An Empirical Study on the Effectiveness of Clinical Management for the Prevention of Diabetic Retinopathy

Seong-Ran Lee*
*Dept. of Medical Information, Kongju National University
e-mail:leesr@kongju.ac.kr

당뇨망막병증 예방을 위한 임상관리의 효과에 대한 실증적 연구

이성란*
*공주대학교 의료정보학과

Abstract

This study identifies an empirical study of the effectiveness of clinical management to prevent diabetic retinopathy. The survey was conducted with 84 subjects who visited the internal medicine of a general hospital located in A area from January 26 through March 11, 2021. Before and after clinical management for diabetic retinopathy was analyzed as t-test. The congestion of the eye has improved significantly since clinical management was applied than before the management was applied($t=1.93$, $p<.05$). Macular edema continued to decline from before clinical management and increased again from 15th. Therefore, the results of this study will promote the use of clinical care to prevent diabetic retinopathy and contribute to development strategies.

1. lntroduction

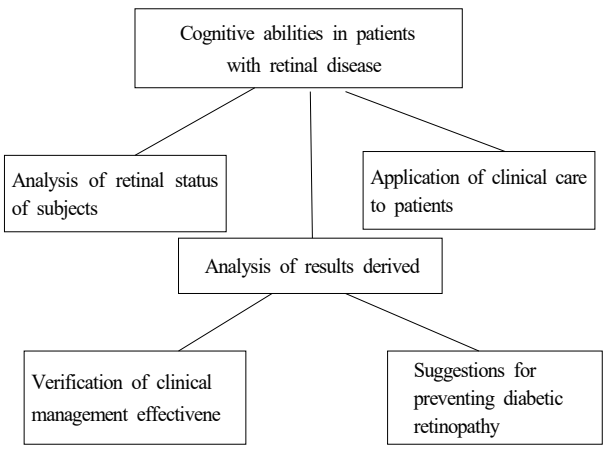
As the number of diabetic patients increases, the risk of diabetic retinopathy, one of diabetes complications, is increasing. Diabetes is a metabolic disorder that causes widespread impairment of systemic tissue, including the eyes[1, 2]. Complications of the eye can include diabetic retinopathy, cataracts, and extraocular muscle palsy. Diabetic retinopathy rose 27% from 264,769 in 2012 to 336,247 last year. Diabetic retinopathy is a typical complication that affects about 15% of all diabetics. Diabetic retinopathy can cause severe vision loss due to diabetic complication. Measures are needed to prevent complications of diabetes, which lead to a risk of blindness[3, 4].

Therefore, it is necessary to verify its effectiveness through the application of an information system to prevent diabetic retinopathy. Therefore, this study identifies an empirical study of the effectiveness of clinical management to prevent diabetic retinopathy. This will help prevent complications of diabetes.

2. Materials and Methods

2.1 Materials

The survey was conducted with 84 subjects who visited the internal medicine of a general hospital located in A area from January 26 through March 11, 2021. After applying the experimental study, the intervention was measured over time : 5, 10, 15, 20 and 25 days. Figure 1 illustrates a systematic plan for preventing diabetic retinopathy



[Fig. 1] Planning for the Prevention of Diabetic Retinal Disease

2.2 Methods

Before and after clinical management for diabetic retinopathy were analyzed as t-test. The state of eyes over time was used as a t-test.

3. Result

3.1 Before and after clinical management for diabetic retinopathy

Table 1 presents before and after clinical management for diabetic retinopathy, The congestion of the eye has improved significantly since clinical management was applied before the management was applied($t=1.93$, $p<.05$). Macular bleeding tends to decrease significantly after clinical management than before clinical management($t=3.61$, $p<.05$).

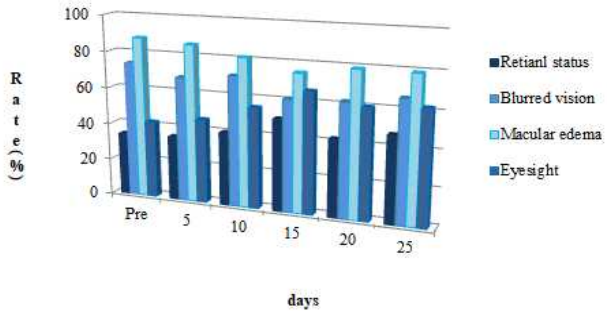
[Table 1] Before and after clinical management for diabetic retinopathy

Variables	Before	After	t
	Mean±S.D.	Mean±S.D.	
Retinal status	27.2±3.66	31.4±2.58	-3.14
Hypertension	41.6±1.58	38.6±1.72	5.96
Hyperlipidemia	39.1±0.74	32.5±0.49	2.48
Blurred vision	37.4±1.62	25.2±1.83	5.12*
Diabetes mellitus	50.9±3.15	43.0±3.74	1.75*
Macular bleeding	32.0±0.37	21.4±0.85	3.61*
Congestion in the eyes	42.9±3.62	35.0±3.71	1.93*
Macular edema	37.4±1.75	30.8±1.26	3.44*
Visual disturbance	39.5±0.59	32.1±0.83	5.28
Confused view	31.7±4.29	27.6±3.19	1.40

* $p<.05$

3.2 Eye condition of subjects by date

Figure 2 points out the condition of the eyes of the subjects by date. Macular edema continued to decline from before clinical management and increased again from 15th.



[Fig. 2] Eye condition of subjects by date

4. Discussion

This study identifies an empirical study of the effectiveness of clinical management to prevent diabetic retinopathy. As a result, macular bleeding tends to decrease significantly after clinical management than before clinical management. The finding was similar with the previous studies on cataract[5, 6]. This suggests how important clinical management of macularity is at ordinary times.

Macular edema was significantly lower after clinical care than before clinical care. This is similar to the results in previous researches [6, 7]. This study suggests that macular status should control it to treat this disease. If macular edema is present, it should be carefully monitored at intervals of 2-4 months. If people first diagnose diabetes, patients should get an eye exam because it can be accompanied by retinopathy. Based on the result, it is anticipated that this paper may be used as basic data for preventing diabetic retinopathy.

We need to change people's eating habits such as fatty foods, sugar and keep people's diet under control. That is, in order to prevent diabetic retinopathy through these results, people need to change their lifestyle. The application of clinical intervention to treat diabetic retinopathy can be seen as an effective treatment. The results of this study will promote the use of clinical care to prevent diabetic retinopathy and contribute to development strategies.

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