Self Management for Patients with Percutaneous Nephrostomy Tube

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Abstract

Objectives: *The study aims to assess the patient's knowledge about self management for patients with percutaneous nephrostomy tube and find out the relationship between self management and some demographic variables such as (age, gender, level of education).*

Methodology: *A descriptive analytical study was conducted on self management for patients with nephrostomy . The study was conducted at (Medical City/ Baghdad Teaching Hospital; Al-Karama Teaching Hospital, Al-Kindi Teaching Hospital, the study started from 6th Fep.2016 up to 27th May2016, in order to attained the goals of the study, a non-probability (purposive) sample of (100) patients with nephrostomy tube in the hospitals mentioned above. Researcher collected data by interview with these patients . validity of Instrument was determined by the use of panel of experts (13) experts.*

Questionnaire Reliability *was determined by using of Pearson correlation coefficient for the test-retest approach, which was (0.83). Data analysis was performed through the application of descriptive statistics (frequency, percentage, and mean of score) and inferential statistics (correlation coefficient and One-way analysis of variance).*

Results: *The results of the study demonstrate that the mean of scores level related to self management home care was low in the majority of items.*

Conclusion: *The study concluded that the study sample don't have enough knowledge for management of nephrostomy tube.*

Recommendations*: The study recommend that the patients must be give educational instructions program about how to manage the nephrostomy tube after discharge from hospital.*

Keywords: *Nephrostomy, Tube, management*

I. Introduction

The blockage of urinary flow is an ordinary situation and may be result from tumor, congenital deformities or nephrolithiasis (1,2). The obstruction lead to hydronephrosis and patients require directly management to decrease the possibility of permanent renal damage (1,2,3). frequently persons are treated with a percutaneous nephrostomy until the severe attack of impediment or obstruction of the upper urinary tract is managed correctly. A percutaneous nephrostomy is a harmless urinary diversion procedure, and it offers urine flow effectively (1,4) **.** The method of percutaneous nephrostomy was primary qualified in 1974, and from that time the occurrence evarage has become progressively more widespread (5,2,3). The procedure of nephrostomy is predominatingly a acute intervention and patients are as mentioned by national strategy go to high specialized urology departments for instantly management (**6).** Usage of catheter for long time requires a regular changing of nephrostomy tube, it is important to avoid possible unpleasant effects such as infection, urinary tract obstruction, and calculi development. Commonly ,changing the tube was carry out according to the direction of fluoroscopic picture, and with the use of ultrasonography or computed tomography (CT) is likewise helpful for determination the place of a nephrostomy tube inside the renal pelvis (7). The process of insertion nephrostomy tube and complications associated with are not sufficiently qualified in the studies and the facts of recommendations is low. However, the patients are often having problems such as infections, failure function and dressing complications. actually knowledge from medical observation is an increasing incidence of patients having problems related to their nephrostomy catheter(4,8).

II. Method

The study aims to assess the patient's knowledge about self management for patients with nephrostomy and find out the relationship between self management and some demographic variables such as (age, gender, level of education). An analytic a descriptive study was carried out on self management for patients with

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nephrostomy .The study was conducted at (Baghdad Teaching Hospital; Al-Karama Teaching Hospital, Al-Kindi Teaching Hospital), a non-probability (purposive) sample of (100) patients with nephrostomy tube in the hospitals mentioned above according to the following criteria:-
1. Adults' with nephrostomy tube .
2. Adults with different age ≥ 18.
The researcher constructed the questionnaire after extensive review of related literature, studies, and was used as mean of data collection. It was comprised of two major parts.

Part I: Demographic characteristics
The first part of questionnaire related to determination of the demographic characteristics through designated sheet which include four items (age, gender, educational level, occupational status, marital status)
Part II: This part is concerned with the information related to management of nephrostomy tube that consist from (29) items. The items were ordinal according to the two level scale which were scored as (No = 1, and Yes= 2) for each level respectively so the cutoff point was (2).

Validity of the instrument
Content validity was determined through the use of panel of experts.
Reliability of the instrument
Pilot study was carried out between the 1st to 31st of jun. 2016. On (10) patient with nephrostomy tube in the hospitals by the researcher who used test - retest;" twice within two weeks" person correlation coefficient was computed for each determination. The results indicated that the correlation coefficient was r = 0.83 at the level (P ≤ 0.01) which was statistically acceptable.
Data collection
The data were collected by interview with patients with nephrostomy tube for the period from 6th Fep.2016 up to 27th April2016
Statistical data analysis
Appropriate statistical approach is used that includes descriptive statistics (frequency, percentage, mean of score) and (correlation coefficient and One-way analysis of variance).

Results
Part one: Demographic characteristics

Table(1). Sample distribution by their demographic characteristics

NO.	Variables		
1-	Age	F	%
1.1	20-29	12	12
1.2	30-39	17	17
1.3	40-49	48	48
1.4	50-59	23	23
	Total	100	100
2-	Gender	F	%
2.1	Male	77	77
2.2	Female	23	23
	Total	100	100
3-	Level of education	F	%
3.1	Illiterate	5	5
3.2	Able to read and write	36	36
3.3	Primary School graduate	21	21
3.4	Intermediate School graduate	19	19
3.5	High School graduate	10	10
3.6	Institute and College graduate	9	9
	Total	100	100
4-	Occupation	F	%
4.1	Work	61	61
4.2	Not work	39	39
4-	Marital status	f	%
4.1	Single	22	22
4.2	Married	64	64
4.3	Divorce	--------	-----------
4.4	Speared	5	5
4.5	Widow	9	9
	Total	100	100

F=frequency, %= percentage

Table (1) reveals that the majority of the study sample(48%) were at (40-49) old. (77%) of gender were male, ((36%) were able to read and write, (61%) were work. Concerning marital status (64%) were married.

Part two : Management of the nephrostomy tube

Table1: Managing the stoma

No.	Items	Yes		No		M.S.	Level
		F	%	F	%		
1	the site should be gently clean and change the dressing once a day	57	57%	43	43%	1.57	M
2-	Wash hands. If another person is helping you, then he or she must wear gloves and Remove the old dressing	38	38%	62	62	1.38	L
3-	Apply hydrogen peroxide with a cotton swab to the skin around the stoma and dry the area gently	17	17%	83	83%	1.17	L
4-	Apply a new dressing Cover the site with sterile gauze and Secure the tube with tape.	47	47%	53	53%	1.53	L
5-	During the first 2 weeks after the nephrostomy is inserted, protect the site	31	31%	69	69%	1.31	L
6-	Do not take a tub bath while you have a nephrostomy.	44	44%	56	56%	1.44	L

F=frequency, %= percentage, MS= Mean of Score, L –Low, M=-Moderate, H=High

Table (1) indicate that the level of mean of score was in item (1), while it was low in other items.

Table2: Changing and flushing the nephrostomy tube

Noo	Items	Yes		No		M.S	Levelelel
		F	%	F	%		
1-	You must be flush the tube every day	46	46%	54	54	1.46	L
2-	Wash your hands and wear gloves	55	55%	45	45 %	1.55	M
3-	Clean the flushing port on the stopcock with alcohol.	13	13%	87	87 %	1.13	L
4-	Position the stopcock so that nothing can flow into the bag	52	52%	48	48 %	1.52	M
5-	Draw 5 cc of sterile saline into the syringe.	29	29%	71	71 %	1.29	L
6-	Position the stopcock so that urine flows from the tube into the bag	62	62%	38	38 %	1.62	M

F=frequency, %= percentage, MS= Mean of Score, L –Low, M=-Moderate, H=High

Table (2) demonstrate that the level of mean of score was moderate in items(1, 3, 5) and low in other items.

Table3: Urine drainage bags Managing

No.	Items	Yes		No		M.S	level
		F	%	F	%		
1-	The drainage bag must be positioned to hang below the kidney, so that gravity allows the urine to collect in the bag	37	37%	63	63%	1.37	L
2-	Empty the urine bag when it becomes 2/3 full.	68	68%	32	32%	1.68	M
3-	Wash your hands and stand or sit near a toilet	57	57%	43	43%	1.57	M
4-	Hang the bag over a measuring container.	30	30%	70	70%	1.30	L
5-	Keep track of the amount of urine you pass every day.	44	44%	56	56%	1.44	L
6-	Open the clamp on the bottom of the bag to drain the urine.	58	58%	42	42%	1.58	M
7-	Drain the urine form the bag into the toilet.	61	61%	39	39%	1.61	M
8-	Close the clamp and clean the end of the bag with alcohol.	35	35%	65	65%	1.35	L
9-	Dry the end of the drainage tube with tissue.	59	59%	41	41%	1.59	M

F=frequency, %= percentage, MS= Mean of Score, L –Low, M=-Moderate, H=High

Table (3) demonstrate that the level of mean of score was moderate in items(2, 3, 6,7, 9) and low in other items.

Table 4: Managing and Changing the drainage bag

No.	Items	Yes		No		M.S	Level
		F	%	F	%		
1-	Wash your hands and close the stopcock	60	60%	40	40%	1.60	M
2-	Disconnect the bag from the stopcock and attach it to a clean bag and open the stopcock	39	39%	61	61%	1.39	L
3-	Fill the original bag with one-half cup (100 ml) of cleaning solution:	42	42%	58	58%	1.42	L
4-	Cleansing solution consist of 2 parts vinegar to 3 parts water, or 1 tablespoon (15 ml) of liquid chlorine bleach to one-half cup of water	33	30%	67	67%	1.33	L
5-	Changing urine bag by drain the urine from the bag into the toilet and clean the connection between the bag and the nephrostomy tube with alcohol	40	40%	60	60%	1.40	L
6-	Stop the flow of urine into the bag by closing the stopcock. Remove the bag from the stopcock. Attach the clean bag to the stopcock	35	35%	65	65%	1.35	L
7-	When you get into bed, arrange the tubing so that it does not kink or loop.	61	61%	39	39%	1.61	M

F=frequency, %= percentage, MS= Mean of Score, L –Low, M=-Moderate, H=High
Table (4) demonstrate that the level of mean of score was moderate in items(1, 8) and low in other items.

Table 5: Analysis of variance for the difference between demographic characteristics and management of nephrostomy

Demographic characteristic	Source of variance	Sum of secure	dr	Mean score	F	Sig.
Age	Between group	3.968	3	1.323	.164	.920
	Within group	306.436	38	8.064		
	Total	310.405	41			
Gender	Between group	21.460	1	21.460	2.971	.092
	Within group	288.944	40	7.224		
	Total	310.405	41			
Level of education	Between group	7.690	2	21.460	2.971	.015
	Within group	9.350	40	7.224		
	Total	17.040	42			
Marital status	Between group	19.921	2	9.960	1.337	.274
	Within group	290.484	39	7.448		
	Total	310.405	41			

df =Degree of freedom , F= F-statistics , Sig.=level of Significance
This table shows no significant differences between age, gender, marital status and management of nephrostomy. While there is a significant differences between nephrostomy management and level of education.

III.   Discussion

Through the data analysis distribution of demographic variables table (1) reports that most of the sample are (30-39) years old, this finding s are similar to those obtain from study done by Radosław Starownik,et.al. (2014) who stated that the mean of age of the study sample were (36.8) years (9). Regarding to the gender the majority of the study sample(77%) were male, this findings supported by Karaköse, et.al. (2013) who mentioned that The sample of his study were 110 patients (66 males and 44 females) (10), the study results disagree with Masaki &Shila (2015) who mentioned in his results that there was a female predominance with 70 (97%) females and 2 (3%) male patients (11). Concerning to the level of education (36%) were able to read and write , low level of education of the study sample illustrates the poor knowledge of them about management of nephrostomy. Current study indicated that the patients have not prior knowledge about managing of the stoma. Brown(2005)and Geng et al.(2009) stated that the nephrostomy stoma is recognized unlike some uro-stomas which is maintained by public healthcare and having a type of stoma, has un important effect on person daily activities and quality of life (12,13).Regarding to changing and flushing nephrostomy tube (Table 2), Allen,(2010) Siddig,(2012 recorded that when the patient need to be long term of nephrostomy (permanent nephrostomy) management, the tube must be changed by another new one every 90

days. The process of insertion and re insertion a nephrostomy tube is carried out aided by the Department of Radiology and directed by ultrasound (1,2) . Regarding the managing of urine drainage bag (Table 3), 1t is recommended, as national guidelines said, that the urine bag must be replaced one time every week. (6). If the patient is using a leg-bag during the day, he will need to connect a larger drainage bag for the night (it is important to keep the protective cap in a clean, dry place to be reapplied to night-bag after cleaning). The night-bag tubing connects at the tap of the bottom of the leg-bag. nurse will show   how to do this. As the night-bag tubing is longer, it is important to check that there aren't   any kinks in it or urine will be unable to drain (14).Table(4) indicated that there is a significant association between level of education and patient's knowledge about management of Percutaneous nephrostomy, this means that patients with high educational level have good knowledge about managing his nephrostomy tube effectively.

Conclusion: The study concluded that the study sample don't have enough knowledge for management of nephrostomy tube.

 Recommendations: The study recommend that the patients must be give educational instructions program about how to manage the nephrostomy tube after discharge from hospital.

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