



# Application and effect evaluation on Acknowledge-Introduce-Duration-Explanation-Thank you (AIDET) communication mode in cataract daytime operation nursing

Kun Fu, Shuping Li, Sufen Lu

Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou 510060, China

**Contributions:** (I) Conception and design: S Lu; (II) Administrative support: S Lu; (III) Provision of study materials or patients: K Fu; (IV) Collection and assembly of data: K Fu; (V) Data analysis and interpretation: S Li; (VI) Manuscript writing: All authors; (VII) Final approval of manuscript: All authors.

**Correspondence to:** Sufen Lu. Zhongshan Ophthalmic Center, Sun Yat-sen University, 54 Xianlie Road, Guangzhou 510060, China. Email: wshlsf@126.com.

**Background:** To explore the application effect of Acknowledge-Introduce-Duration-Explanation-Thank you (AIDET) communication mode in reducing anxiety and improving the care services satisfaction of the patients.

**Methods:** The 100 cases undergoing cataract daytime operation from February to July 2019 were divided into test group and control group. The test group conducted health education and nursing care for patients during admission, pre-operation, post-operation, and discharge according to the AIDET communication mode. And the control group was given health education and nursing care to the patients according to the traditional way of communication.

**Results:** The difference of the socioeconomic information between these two groups showed no statistical significance. The care services satisfaction score in the test group was statistically higher than that in the control group ( $P < 0.05$ ). The Self-Rating Anxiety Scale (SAS) score in the test group was significantly lower than that in the control group ( $P < 0.01$ ). This result indicated that the patients suffered less anxiety with the AIDET mode of communication.

**Conclusions:** The application of AIDET communication mode to the nursing service of cataract daytime operation can reduce the tension and anxiety of the patients from the treatment and improve their satisfaction to care services.

**Keywords:** Acknowledge-Introduce-Duration-Explanation-Thank you communication mode (AIDET communication mode); cataract; daytime operation; nursing; effect evaluation

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## Introduction

The mode of daytime operation has been proposed firstly by the pediatric surgeon Nichol in 1909. The International Association for Ambulatory Surgery (IAAS) defined the Ambulatory Surgery or Day Surgery as a surgery with admission, operation, and discharge of patients within 1 day (excluded the outpatient operation at the clinic or in the hospital) (1) (<http://www.iaas-med.com>).

Compared with the mode of traditional hospitalization,

the mode of daytime operation has the characteristics of fast pace of work, the short in-hospital stay, and little time to communication with each other (2,3). However, this new mode has been reported that it is more likely for the patients undergoing daytime operation to face the prominent psychological stress response and anxiety, which will affect the recovery of the disease (4,5).

On the other hand, the number of senior citizens has been ascending in the recent years, and cataract, which is

the most common ocular disease of the old, is the main cause of blind in the middle aged and elderly people (6). Surgery, the most effective therapy, may make patients nervous, terrified, and dysphoric, because of the dark environment, the surgical stimulation, and the postoperative complications. Furthermore, the poor adaptive capacity and psychological endurance of the aged may affect the effect of the treatment and prognosis (7-11).

In addition, more and more medical dispute was increased, because the length of stay (LOS) of inpatients and the time of communication between medical staff and patients were shortening in the daytime operation. The 37.7% of the complaints were related to the inappropriate behavior, and 11.5% of the complaints were concerned with the poor communication (12). Communication skills training can help reduce the number of complaints. Under such circumstances, medical staff should establish a better relationship with the patients, be fulfilled with the principle of people oriented, cooperate and trust each other.

Therefore, the model of communication called Acknowledge-Introduce-Duration-Explanation-Thank you (AIDET), which is a patient-centered communication tool, has been published by Studer Group of USA in 2006 (13). This mode of communication was performed to lots of medical institutions in the United States, and it was benefit to obtain better achievements by third-party survey. AIDET is a common communication model in American medical institutions, and it is the first letter of the five key words which make up the communication framework: A for Acknowledge, I for Introduce, D for Duration, E for Explanation, and T for Thank you (13). AIDET includes the progress and standard phrases of communication in all respects that it can contribute to improve the experiment of the patients (*Table 1*) (14). In the previous studies, the AIDET communication mode has reduced the anxiety of patients and improved their satisfaction during the clinical nursing work (13). In order to improve the patients' satisfaction of all kinds of medical treatment, some of the medical institutions have trained the medical staff with the AIDET communication mode, which can improve the nursing care for patients and their family members (15,16). In addition, the AIDET communication mode has been applied in the maternal care, as well as in the laparoscopic surgery (17,18). Preoperative education and postoperative rehabilitation were combined to relieve the maternal anxiety in the maternal care (17). In the laparoscopic surgery, preoperative was used to increase the experiment of patients for improving the effect of treatment (19). On the other

hand, the AIDET communication mode can enhance the initiative of nurses during the multiple complex work based on the research by Edwardson N (17). In china, the AIDET communication mode has been applied. Yue Zhang used the AIDET communication mode in the patients with liver transplantation to adjust the depressive state for conductive to the operation of live transplantation (20). Xiaojing Wang also applied the AIDET communication mode to the patients with hysteromyoma, and he found that the patients' satisfaction of psychological nursing was significantly higher in the test group with the AIDET communication mode compared with the control group (21). Furthermore, the applications of AIDET communication mode also included alleviating the negative emotions of the elderly parturient, improving the outcome of labor, enhancing the communication effect between nurses and patients during the maintenance of peripherally inserted central catheter (PICC) catheter, and reducing related complications (22,23).

In this study, we applied AIDET communication mode to the nursing service in the daytime operation of cataract, and evaluated its effect.

## Methods

### *Clinical data*

The 100 cases of cataract undergoing daytime operation from Zhongshan Ophthalmic Center from February to July 2019 were divided into test group and control group. Due to simultaneous operations or patients in the same ward was tended to confuse the information of the two groups, all of the 100 cases were grouped according to the order of admission, and each group had 50 cases which were accorded with the inclusion and exclusion criteria. The 50 cases hospitalized in the earlier time were classified as the test group, while other 50 cases admitted to hospital later were grouped as the control group. The test group in accordance with the AIDET communication mode was performed on admission, pre-operation and post-operation (see *Table 1*). The control group was given health education and nursing according to the traditional way of communication. Written informed consent was obtained from the donor prior to the study. There were 29 cases of male and 21 cases of female with an average age of ( $63.52 \pm 3.78$ ) years in the test group. In the control group, there were 21 cases of male and 29 cases of female with an average age of ( $60.43 \pm 3.60$ ) years. There was no statistically significant difference in the basic conditions such as

**Table 1** AIDET mode of communication in the cataract undergoing daytime operation

Time	Communication model	Detail process	Measures
Admission to communicate	A-Acknowledge	Prepare environment	Adjust the temperature, light, sound, and odour of the ward
		Greet proactive	Keep smile, greet the patient with titles, make constant eye contact, and enquiry the needs of patients and their families
		Check information	Check the name, gender, age, and admission number (AD) of the patients
	I-Introduce	Introduce the name	"Hello, I am the nurse in charge of your hospitalization. My family name is X."
		Introduce the title position	"My title position is X, and I have been working for X years. I am familiar with cataract surgery procedures and cooperation. In addition, I have rich experience. Please trust me that I will do my best to provide you with quality nursing services."
		Introduce the medical team	Introduce to the patients and their families the names, the title positions, the professional titles, and the specialties of other medical staff who may provide medical services for them, in order to let patients understand the medical team, and build up the relationship of each other
Preoperative communication	D-Duration	Patient assessment	Acquaint with the current pathogenetic condition, physical condition, past medical history, allergy history, family history, and whether completed of systemic and specialized examinations of the patients
		Preoperative preparation	Change the patient clothes, trim the nails, tie up the hair of the patient with long hair, prepare the skin around the eye, ensure the time of fasting and drinking for the patient under general anesthesia, and dilate the pupil for the patient according to the requirements before surgery
	E-Explanation	Interpretation of the surgery	Describe the process of the surgery, the time arrangement, and inform the patient how to cooperate with the doctor to complete the operation successfully
		Explain the process of operation	Inform the patient about which will be performed such as the procedures, precautions, possible discomfort, and coping strategies for the medical care
		Explain the education of health	Explain the detail about all kinds of situations before and after surgery, the causes and preventive measures of various complications, and the importance about the return visit
Postoperative communication	T-Thank you	Answer questions patiently	Resolve the question came up with the patients and their families patiently and minutely; reduce the patients' worry and anxiety from the unknown things; remove the nervous and fear of the patients and their families; induct the patient to cooperate; improve the patients' adherence
		Thank you for cooperation	Thank the patients for their cooperation during the treatment process; thank the patients for choosing the hospital for medical treatment; thank the patients for affirming the medical service, medical quality, and service attitude in our hospital

education level, living environment, income, medical expenses, and anamnesis between the two groups ( $P>0.05$ ), showing comparability for two groups.

### Criteria

Inclusion criteria: (I) cataract patients undergoing daytime operation; (II) patients with clear consciousness, and without serious basic disease; (III) voluntary cooperation from patients. Exclusion criteria: (I) personal or family history of mental disorders; (II) patients with non-initial admission to hospital; (III) patients not able to cooperate or unwilling to participate.

### Nursing satisfaction questionnaire

The nursing satisfaction questionnaire (*Table S1*), which was designed by Zhongshan Ophthalmic Center, was used in this study. The content included these following six items: (I) your satisfaction with nurses' responsibility; (II) your satisfaction with the nurses' service attitude; (III) satisfaction with nurses' psychological nursing; (IV) your satisfaction with the nurses' health education; (V) your satisfaction with the nurses' communicational skills; (VI) your satisfaction with nurses' communication effect. Each item was scored on a five-point scale: 1–5 points indicate very unsatisfied, unsatisfied, common, satisfied and very satisfied respectively. The total score was 6–30 points. The higher the score, the higher the patients' satisfactions with the nursing care.

### Self-Rating Anxiety Scale (SAS)

SAS, which was established by professor Zung, was used in this study (24) (*Table S2*). It includes 20 items, and each item was graded in 4 classes: 1–4 points mean none or occasionally, sometimes, often, and always respectively; except the item of 5, 9, 13, 17, 19, which were scored reversely. All the 20 items were summed up, and a rough score was received. Then the standard score was obtained by multiplying the rough score by 1.25 and taking the integer part. Based on the Chinese norm results, the standard score was divided into 50 points: 50–59 points were defined as mild anxiety, 60–69 points as moderate anxiety, and above 70 as severe anxiety (24).

### Statistic analysis

The SPSS 19.0 software was used in this study for all of

data analysis. The measurement data of normal distribution was showed by ( $\bar{x}\pm s$ ), and  $t$ -test was used for inter-group comparison. The enumeration data was expressed by frequency and percentage, and chi-square test was used to compare the difference between two groups.  $P<0.05$  was considered as statistical significance.

## Results

### Comparison between two groups about the socioeconomic information

To avoid the different basic information of patients, which may affect the results of the comparison between two groups, we firstly compared the age, gender, educational level, medical care, living environment, anamnesis, and so on between the test group and the control group. There were 29 cases of male and 21 cases of female with an average age of ( $63.52\pm 3.78$ ) years in the test group. In the control group, there were 21 cases of male and 29 cases of female with an average age of ( $60.43\pm 3.60$ ) years. There were 32 cases in the test group with the education of junior high school and below, and 18 cases with senior high school and above, as similar as that 25 cases in the control group with junior high school and below, and 25 cases with senior high school and above ( $P=0.157$ ). The medical care, including health insurance and self-paying, was also without statistic difference between the test group ( $n=38$  and  $n=12$ , respectively) and the control group ( $n=42$  and  $n=7$ , respectively) ( $P=0.308$ ). In addition, the difference between these two groups of living environment and anamnesis also showed no statistical significance (see *Tables 2, 3*).

### Comparison between two groups about the nursing satisfaction

In order to solve whether cataract patients were satisfied with the nursing service in different communicational mode, our hospital designed the nursing satisfaction questionnaire. The nursing satisfaction questionnaire was divided into six dimensions, including conscientiousness of nurses, service attitude of nurses, psychological nursing of nurses, health education of nurses, communication skills of nurses, communication effect of nurses. The results showed that the scores of these six dimensions of the nursing satisfaction in the test group were higher than that in the control group (see *Table 4*). In addition, the highest score in the test group and control group was both 30, and the lowest score in the

**Table 2** Comparison with two groups about the socioeconomic data

Group	Gender		Educational level		Medical care		Living environment	
	Male	Female	Junior high school and below	Senior high school and above	Health insurance	At his/her own expense	City	Countryside
The test group	29	21	32	18	38	12	40	9
The control group	21	29	25	25	42	7	37	12
P value	0.110		0.157		0.308		0.545	

**Table 3** Comparison with two groups about the anamnesis data

Group	Anamnesis							Accompanied by family members	
	None	Hypertension	Diabetes	Cardiopathy	Nephropathy	Gastropathy	Others	Yes	No
The test group	21	20	8	1	0	0	0	48	2
The control group	23	12	6	1	2	2	4	49	1
P value	0.085							1.000	

**Table 4** Comparison with two groups about the nursing satisfaction in six dimensions (points,  $\bar{x} \pm s$ ,  $n=50$ )

Group	Conscientiousness	Service attitude	Psychological nursing	Heath education	Communication skills	Communications effect
The test group	4.78 $\pm$ 0.51	4.58 $\pm$ 0.54	4.58 $\pm$ 0.54	4.58 $\pm$ 0.61	4.70 $\pm$ 0.64	4.82 $\pm$ 0.39
The control group	4.54 $\pm$ 0.65	4.48 $\pm$ 0.61	4.42 $\pm$ 0.64	4.30 $\pm$ 0.61	4.28 $\pm$ 0.64	4.30 $\pm$ 0.65

**Table 5** Comparison with two groups about the nursing satisfaction (points,  $\bar{x} \pm s$ ,  $n=50$ )

Group	Number	The highest score	The lowest score	Mode	Nursing satisfaction score	t value	P value
The test group	50	30	24	28	28.06 $\pm$ 1.50	-3.535	0.001
The control group	50	30	18	24	26.32 $\pm$ 3.14		

test group was 24, while that in the control group was 18 (see *Table 5*). The score of nurse satisfactions in the test group (28.06 $\pm$ 1.50) was significantly higher than that in the control group (26.32 $\pm$ 3.14), showing statistically significant difference ( $P=0.001$ ) (see *Table 5*).

### Comparison between two groups about SAS

In addition, to further figure out if patients showed anxiety in the new mode, we also used the SAS to estimate the degree of anxiety. The rough score of the SAS was graded into 4 groups, including the score of <50, the score of 50–59, the score of 60–69, the score of  $\geq 70$ . The result showed that the score of 96% cases in the test group was <50, while

only 70% cases in the control group had the score of <50. And the SAS in the test group (32.53 $\pm$ 5.20) was significantly lower than the control group (42.93 $\pm$ 9.78) with the P value of 0 (see *Tables 6, 7*).

### Discussion

In this study, all of the 100 cases were divided into test group and control group according to the order of admission, and the socioeconomic information between the two groups showed no statistical difference ( $P>0.05$ ), so that it had comparability. We performed the satisfaction of nursing service and SAS to compare two modes of communication.



**Table 6** Comparison with two groups about SAS

Group	<50 score	50–59 score	60–69 score	≥70 score
The test group	48 (96%)	2 (4%)	0	0
The control group	35 (70%)	11 (22%)	4 (8%)	0

**Table 7** Comparison with two groups about anxiety scores (points,  $\bar{x} \pm s$ , n=50)

Group	Number	Anxiety scores	t value	P value
The test group	50	32.53±5.20	6.639	0
The control group	50	42.93±9.78		

The nursing satisfaction questionnaire was divided into six dimensions in this study. These results showed that the score was significantly higher in the test group than that in the control group, suggesting that the AIDET communication mode significantly improved the patients' satisfaction of nurses' responsibility, psychological nursing, and the effect of communication. In the previous study, the inadequate communication skills of nurses could not only affect the communication with patients, but also the satisfaction of patients (25). Therefore, the medical institutions should improve the quality and communicational skills of nurses (26). The mode of AIDET has eliminated strange sense of patients to the medical environment and staff. In addition, the AIDET mode also increased the patients' trust to the medical team, and made the patients feel the sincerity and the difficult of the doctors and nurses (27,28). Furthermore, it is helpful for establishing the good relationship of doctor-patient and nurse-patient, and reducing the incidence of dispute between medical staff and patients by friendly greeting, professional introduction, patiently explanation, and heartfelt thanks (21,28).

Cataract is the main cause of blindness and visual impairment in the world. The most effective method for treatment of cataract should be surgery (27). Compared with other researches, the AIDET communication mode in this study was used in daytime operation with cataract, showing the characteristics including short operation time, huge number of surgical patients, mainly of senior citizens, broader age spectrum, and higher expectation of surgery effect. Because of these characteristics in the cataract daytime operation, patients undergoing cataract are more prone to anxiety, and the doctor-patient conflicts are more likely to be developed (27). In this study, the

nurse explained to the patients of test group the process of surgery, how to cooperate with the doctor during the operation, and the purpose of each operation, as much detailed as possible. The results of SAS between these two groups showed that the mode of AIDET reduced the anxiety of patients, suggesting that the mode of AIDET had improved the patients' mastery degree of the cataract-related knowledge, reduced the patients' anxiety caused by the uncertainty of the surgery, made the patients adjust the negative emotion by themselves, and hold an active and optimistic attitude towards the operation. The patients treated with the mode of AIDET were assured to accept surgical treatment, and cooperated with the nurses to complete the nursing work before and after operation, thereby establishing a healthy model conducive to the recovery of the disease (29). In the study of patients with liver cancer, the AIDET communication mode could reduce preoperative psychological disorders and stabilize patients' emotions because of the standardized language and flexible propaganda and education (30). As similar as other researches, the AIDET communication mode in this study, which was appropriate for surgery or treatment, was applied to the medical work for alleviating the anxiety of patients and improving patients' compliance.

Therefore, the AIDET communication mode in the cataract daytime operation in this study, which is applied for the post-operation of patients, can reduce the patients' anxiety, improve their satisfaction to nursing service, and promote the good relationship of nursing-patient, and can provide the basis for other clinical work.

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## Footnote

*Conflicts of Interest:* All authors have completed the ICMJE uniform disclosure form (available at <http://dx.doi.org/10.21037/aes.2020.03.01>). The authors have no conflicts of interest to declare.

*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013). Institutional ethical approval was waived. Written informed consent was obtained from all patients.

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**Table S1** Nursing satisfaction questionnaire

Items	Very satisfied	Satisfied	Common	dissatisfied	Very dissatisfied
Score	5	4	3	2	1
1. The degree of your satisfaction with the nurse's responsibility					
2. The degree of your satisfaction with the nurse's service attitude					
3. The degree of your satisfaction with the psychological nursing					
4. The degree of your satisfaction with the nurse's health education					
5. The degree of your satisfaction with the nurse's communicational skills					
6. The degree of your satisfaction with the effect of communication of the nurse					

**Table S2** Self-Rating Anxiety Scale (SAS)

Items	A little of the time	Some of the time	A good part of the time	Most of the time
1. I feel more nervous and anxious than usual (anxiety)	1	2	3	4
2. I feel scared for no reasons (scared)	1	2	3	4
3. I tend to be upset or panic (panic)	1	2	3	4
4. I think I may be out of my mind (crazy)	1	2	3	4
5. I feel all things are fine and nothing bad will happen (palpitate infeliz)	4	3	2	1
6. My arms and legs shake and tremble (arms and legs trembled)	1	2	3	4
7. I am anguished from headache, cervicodynia and backache (body pain)	1	2	3	4
8. I feel tired and weak easily (tired)	1	2	3	4
9. I feel calm and can sit still easily (akathisia)	4	3	2	1
10. I feel my heart beat fast (palpitation)	1	2	3	4
11. I am troubled by bouts of dizziness (vertigo)	1	2	3	4
12. I am likely to faint attack or feel like it (syncope)	1	2	3	4
13. I can breathe in and out easily (dyspnea)	4	3	2	1
14. I have numbness and tingling in my hands and feet (tingling in hands and feet)	1	2	3	4
15. I am suffering from stomachache and dyspepsia (stomachache or dyspepsia)	1	2	3	4
16. I usually have to urinate (frequent micturition)	1	2	3	4
17. My hands are always dry and warm (hyperhidrosis)	4	3	2	1
18. My face often gets hot and blushes (facial hot flashes)	1	2	3	4
19. I fall asleep easily and have a good night sleep (dyssomnia)	4	3	2	1
20. I have nightmares (nightmares)	1	2	3	4

Results: There were two methods to change the total score into the rough score. Here was the first method: the main statistic index of SAS was the total score. At the end of the self-assessment, a rough score was received by summing up all of the 20 items, and then the standard score was obtained by multiplying the rough score by 1.25 and taking the integer part. The item of 5, 9, 13, 17, 19 were scored reversely. The other method was to use the rough score standard conversion table to transform the total score into rough score.