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## Application of king's theory on nursing care outcome among diabetic clients: Report of pilot study

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### Abstract

A dramatic increase in the incidence of Diabetes Mellitus all over the globe has been demonstrated in the past few decades <sup>[1]</sup>. Management of diabetes and its complications in India is a huge challenge <sup>[2, 3]</sup>. Purpose of this study was to investigate the effect of care provided to diabetic clients using King's Theory. An integrated approach was utilized to identify health condition of the diabetic clients. Personal liaison with the client was developed as they came for OPD checkup. After obtaining written consent they were assessed for their status of diabetes. Thereafter regular follow up was ensured for next 6 months by making frequent telephone calls and insisting them to come for regular checkup and their diabetic status was assessed at 3<sup>rd</sup> and 6<sup>th</sup> month. Only descriptive analysis was done. Owing to very small sample size, no conclusion was drawn.

**Keywords:** Diabetic clients, diabetic status, diabetic care, King's theory

### Introduction

Diabetes mellitus is a chronic and non-communicable disease with multi-organ involvement. Diabetes mellitus is the global epidemic of 21<sup>st</sup> century <sup>[1, 4, 7]</sup>. India leads the world with 72 million diabetics <sup>[5]</sup>. The incidence is also in the rise among younger generations <sup>[2, 3]</sup>. Epidemiology of diabetes related complications are on the rise including infections, kidney failure, stroke, myocardial infarction etc. Burden of diabetes Mellitus affects the family and leaves a huge impact on the country's economy. Follow up and treatment of diabetic client is complex and needs cooperation of both the client as well as health professionals in order to achieve optimal control <sup>[3, 4]</sup>.

Nurses play a vital role in managing diabetes by screening, maintaining and supporting people through promotion of self-care management as these patients are expected to learn and practice informations associated with diabetes. In fact, they need an integrated approach to prevent or delay the complications related to diabetes mellitus <sup>[1]</sup>. Incorporating nursing theories into practice will create a difference in nursing care delivery process. Cally S (2003) states that, nursing theories help the client and other health care professionals to understand and recognize the unique contribution nurses make to the health care services <sup>[6]</sup>. Imogene King is one of the premiere nurse theorists who proposed the theory of Goal attainment and the same has been applied in this study.

This Pilot study was a trial run done in preparation of the actual study. It is the first step in identification of practicability in application of King's theory. The pilot study was conducted to test the feasibility, acceptability and estimate the retention rate of the client before conducting the final study.

### Material and Methods

Fourteen diabetic clients, chosen from two different multi-specialty hospitals through purposive sampling technique were considered for the pilot study. These Patients were attending the regular diabetic follow up clinic in the selected multispecialty hospitals. Seven of these diabetic clients were assessed and cared using Imogene King's theory and rest seven were included in the control group. These clients were on regular OPD visit and 5 of them were admitted in the hospital. First assessment of diabetic status of these clients were done during the initial interaction phase and were followed up for 6 months. During this phase researcher remained in contact with the client constantly through regular telephonic calls, made frequent home visits and monitored the client's health status, provided direct nursing

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care whenever needed, guided them and provided counseling on various health related issues. Diabetic status was assessed at the end of 3<sup>rd</sup> and 6<sup>th</sup> month after the initial assessment using diabetic status assessment tool. The tool used for data collection consisted of three sections: Section I: Demographic Performa; Section II: Assessment of diabetic status of the client using Records and Observation checklist; Section III: Self-reported Likert scale for assessment of diabetic care.

### Findings

The analysis done was mainly descriptive. A total of 14 diabetic clients were included in the study with a mean age 54.8 years (Range 33 to 75) with 11 (78.57%) clients more than 50 years age. There were 9(64.3%) males and 5 (35.7%) females, majority (12, 85.71%) were Hindu, only 1 (7.14%) was Buddhist and 1 (7.14%) was Jain; 11(78.57%) were married and 3 (21.43%) were widows; regarding their educational background 7(50%) have received education upto secondary, 2(14.3%) till higher secondary and only 3(21.43%) were graduates. There were equal distribution of diabetic clients in terms of type of diabetes 7 (50%) in each group. Out

of the total 14 clients, 3(21.43%) had hypertension, 2 (14.3%) heart disease and 1(7.14%) had foot ulcer; rest of the participants did not report to have any associated problems of diabetes.

**Table 1:** pre-experimental diabetic status of clients (n=7, 7)

Clinical parameters	Control group		Experimental group	
	Mean	SD	Mean	SD
Fasting Blood Sugar (mg%)	187.4	34.6	191	37.5
HbA1C	7.2	0.5	7.5	1.1
Hemoglobin (gm%)	12.6	1.2	11.2	1.7
BMI	26	1.9	25	3.0
Systolic Blood pressure	136.6	10.2	142.3	14.0
Diastolic Blood pressure	84.9	9.5	90.9	7.2
Serum Urea	26.4	5.9	25.3	5.3
Serum Creatinine	0.9	0.2	1.0	0.1

Table 1 illustrates comparison of mean score of control and experimental group before giving care using King's theory. Above table describes that, clinical parameters of diabetic clients in both group had almost similar characteristics.

**Table 2:** pre-experimental mean diabetic care score (n=7, 7)

	Areas of Self care	Control Group		Experimental Group	
		Mean	SD	Mean	SD
1	Conformity with diabetic diet	25.9	2.5	26.6	3.7
2	Managing own blood sugar	8.0	0.0	08.0	1.7
3	Compliance with insulin	15.0	4.2	16.0	8.7
4	Consistency towards medication intake	08.4	4.2	09.3	5.0
5	exercise	03.7	3.2	05.7	2.5
6	Foot care	08.1	3.3	09.0	4.1
7	Eye care	03.9	1.2	04.0	1.2
8	Habits	8.57	1.6	07.9	2.1
9	Identification of complications	51.1	10.2	49.0	11.0
10	Support from family	04.1	1.1	03.9	1.7
11	Follow up	03.1	1.7	03.9	1.5
12	Interference in personal life	07.7	2.0	07.9	2.9

Table 2 shows comparison of mean score of diabetic care in control and experimental group before giving care using King's theory. When the diabetic care score is compared it

was found that, clients in both the group had more or less similar scores in all the areas of diabetic care. Thus the data is said to be homogeneous.

**Table 3:** post experimental diabetic status of clients (n=7, 7)

Clinical parameters	Post implementation observation 1				Post implementation observation 2			
	Control group		Experimental group		Control group		Experimental group	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Fasting Blood Sugar (mg%)	180.6	35.3	156.6	26.6	165.4	14.6	140.1	26.1
HbA1C	7.1	0.5	7.3	0.8	7.0	0.4	7.4	0.8
Hemoglobin (gm%)	12.3	1.1	11.4	1.2	12.4	0.8	11.5	1.0
BMI	26.2	1.5	24.1	1.2	25.3	1.3	23.6	1.2
Systolic Blood pressure	136.6	12.5	133.1	9.3	134.9	12.1	131.4	5.1
Diastolic Blood pressure	86.6	6.9	82.9	9.5	83.1	8.2	81.4	6.7
Serum Urea	23.9	4.6	24.4	5.9	25.4	4.7	23.3	3.6
Serum Creatinine	1.0	0.06	0.95	0.1	1.0	0.04	0.95	0.1

Table 3 describes that, little or almost no change has been observed in the mean score of all parameters except in case of

blood sugar even after giving care for six months. Since the sample size is very small no conclusion could be drawn.

**Table 4:** Mean score after implementation of King's theory (n=7, 7)

Care areas		Post-implementation observation 1				Post-implementation observation 2			
		Control Group		Experimental Group		Control Group		Experimental Group	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	Conformity with diabetic diet:	25.4	2.4	28	1.0	24.1	3.1	24.9	3.7
2	Managing own blood sugar	7.6	1.7	7.3	1.3	6.6	1.1	7.1	1.5
3	Compliance with insulin	11.3	8.3	8.1	8.3	16	0.0	17.8	9.6
4	Sincerity in medication intake	8.8	4.7	6.0	3.3	6.8	4.0	7.7	4.3
5	Exercise	3.6	1.8	3.0	1.7	3.3	1.6	3.6	1.7
6	Foot care	8.6	1.6	9.1	2.1	7.9	0.9	9.1	2.7
7	Conformity towards eye care	3.9	1.2	3.6	1.2	4.4	0.5	4.1	1.5
8	Habits	6.9	2.9	8.9	1.4	8.9	1.3	9.6	0.5
9	Identification of complications	46.1	18.3	54	4.5	56.3	1.5	54	5.8
10	Support from family	4.0	1.4	3.9	1.1	4.0	0.6	4.4	0.5
11	Compliance with follow up	3.3	0.95	2.4	1.3	3.1	1.1	3.7	1.0
12	Effect on personal life	6.1	2.3	7.1	2.3	6.3	1.3	6.9	2.5

A definitive and inferential relationship between variables could not be determined because of the small sample size.

## Conclusion

The ultimate aim of conducting the pilot study was to assess any advance warning where the main research project might fail. Further it is also done to recognize any practical problem of the research procedure. Moreover, it also gave the indication whether proposed methods or the research instruments are unsuitable or too complicated to collect data of the diabetic clients.

The findings of assessments were compiled and established that, it is feasible to conduct the study. The pilot study also helped the researcher to identify ambiguous items in the tool. Additionally, it assisted the researcher in securing cooperation of key persons (Staff nurse, resident doctors and hospital staff) to eliminate barriers to success. Inferential statistics was not implemented as the sample size was very small.

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