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Effects of King's Theory of Goal Attainment Combined with Teach-Back Method on Improving Patients' Standardization Rate of Eye Drop Use

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Abstract: *Objective:* To explore the effect of King's Theory of Goal Attainment combined with teach-back method on improving the standardization rate of eye drop use in patients. *Methods:* A total of 200 patients who used more than two types of eye drops in the Department of Ophthalmology of our hospital were selected as the research subjects, and were randomly divided into an observation group and a control group. The control group was given routine health education, while the observation group was given King's Theory of Goal Attainment combined with teach-back method on the basis of the control group. The standardization rate of eye drop use, knowledge awareness rate, and nursing satisfaction were compared between the two groups before and after the intervention. *Results:* After the intervention, the standardization rate of eye drop use, the awareness rate of eye drop knowledge, and the nursing satisfaction of the observation group were significantly higher than those of the control group ($P < 0.05$). *Conclusion:* King's Theory of Goal Attainment combined with teach-back method can effectively improve the standardization rate of eye drop use in patients, increase their awareness of eye drop knowledge, and improve nursing satisfaction, which is worthy of clinical application.

Keywords: King's Theory of Goal Attainment; Teach-back method; Eye drops; Standardization rate

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1. Introduction

The application of eye drops is the most common and effective method of drug administration for ophthalmic patients [1]. Correct use is essential to enhance therapeutic outcomes and minimize adverse reactions. However, in clinical practice, improper handling and insufficient understanding of proper eye drop administration often result in non-standardized use, ultimately compromising the treatment's effectiveness [1,2]. Consequently, improving the standardization rate of eye drop usage is a vital aspect of ophthalmic nursing. King's Theory of Goal Attainment

emphasizes the interactive process between nurses and patients, fostering collaboration to establish shared goals. Through active participation, mutual effort, and effective communication, this approach promotes patient self-efficacy and facilitates the achievement of desired outcomes [3]. The teach-back method, an educational strategy, ensures that patients accurately comprehend and retain knowledge and skills by having them repeat or demonstrate the information they have learned [4-7]. This study integrates King's Theory of Goal Attainment with the teach-back method to investigate their combined impact on improving the standardized use of eye drops among patients.

2. General information and methods

2.1. General information

From January 2023 to December 2023, 200 patients who used eye drops in the Department of Ophthalmology of our hospital were selected as the research subjects. According to the random number table method, they were divided into two groups. The observation group had 50 males and 50 females, aged 20 to 87 years, with an average age of 52.22 ± 14.19 years. There were 42 males and 58 females in the control group, aged from 24 to 84 years, with an average age of 58.64 ± 10.88 years. The clinical baseline data of the two groups were complete and comparable. The data for both groups were consistent and showed no significant differences in baseline characteristics ($P > 0.05$), meeting the criteria for a controlled study **(Table 1)**.

Table 1. Comparison of general data between the two groups [*n* (%)]

Items		Observation group ($n = 100$)	Control group ($n = 100$)	χ^2 value	*P*-value
Gender	Male	50	42	1.288	0.256
	Female	50	58		
Education	Primary school and below	43	51	1.660	0.436
	Secondary school	40	37		
	College and above	17	12		
Employment status	Employed	49	39	2.242	0.326
	Retired	6	9		
	Unemployment	45	52		
Number of eye drops	< 2	26	29	12.626	0.200
	2–5	71	69		
	> 5	3	2		
Vision	< 0.1	14	16	4.163	0.125
	0.1–0.5	31	49		
	> 0.5	55	35		

2.2. Methods

The control group was treated with conventional education methods. On the basis of the conventional education on the use of eye drops, the observation group adopted King's Theory of Goal Attainment combined with the teach-back method, which was as follows:

(1) Nurse homogenization training: All nurses underwent uniform training to ensure consistent standards of care and education.
(2) Assessment: Primary nurses assessed patients' knowledge, learning needs, and ability to use eye drops. Together with the patients, they established individualized health goals, developed tailored educational content, and set target outcomes for the standardized use of eye drops.
(3) Interaction: Primary nurses engaged in interactive sessions with patients, explaining and demonstrating proper techniques for the standardized use of eye drops based on the educational outline. Following King's Theory of Goal Attainment, both nurses and patients actively participated in the learning process. Patients were guided step by step to master the correct technique and ultimately perform the procedure independently.
(4) Teach-back: Responsible nurses assessed whether patients were using eye drops correctly by asking questions, having patients repeat the information, or demonstrating the technique. Feedback was provided promptly to reinforce learning, and the process was repeated as needed to solidify understanding.
(5) Adjustment: Before discharge, the teach-back method was employed again to evaluate patients' proficiency and make necessary adjustments to ensure long-term adherence to the correct usage of eye drops.

2.3. Observation indicators

The standardization rate of eye drop use, the awareness rate of knowledge, the incidence of adverse eye drop use, and nursing satisfaction were observed and recorded.

2.4. Statistical methods

Using SPSS25.0 statistical software for data analysis, count data were expressed as a percentage (%), using the χ^2 test; measurement data were expressed as mean ± standard deviation (SD), and *t*-test was used. $P < 0.05$ was considered statistically significant.

3. Results

3.1. Comparison of the incidence of adverse eye drop use and awareness rate of eye drop knowledge between the two groups

After the intervention, the incidence of adverse eye drop use in the observation group was 2.67%, which was significantly lower than 27.33% in the control group ($P < 0.05$). The awareness rate of eye drop knowledge in the observation group was 98.75%, which was significantly higher than 63.75% in the control group ($P < 0.05$). The results are shown in **Table 2**.

Table 2. Comparative analysis of the incidence of adverse eye drop use and the awareness rate of knowledge between the two groups (χ^2)

Items	Timing of investigation	Incidence of adverse events			Knowledge awareness rate			
		Missed or wrong drop, and other adverse events	Loss of eye drops	Nonstandard complications	Know the count	Know the effects and side effects of eye drops	Know storage method and expiration dates	Know usage frequency
χ^2 value	Before intervention	2.492	0.244	17.683	2.057	4.421	4.916	4.340
	After intervention	19.207	0.338	65.943	1.005	73.305	120.333	7.254
P-value	Before intervention	0.114	0.612	0.001	0.152	0.036	0.027	0.037
	After intervention	< 0.001	0.561	< 0.001	0.316	< 0.001	< 0.001	0.007

3.2. Comparison of the standardization rate of eye drop use between the two groups

After the intervention, the standardization rate of eye drop use in the observation group was 98%, which was significantly higher than 34% in the control group ($P < 0.05$).

3.3. Comparison of nursing satisfaction between the two groups

After the intervention, the average score of patients' satisfaction in the observation group was 8.61, which was significantly higher than 5.11 in the control group ($P < 0.05$).

4. Discussion

The results showed that after the intervention of King's Theory of Goal Attainment combined with the teach-back method, the awareness rate of eye drop knowledge, the standardization rate of eye drop use, and nursing satisfaction of the observation group were significantly higher than those of the control group ($P < 0.05$). The incidence of adverse use of eye drops in the observation group was lower than that in the control group ($P < 0.05$). King's Theory of Goal Attainment combined with the teach-back method can effectively improve the standardized rate of eye drop use and the awareness of eye drop knowledge, reduce the incidence of adverse eye drop use, and improve patient satisfaction. This finding is consistent with the results of a multi-center parallel group cluster randomized controlled trial [8]. **Table 2** indicates that there was no significant difference in the incidence of eye drop loss between the two groups ($P = 0.561$). The lack of use of a dedicated eye drop storage box could have contributed to the misplacement or loss of eye drops [9,10]. Similarly, there was no statistically significant difference in the awareness of the number of eye drops among patients in the two groups ($P = 0.316$). Analyzing the cause, it is likely that most participants (97%) had an eye drop count between 2 and 5, making it relatively easy for them to recall.

At present, the education method of King's Theory of Goal Attainment combined with the teach-back method has been applied to nursing health education at home and abroad, and certain results have been achieved [11-13]. The results of this study are consistent with the research results of many domestic scholars [14,15].

5. Conclusion

King's Theory of Goal Attainment emphasizes the interaction and joint participation between nurses and patients. Through the communication between nurses and patients, the needs of patients can be assessed and the patients are helped to formulate and achieve health goals. In this study, primary nurses can understand patients' cognitive level and learning needs of eye drop use through interaction with patients, and provide targeted health education to improve the effect of education. The teach-back method is an effective education method. By letting patients repeat or demonstrate the knowledge and skills they have learned, nurses can timely discover the deficiencies in patients' understanding and mastery, correct and strengthen them, and ensure that patients master the relevant knowledge. The combination of King's Theory of Goal Attainment and the teach-back method can give full play to the advantages of both, improving patients' knowledge and skills of using eye drops and realizing the standardization of patients' use of eye drops, which is worthy of clinical application.

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Disclosure statement

The authors declare no conflict of interest.

References

[1] Xu Q, Gao F, 2020, Eye Drops to Treat Patients with Standardized Nursing Management Effect Research. Journal of Nursing Management Journal, 20(5): 373–376.

[2] Mei Q, 2011, Nursing Intervention and Effect of Eye Drops for Glaucoma Patients. Journal of Clinical Nursing, 10(3): 29–31.

[3] Zheng X, Tian X, Wang Z, et al., 2024, Review on the Application of King's Theory of Goal Attainment in Home Care of Chronic Diseases. Chinese Journal of Nursing, 31(5): 56–60.

[4] Shen Y, Zhang J, 2023, Application of Health Education Based on Teach-Back Method in Improving the Correct Eye Drops of Hospitalized Patients in Ophthalmology Department. Dietary Health Care, (46): 161–164.

[5] Wang SY, 2021, Application of Video Combined with Feedback Method in Ophthalmic Patients with Eye Drops. Practical Techniques for Prevention of Blindness, 16(4): 174–176, 179.

[6] Chen H, Wen P, Zheng S, 2021, Effects of Acupuncture Combined with Teach-Back Method Health Education on Intraocular Pressure Level and Compliance Behavior in Patients with Glaucoma. Journal of Changchun University of Traditional Chinese Medicine, 37(1): 189–192.

[7] Wan M, Ai Y, Zheng X, 2024, Application of Video Education Combined in Mohs Surgery for Patients with Non-Melanomatous Skin Cancer. Journal of Clinical Nursing, 23(4): 27–30.

[8] Lampert A, Bruckner T, Haefeli WE, et al., 2019, Improving Eye-Drop Administration Skills of Patients - A Multicenter Parallel-Group Cluster-Randomized Controlled Trial. PLoS One, 14(2): e0212007.

[9] Fang L, Cao Q, 2012, Application Effect of Self-Made Eye Drops in Hospitalized Patients in Ophthalmology Department. Chinese Rural Medicine, 29(8): 33.

[10] Tan X, Chen H, Jie G, et al., 2023, Effect of Assisting Patients to Collect and Orderly Use Eye Drops Medicine Box.

Evidence-Based Nursing, 9(7): 1273–1275.

[11] Liang X, Qiu Y, Zhou X, et al., 2023, Application of Quality Control Circle Activities in Improving the Correct Rate of Self-Dropping Eye Drops in Patients Undergoing Ophthalmic Day Surgery. Health Must Read, (14): 266–267.

[12] Liang D, 2019, Application of Quality Control Circle Activities in the Management of Correct Rate of Eye Drops. Electronic Journal of Practical Clinical Nursing, 4(16): 173.

[13] Lee TE, Cho Y, Yoo HH, 2024, The Effects of Self-Video Feedback on the Eyedrop Instillation Techniques of Glaucoma Patients: A Prospective Randomized Controlled Trial. Int Ophthalmol, 44(1): 7.

[14] Hu M, Jiang T, Zou P, et al., 2023, Effect of Teach-Back Method Combined with Follow-Up Nursing on Medication Compliance of Glucocorticoid in Patients with Uveitis. Chin J Modern Nursing, 29(19): 2611–2615.

[15] Cen A, Huang L, Wu W, et al., 2021, The Effect of Interactive Goal Reaching Theory on Postoperative Psychological Nursing of Patients with Acute Angle-Closure Glaucoma. Chin J Ophthalmol of Traditional Chinese Medicine, 31(8): 603–607.