

Health Needs and Self - Efficacy among Patients Post Kidney Transplantation: Outcomes of Intervention Guidelines

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Abstract

Aim: This study aimed to evaluate the outcomes of Intervention guidelines on health needs and self - efficacy among patients post kidney transplantation. **Subjects and Methods:** A quasi-experimental design was utilized in this study, that was conducted in the Kidney Transplantation Department and Outpatients` Clinics at Naser Institute and Ain Shams Specialized Hospitals. A purposive sample of (60) adult patients post kidney transplantation were taken from the above mentioned settings. The study tools were: 1) Patients' interviewing questionnaire (pre / post tests) to assess the studied patients health needs (physical, psychological, social, spiritual and educational) .2).Hamilton Anxiety Rating Scale (pre / posttests)to assess anxiety level. 3) General self-efficacy scale (pre / post tests) to predict coping with daily hassles. **Results:** More than half of the studied patients were male with secondary education and the majority of them had the age above 35 years. Pre guidelines there were a higher health needs and lower self - efficacy among them post kidney transplantation. **Conclusion:** The present study concluded that, the intervention guidelines had a positive effect on meeting the health needs (physical, social, psychological, spiritual and educational) among the studied patients post kidney transplantation. In addition , significant improvement was indicated in their self efficacy and reducing anxiety levels in post and follow – up tests .**Recommendations:** Further studies should be carried out on a large number of patients with kidney transplantation for generalization of the results.

Key words: kidney transplantation, health needs, self - efficacy, intervention guidelines.

Introduction

Over the past three decades and with rapid improvements in the field of tissue matching, organ transplantation has become a worldwide practice and has saved many of lives. Kidney transplantation was introduced as large scale replacement therapy in the 1960s, achieving significant growth in the 1980s .It involves transplanting a kidney from a living donor or human cadaver to a

recipient and represent the ideal treatment option for many patients with end-stage renal disease (ESRD) because of a better quality of life, freedom from the daily dialysis routine, removal of dietary and fluid restrictions and an improved sense of well-being (Cheungpasitporn et al., 2016& Mamarelis et al., 2014).

Kidney transplantation has become the treatment of choice for most patients with end-stage renal disease (ESRD). The most

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common diseases leading to (ESRD) include malignant hypertension, infections, diabetes mellitus and focal segmental glomerulonephritis, genetic causes, inborn errors of metabolism and auto immune conditions. Diabetes and tumors is the most common cause of kidney transplantation (**Rezaee – zavareh et al., 2015 & Smeltzer et al., 2013**). There are a number of contraindications for kidney transplantation: Hepatic insufficiency, hereditary oxalosis and contraindications for immune-suppression as infection and malignancy (**Cicerello et al., 2014**).

In Egypt first transplantation was in 1976 at Urology and Nephrology center, Mansoura University. It was a living related renal transplant. Now, using the cadaver donors as a source for renal transplant in Egypt is a remaining hope to control the pool of the patients with end stage renal failure. In Egypt, The transplant centers at Mansoura University do about 350 operations per year. At Ain Shams Specialized Hospital about 50 operations per year and at Naser Institute Hospital about 100 operations per year. There is a 10% mortality of renal transplant patients annually, and the most common cause of mortality in them is still infection (**Khatab, 2017, Hedayati et al., 2017 & Barsoum, 2013**).

Post transplant period requires close monitoring of the kidney function, early signs of rejection, adjustments of the various medications, and vigilance for the increased incidence of immunosuppression-related effects such as infections and cancer. Just as the body fights off the transplanted kidney, rejection occurs. Rejection is an expected side effect of transplantation and up to 30% of people who receive a kidney transplant will experience some degree of rejection. Most rejections occur within six months after transplantation, but can occur at any time, even years later. Prompt treatment can reverse the rejection in most cases (**Nettina, 2014 and Ignatavicus & Workman, 2013**).

The needs were defined as ‘the requirements of individuals to enable them to achieve, maintain or restore an acceptable level of social independence or quality of life. Health is defined as a “state of complete physical, mental and social wellbeing not merely absence of the disease or infirmity”. This definition indicates that it is not only the physical needs of ill patients that need to be addressed but also their psychological, social, spiritual, and environmental needs (**Kathryn & Michaelene, 2015 and Nettina, 2014**). In addition, health needs includes: Physical (medication compliance, activities of daily living, physical preparation, diet and exercises regimen). Psychological (anxiety and fear reduction, prevent complications and increase information about health condition). Social (increase social relation, work adjustment, positive coping and recreational activities). Spiritual (increase satisfaction, religious activities and motivation). Educational (diagnostic measures, diet and fluid, hygiene, follow up, infection control, self care activities and breast self examination) (**World Health Organization, 2014, Smeltzer et al., 2013 and Ashley et al., 2010**).

Self-efficacy is a psychological construct defining a person’s confidence in performing a particular behavior and overcoming barriers to that behaviour. Patients with greater self-efficacy have been shown to practice more self-management behaviours leading to better disease control, physical function and quality of life. Some studies have explored the relationship between self-efficacy and medication-taking behaviour, showing that kidney transplant recipients with higher self-efficacy adhered better to medication-taking behaviors. Moreover, greater self-efficacy may improve the outcomes through specific behaviors (**Zelle et al., 2016 & Bandura 2010**).

Significance of the study:

Renal recipients seem to be insecure regarding some of the important post-transplant aspects shortly before being discharged from the hospital. The burden of chronic disease on health care services worldwide is growing and the increased development of educational interventions which help patients to better manage their conditions is evident internationally. It has been recognized that poor health needs can be a serious risk to the health and wellbeing of patients. Intensive assessment of patients after transplantation should be done to identify the needs which help the plan to improve their condition. The nurse must provide the kidney transplant patients with the necessary knowledge of the recommended life style behaviors (Alwan & Alhusuny, 2014 and Lewis et al., 2014).

More recently, research has moved attention to the needs of the kidney transplant patients because of the seriousness of their condition which need to absorb large proportion of hospital and manpower resources. After kidney transplantation, patients live with the risk of organ rejection and infection so they need to receive treatment and clinical follow-up continually. Some experts have stated that patients need to participate more in their care and self-management. The gold standard of postsurgical care is to empower them to work with healthcare providers (Ferreira - Cassini et al . 2012, Stravodimos, et al. 2012 & Weng et al., 2010). It is necessary to identify the needs of kidney transplant patients physically, psychologically, socially and spiritually. Therefore this study will be carried out in an attempt to handle the needs for patient with kidney transplantation.

Aim of the Study:

This study aimed to evaluate the effect of Intervention guidelines on health needs and self – efficacy among patients post

kidney transplantation. This aim was achieved through the following:

-Assess health needs (physical, psychological, social spiritual and educational) for the studied patients.

- Assess self - efficacy among the studied patients.

- Develop and implement the Intervention guidelines based on patients' health needs.

- Evaluate effect of the guidelines on patients health needs and self - efficacy.

Hypothesis:

It was hypothesized that, the Intervention guidelines had a positive effect on health needs and self - efficacy among patients post kidney transplantation.

Subjects and methods:

Operational definitions:

Patient's health needs : means physical, psychological, social, spiritual and educational dimensions.

Intervention guidelines: means theoretical and practical sessions.

• **Post kidney transplantation:** from first follow up visit up to one year.

Research design:

A quasi-experimental design was utilized to conduct this study

Setting:

The present study was conducted in the Kidney Transplantation Department and Outpatients` Clinics at Naser Institute Hospital which is affiliated to Ministry of

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Health and Population and Ain Shams Specialized Hospital which is affiliated to Ain Shams University Hospitals.

Subjects:

A purposive sample of (60) adult patients from both genders post kidney transplantation from the above mentioned settings. They were selected according to the sensitive analysis in relation to the number of patients with kidney transplantation within the year 2015 in Naser Institute and Ain Shams Specialized Hospitals, according to the statistical department which affiliated to the settings with the following criteria:

Inclusion criteria:

- Patients will be taken post transplantation (from first follow up visit up to one year).
- Conscious adult patients
- Patients agree to participate in the study.
- Patients with no co-morbid conditions

Tools of data collection:

I- Patients` interviewing questionnaire sheet (pre / post / follow up tests).

It was developed and filled in by the researchers based on recent and relevant literatures in simple Arabic language to assess health needs of the patients post kidney transplantation. It consisted of:

- ❖ Characteristics of patients under the study e.g : age, sex, marital status, educational level, occupation, monthly income and residence.
- ❖ Medical records to identify past, present medical history, diagnosis, investigations and treatment for patients under the study.

❖ Patients` needs assessment sheet included:

- **Physical needs** such as (maintenance of vital signs and blood sugar level, daily monitoring of fluid intake and output, relieve side effects of the immune-suppression drugs, maintain diet regimen and exercises, prevention of infection, oral hygiene resume daily activities , compliance with prescribed drugs and keep hygienic measures, regular follow up visits, assessment of skin and breast condition).
- **Psychological needs** such as (Relieve anxiety, feeling of worthiness, family distress and fear from complications, improve knowledge and positive coping with health condition.
- **Social needs** such as (Enhance social / family support, coping with sexual activity, relieve financial burden, assistance with daily life and work adjustment).
- **Spiritual needs** such as (Increase spiritual activities, improve satisfaction, positive insight for the life, sense of use fullness, safety and security).
- **Educational needs** such as : definition , causes and advantages of kidney transplantation, diagnostic measures, drugs administrations, diet regimen, fluid intake, hygienic measures, follow up visits, infection control, self care activities, life style changes and complications (e.g breast and skin problems) .

Scoring system:

Patients' responses regarding the presence of health needs (scored as two marks) or absence (scored as one mark), were categorized into either yes or no. Total items of health needs = 41 items, whereas needs

absence were considered from less than 50% and needs presence from 50% & more.

II- Hamilton Anxiety Rating Scale (pre / post / follow up tests). It was developed by **Hamilton (1959)** and modified by the researchers. This scale formed of thirteen variables: anxious mood, tension, insomnia, cognitive changes, depression, somatic (sensory), cardiovascular, respiration, gastrointestinal, genitourinary, autonomic symptoms, muscular and the behavior at the interview. Testing reliability of the scale items using alpha cronbach test = 0.83.

Scoring system:

Answers of studied patients were numbered from (0-3) scores and the total score ranged from 0-39. The following classifications of anxiety levels were adapted: No (zero), mild (0 - less than 23), moderate (23 - less than 29) and severe (29 - 39).

III - General self-efficacy scale (pre / post / follow up tests). It was developed by **Schwarzer & Jerusalem(1995)** to assess a general sense of perceived self-efficacy with the aim to predict coping with daily hassles as well as adaptation after experiencing all kinds of stressful life events among patients with kidney transplantation.

Scoring system:

Responses are made on a 4-point scale. Sum up the responses to all 8 items to yield the final composite score with a range from 8 to 32. Rating scale (1 = Not at all true, 2 = Hardly true, 3 = Moderately true and 4= Exactly true). Level of self-efficacy was considered high if the score 60% or more and low if it less than 60%.

Content validity:

It was assured by a group of experts from Urology and Nephrology Department and Medical– Surgical Nursing. Their

opinions were collected as regards to tools format layout, consistency and scoring system. Tools` contents were tested regarding to the knowledge accuracy, relevance and competence.

Ethical considerations:

Approval was obtained from Directors of the above mentioned settings in the planning stage. All patients were informed about the study and their rights according to medical research ethics to participate or not in the study. Then they consent (oral and written) to participate in the study.

Pilot study:

A pilot trial was conducted on 10% of the total study subjects to test the clarity and practicability of the tools, in addition to sample and settings. Pilot sample were later included in the study as there were no radical modifications in the tools.

Procedure:

- The study was started and completed within 6 months
- Aim of the study at first was simply explained to patients under the study.
- The researchers started to collect data from them at the above mentioned settings using the pre constructed tools.
- Data were collected 3 days/week at morning shift when the patients came to the out patients clinics.
- The tools was filled in by the researchers according to health condition of patients under the study.
- The guidelines were developed based on analysis of the actual educational needs of patients under the study in pretest.

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- Content of the guidelines was written in simple Arabic language , consistent with the related literatures and met patients' level of understanding.
- The guidelines were presented in theoretical and practical sessions. Subjects were divided into small groups (4 – 5) patients and repeated sessions included all patients . Each group was obtained 4 sessions (2 theories and 2 practises). Moreover, each patient was guided by simple written instructions and then orientation about the aim, contents and expected outcomes was done.
- The theoretical sessions were conducted through lectures and group discussions using data show and poster as a media. It was taken in 2 sessions (each session for 45 minutes) and cover the following items: definition, causes and advantages of kidney transplantation, diagnostic measures, medications compliance, diet regimen, fluid intake, hygienic measures, follow up visits, infection control, self care activities and breast self examination return to work, sexual condition, traveling preparations, religious practices, physical activities, complications and unusual signs.
- The practical sessions were conducted through demonstration, re-demonstration and video. It was taken in 2 sessions (each session for one hour) and covers the following items (intake and output chart, infection control measures, correct method of drugs administration, breast self examination, ambulation, breathing and coughing exercises).
- Patients were informed to be in contact with the researchers by telephone for any guidance.
- Patients were evaluated either individually or in groups that entail 4-5 according to their health condition .
- Evaluation for the effect of guidelines on the studied patients using the pre constructed tools as follows :
 - *Post test was done after one month from the intervention guidelines
 - *Follow up test after three months later by using the same tools

Statistical Design:

The data collected were organized, sorted, tabulated and analyzed using Statistical Package for Social Sciences (SPSS). They were presented in tables and charts using numbers, percentages, means, standard deviations and t – test. Level of significance was threshold at 0.05.

Results:

Table (1) Characteristics of the studied patients (n=60)

Items	Studied patients	
	No	%
Age (years)		
18 - <35	49	81.7
35 & more	11	18.4
Gender		
Male	40	66.7
Female	20	33.3
Education		
Illiterate/ Primary	9	14.9
Secondary	32	53.3
University	19	31.6
Occupation		
Not employee	35	58.3
Employee	25	41.7
Residence		
Urban	36	60.0
Rural	24	40.0
Income		
Not enough	27	45.0
Enough	33	55.0
BMI		
Under weight (Less than 18.5 kg)	34	56.7
Normal weight (18.5 – 25 kg)	9	15.0
Over weight (More than 25 kg)	17	28.3

Table (1): Shows studied patients' characteristics. As noticed two thirds (66.7) of them were male and the majority (81.7) had the age of 18 - <35 yrs. In relation to residence, work and BMI, more than half of them were from urban area, with no work and under weight (60.0, 58.3 &56.7 respectively). As regards income and education, nearly half of them had enough income and secondary education (55.0 & 53.3 respectively).

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Table (2) Presentation of Post transplant complications among the studied patients (n=60)

Items	Studied patients	
	No	%
Hypertension	13	21.7
Diabetes mellitus	8	13.3
Atherosclerosis	2	3.3
Hepatitis infection	2	3.3
Graft rejection	10	16.7
Once	5	8.3
Twice		
Male sexual problems (n = 40)		35.0
Erectile dysfunction		40.0
Premature ejaculation	14	25
Both	16	
	10	
Return of menstrual cycle(n = 20)		30.0
Within 3months		70.0
Within 6 months	6	
	14	

Table (2): Shows that less than one fifth of the studied patients had once graft rejection and diabetes mellitus as a post transplant complications (16.7 & 13.3 respectively). Regarding male sexual problems, as noticed 25.0 were represented in erectile dysfunction and premature ejaculation. In addition, more than two thirds (70.0), their menstrual cycle were returned within 6 months.

Table (3): Distribution of physical needs among the studied patients` in pre/posttests (n=60)

Physical needs	Studied patients		
	Pretest %	Post test %	Follow-up %
Maintain vital signs	74.0	48.2	15.5
keep blood sugar level	73.8	56.3	12.5
Daily monitoring of fluid intake and output	82.5	42.5	16.8
Maintain prescribed exercises	75.3	52.7	14.3
Prevention of infection	80.0	37.5	9.0
Oral hygiene	65.3	52.0	15.1
Resume activities of daily living	69.0	44.3	11.7
Compliance with prescribed drugs	67.5	53.8	18.8
Manage side effects of immunosuppression drugs	70.0	60.0	16.3
Keep hygienic measures	60.0	28.8	6.3
Maintain diet regimen	73.5	68.8	18.8
Regular assessment of skin and breast condition	85.0	38.7	7.3
Regular follow up visits	62.5	60.0	16.4
Mean % ± SD	72.9 ± 7.2	48.6 ± 10.9	13.5 ± 4.2
T – value	T1 between pre & post tests = 23.4*		
	T2 between post & follow- up tests = 14.3*		

*Significant at $p < 0.05$

Table (3): Reports a statistically significant difference between the studied patients` physical needs in pre/post tests , (t=23.4, $p < 0.05$), whereas more improvement was indicated in post test compared to pre test (mean = 48.6 & 72.9 respectively). In addition , significant difference was indicated in follow up tests compared to post tests (t = 14.3).

Table (4): Distribution of psychological needs among the studied patients` in pre/post tests (n=60)

Items	Studied patients		
	Pre test %	Post test %	Follow- up %
Relieve anxiety	80.1	46.4	18.0
Improve knowledge	73.5	30.0	9.4
Relieve feeling of worthiness	75.0	33.5	12.3
Decrease family distress	82.1	35.0	10.5
Positive coping with health condition	70.3	38.0	7.1
Decrease fear from complications	80.6	31.4	8.0
Mean % ± SD	76.2 ± 4.8	36.6 ± 6.2	11.5 ± 4.1
T – value	T1 between pre & post tests = 39.6*		
	T2 between post & follow- up tests = 31.3*		

*Significant at $p < 0.05$

Table (4): Reveals a statistically significant difference between the studied patients` psychological needs in pre/post tests, (t= 39.6 , $p < 0.05$), whereas more improvement was indicated in post test compared to pre test (mean = 36.6 & 76.2 respectively). In addition, significant difference was noticed in follow up tests compared to post tests (t= 31.3).

Table (5): Distribution of social needs among the studied patients` in pre/post tests (n=60)

Items	Studied patients		
	Pre test %	Post test %	Follow- up %
Enhance social / family support	65.1	29.6	10.5
Coping with sexual activity	55.7	33.5	9.7
Relieve financial burden	75.4	48.1	28.6
Assistance with daily life	64.3	40.6	13.1
Work adjustment	71.6	32.0	16.2
Mean % ± SD	65.1 ± 8.1	37.9 ± 8.1	15.4 ± 8.8
T – value	T1 between pre & post tests = 18.1*		
	T2 between post & follow- up tests = 15*		

Table (5): Reveals a statistically significant difference between the studied patients` social needs in pre/post tests, (t= 18.1, $p < 0.05$), whereas more improvement was indicated in post test compared to pre test (37.9 & 65.1 respectively) . In addition, significant difference was observed in follow up tests compared to post tests (t = 15).

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Table (6): Distribution of spiritual needs among the studied patients` in pre/post tests (n=60)

Items	Studied patients		
	Pre test %	Post test %	Follow- up %
Increase spiritual activities	47.5	28.4	7.0
Improve satisfaction	41.0	19.2	5.4
Positive insight for the life	59.4	27.3	9.6
Sense of safety and security	62.1	35.5	12.0
Sense of use fullness	55.0	29.2	13.4
Mean % ± SD	52.5±9.9	27.6±6.7	8.5±2.9
T – value	T1 between pre & post tests = 16.5*		
	T2 between post & follow- up tests = 14.7*		

Table (6): Clarifies a statistically significant difference between the studied patients` spiritual needs in pre/post tests, ($t=16.5$, $p< 0.05$), whereas more improvement was indicated in post test compared to pre test (27.6 & 52.5 respectively). In addition, significant difference was noticed in follow up tests compared to post tests ($t=14.7$).

Table (7): Distribution of educational needs among the studied patients` in pre/post tests (n=60)

Items	Studied patients		
	Pre test %	Post test %	Follow- up %
• Definition / Causes of kidney transplantation	47.0	19.8	4.7
• Advantages of kidney transplantation	45.0	20.0	5.2
• Diagnostic measures	62.5	25.0	9.3
• Drugs administrations	61.3	27.3	8.4
Diet regimen	75.8	31.2	10.1
• Fluid intake	73.5	22.8	7.5
• Hygienic measures	65.2	31.7	16.4
• Follow up visits	74.3	26.4	9.1
• Infection control	85.6	30.5	10.6
• Self care activities	66.3	37.1	15.8
• Life style changes	68.7	32.4	12.3
• Breast self examination	81.3	36.5	16.1
Mean % ± SD	65.9±12.0	27.6 ±5.4	9.9 ± 3.7
T – value	T1 between pre & post tests = 22.5*		
	T2 between post & follow- up tests = 20.1.0*		

Table (7): Clarifies a statistically significant difference between the studied patients` educational needs in pre/post tests, ($t=22.5$, $p< 0.05$), whereas more improvement was indicated in post test compared to pre test (mean = 27.6 & 65.9 respectively). In addition, significant difference was observed in follow up tests compared to post tests ($t=20.1$).

Table (8) : Presentation of high self efficacy level among the studied patients in pre / post tests

Item	Studied patients		
	Pre test	Post test	Follow-up
	%	%	%
Solve difficult problems if try hard enough.	46.2	72.8	88.1
Find means and ways to get what want	41.5	69.6	85.2
Easy to stick to aims and accomplish goals.	39.4	70.6	80.0
Confident to deal efficiently with unexpected events.	51.3	80.0	86.7
Know how to handle unforeseen situations	55.8	76.2	82.5
Solve most problems if invest the necessary effort	53.1	78.3	85.6
Remain calm when facing difficulties	45.7	80.9	83.3
Find several solutions when confronted with any problem .	55.2	81.5	87.0
Mean % ± SD	47.5 ± 6.0	75.4 ± 4.5	84.5 ± 2.7
T – value	T1 between pre & post tests = 31* T1 between pre & post tests =15*		

Table (8): Reveals a statistically significant difference between the studied patients` high self efficacy level in pre/post tests, (t=31*, p< 0.05), whereas more improvement was indicated in post test compared to pre test (mean= 75.4 &47.5respectively). In addition, significant difference was observed in follow up tests compared to post tests (t= 15*).

Discussion:

Transplantation is indicated for chronic renal failure. It offers the benefits of freedom from the daily dialysis , removal of dietary / fluid restrictions and improved quality of life (Urstad et al., 2013 & Bajaj, 2011). Patients with Kidney transplantation are affected physiologically, psychologically and socially by the negative way, so it is important for such patients to meet their needs for improving the quality of life for them (Cheungpasitporn et al., 2016).The present study aimed to evaluate the effect of Intervention guidelines on health needs and self - efficacy among patients post kidney transplantation.

Concerning studied patients age and gender, two thirds of them were males and the majority had the age of 18 - <35 yrs. The previous finding was supported by Gheith et al. (2008)who stated that, male patients were most of the study subjects in similar study and kidney transplantation is more common among the middle adulthood patients . .As regards education nearly half of

them had secondary education. Hedayati et al.(2017)reported that, more than fourth of the study patients had high school level of education. Ibrahim et al. (2009) found that minority of patients included in his study were illiterate.

In the same context, as regards residence and income, more than half of them were from urban area with enough income. Jawaid et al. (2011) geographic location affects the incidence of renal failure and kidney transplantation. Moreover, enough income may be interpreted as Ministry of Health decisions are for people that didn't work because the employed people had health insurance and slightly more than half of patients were unemployed.

As regard spost transplant complications , results stated that less than one fifth of the studied patients had once graft rejection and diabetes mellitus. Barsoum (2013) mentioned that at least on fourth of kidney transplant patients were suffered from an rejection episodes and one third of them had diseases post

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transplantation as hypertension and diabetes.

In the present study, patients` physical needs had a significant difference pre / post guidelines whereas more improvement was observed in post test. **Akram et al. (2011)** mentioned that more than two thirds of the studied patients had physical problem were represented in the following items: regular follow up visits, doing investigations, coping with signs and symptoms post transplantation and high cost of transportation hindered them to be compliant .

Considering studied patients` psychological needs. There was a significant difference between pre/post guidelines, whereas more improvement was observed in post test. The psychological needs were represented in the following items: sense of safety and security, fear of complications, relieve anxiety and coping with health. **Hussein & Aboufadi (2011)** clarified that more than half of study patients had fear about drug side effects, compliant toward drugs regimen and insomnia. Moreover, lack of psychological preparation and fear from complications increase anxiety added to, patients with kidney transplant had inadequate knowledge as regards therapeutic regimen and follow up consultation.

As regards studied patients` social needs. There was a significant difference between pre / post guidelines, whereas more improvement was observed in post test **.Alwan & Alhusuny (2014)** recognized that majority of patients had home and work problems due to change of patient's role as a result of health condition. **Gheith et al.(2008)** mentioned that more than half of patients in similar study were exposed to social constraints plus complications and fear of community exposure. **Lewis et al. (2014)** stated that most patients were change or leave their job post disease onset that affect the income. Moreover, disease-related costs and had caused further financial problems.

Considering studied patients` spiritual needs. There was a significant difference between pre / post guidelines, whereas more improvement was observed in post test. **Ashley et al. (2010)** stated that nearly two thirds of his study subjects had a remarkable satisfaction and expectation of the future improvement after a successful surgery of kidney transplantation.

In relation to studied patients` educational needs. There was a significant difference between pre / post guidelines, whereas more improvement was observed in post test. The current study indicated that life style changes following diet regimen and complications were the most persistent educational needs. **Alwan & Alhusuny (2014) and Nettina (2014)** cleared that patients required additional information about post transplantation expectations, follow up and drug management . Significant number of patients did not have enough knowledge on post transplantation precautions, hospitalization period, infection prevention and discharge guidelines, so patients should be provided with better instructions pre surgery.

As regards studied patients` self-efficacy. There was a significant difference between pre / post guidelines, whereas more improvement was observed in post test. **Bandura (2010)** reported that other studies have found similar relationships between self-efficacy and quality of life. Moreover ,poorer health condition was associated with a lower degree of self-efficacy and self – efficacy is a large part of the personal factors to helps in management. **Weng et al.(2010)** reported that there are different motivations depending on age and self-efficacy which is a good predictor of therapeutic compliance. In addition, more intrinsic motivation help individual to engage in daily activities and have a full sense of personal control.

Conclusion:

The current study concluded that, the intervention guidelines had a positive effect on meeting the health needs (physical, social, psychological, spiritual and educational) among the studied patients post kidney transplantation. In addition, significant improvement was indicated in their self efficacy and reducing anxiety levels in post and follow – up tests.

Recommendations:

- An orientation program should be prepared for such group of patients about kidney transplantation.
- Patients are in need to a simplified illustrated and comprehensive Arabic booklet including information about kidney transplant.
- Continuous assessment of the needs for patients with kidney transplant.
- Assessment of the quality of life for such group of patients.
- Further studies should be carried out on a large number of such group of patients for evidence of the results and generalization.

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