	132
Age 56 – 70	218	3	221
Age 71 – 85	143	4	147
Age 86+	15	2	17
TOTAL	**564**	**14**	**578**

Table 3 – Do you think diabetic eye screening is beneficial?

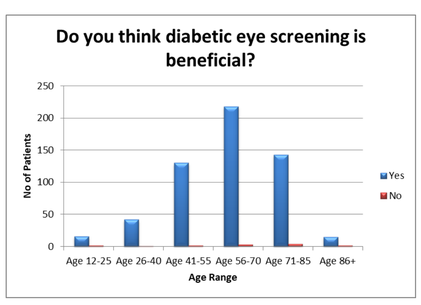

Figure 2 – Patient's responses to question 2

Question 3

510 (88.2%) patients thought diabetic eye screening gave them confidence in the way they manage their diabetes and 68 (11.8%) did not (See Table 4). Figure 3 shows the patients responses to question 3.

Age Range	Yes	No	Total
Age 12 - 25	14	4	18
Age 26 – 40	35	8	43
Age 41 – 55	117	15	132
Age 56 – 70	199	22	221
Age 71 – 85	131	16	147
Age 86+	14	3	17
TOTAL	**510**	**68**	**578**

Table 4 – Does eye screening give you confidence in the way you manage your diabetes?

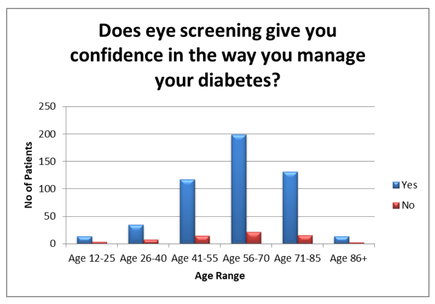

Figure 3 – Patient's responses to question 3

Question 4

Only 147 (25.4%) patients had noticed any changes to the eye screening service since they first started attending whilst 431 (74.6%) had not (See Table 5). Figure 4 shows the patients responses to question 4.

Age Range	Yes	No	Total
Age 12 - 25	2	16	18
Age 26 – 40	14	29	43
Age 41 – 55	37	95	132
Age 56 – 70	60	161	221
Age 71 – 85	34	113	147
Age 86+	0	17	17
TOTAL	**147**	**431**	**578**

Table 5 – Have you noticed any changes to the eye screening service since you first started attending?

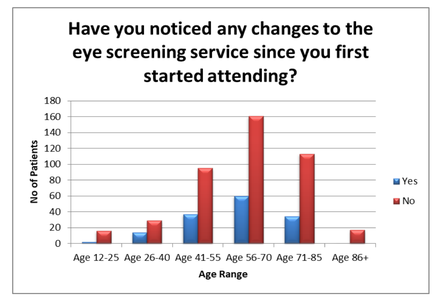

Figure 4 – Patient's responses to question 4

Question 5

A total of 152 (26.3%) patients had been referred to the hospital eye service from eye screening and 426 (73.7%) had not (See Table 6). Figure 5 shows patients responses to question 5.

Age Range	Yes	No	Total
Age 12 - 25	1	17	18
Age 26 – 40	23	20	43
Age 41 – 55	48	84	132
Age 56 – 70	46	175	221
Age 71 – 85	33	114	147
Age 86+	1	16	17
TOTAL	**152**	**426**	**578**

Table 6 – Have you ever been referred to the hospital eye service from eye screening?

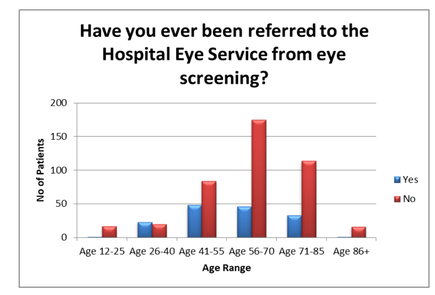

Figure 5 – Patient's responses to question 5

Discussion

The results identified that diabetic eye screening is beneficial (97.6%) and that it helped in diabetes management (88.2%). For patients that disagreed (2.4% and 11.8%), points raised found the following issues:

- Why go to optician as well as eye screening?
- Had same results 2 years running, why continue going?
- Not sure how eye screening manages diabetes management?
- Eye screening only shows if eyes are affected!

The biggest change to the service was equipment change. Digital technology widely used. Also noted was the service is more efficient and in depth.

Referrals to the HES for other eye conditions enhances the importance of eye screening, allowing patient's to maintain their sight from various eye conditions they may develop as they get older.

Conclusion

To conclude, one patient quoted:

"Without diabetic eye screening, I would have gone blind"

This study has provided insights of diabetic eye screening by illustrating how the service has saved the deterioration of eye problems, has shown that education needs to be addressed to patients in order to fully understand the seriousness of the condition and reduce the costs of treatment, and with improved technology, may provide a more cost effective streamlined service.

References

1: Scanlon, P. 2008. The English national screening programme for sight-threatening diabetic retinopathy. *Journal of Medical Screening* 15(1), pp. 1-4 doi: https://doi.org/10.1258/jms.2008.008015

2: Fight for Sight. 2015. *Diabetic Retinopathy.* Available at: https://www.fightforsight.org.uk/about-the-eye/a-z-eye-conditions/diabetic-retinopathy/ [Accessed: 3 October 2018].

Full study available at: https://www.eyescreening.org.uk/userFiles/File/Journal%20Articles%20and%20Papers/1736232%20Is%20Diabetic%20Eye%20Screening%20Beneficial.pdf