



## AWARENESS OF MEDICAL STAFF FOR VEIN SAVING IN THE PATIENT WITH CKD IN KING ABDUL-AZIZ SPECIALIST HOSPITAL, KING FAISAL HOSPITAL AND ARMED FORCES HOSPITAL, TAIF CITY, SAUDI ARABIA

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### ABSTRACT

**Background:** Hemodialysis is an essential life-protection strategy in patients with acute kidney injury (AKI) and chronic kidney illness. Between 25% of patients making dialysis using catheters in the first to start with which are invariably removed in patients with AKI. While in the setting of AKI inception of hemodialysis through a catheter is logical to continuation with in Chronic Renal disease patients catheter use must be limited to keep away from its complication. there is consistently reluctance among CKD patients for experiencing arteriovenous (AV) fistula, so the catheter stays in situ for a more extended time in certain patients. This features the need for Individuals awareness among Chronic Renal disease patients. Also, the weak of vascular tree avoid the formation of AV fistula in few CKD patients. For this should be aware of the clinical group for Vein protection in the patient with CKD in Saudi Arabia CKD patients and their doctors should know about possible expected to veins protection and important in the event a new access entrance is required. Aim of the study: To determine the awareness of medical staff for vein saving in the patient with CKD in King Abdul-Aziz Specialist Hospital, King Faisal Hospital, and Armed Forces Hospital, Taif city, KSA. Method: Cross-sectional study will be conducted to determine the awareness of medical staff for vein saving in the patient with CKD in Taif hospitals our total participants were 315 medical staff (doctor, nurses). Results: level of awareness about Patient with history of CKD our study shows that is significant relationship between the Score the level of awareness was the p-value <0.001 and Chi-square (X<sup>2</sup> -125.19) while ranging were ( 0-6) and Mean± SD (2.041±1.428 ) and the most of participants (47.0%) have Weak awareness about Patient with history of CKD followed by high awareness were (5.1%). Conclusions: Levels of awareness and knowledge among providers must be improved to prevent CKD, its progression, and the vein saving in the patient with CKD. More research is needed to awareness of medical staff for vein saving in the patient with CKD in Saudi Arabia.

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### Introduction

Chronic kidney disease (CKD) is a typical and developing issue around the world; in the United States, >10% of adults displaying proof the harm in kidney and/or decreased kidney work [1]. Distinguishing CKD requires knowledge of individual perils and proper laboratory testing (serum creatinine as well as urinary protein) [2]. Chronic kidney disease (CKD) is a rising community health issue characterized as variations from the norm of kidney structure or capacity introduced for >3 months [1, 2]. In the Kingdom of Saudi Arabia (KSA), CKD is assessed to influence roughly 1.72 million Saudis [3]. It is roughly comparing 6% of the populace. When CKD progress to end-stage renal illness, it need dialysis treatment [1]. In KSA the occurrence of dialysis changed into 136 new cases for each million populaces [4]. The insurance of veins during the earlier phases of CKD is pivotal for the achievement of vascular access [5]. Moreover, the vast majority with the illness, particularly preceding ESRD, stay ignorant of their illness [6, 7]. Awareness for vein assurance in the patient with CKD remains unsuitably low, regardless on going endeavors to expand awareness through dissemination of clinical practice rules and proposals for patients with CKD or its hazard factors to caregiver [8, 9], public awareness

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occasions, for example, World Kidney Day [10, 11]. Central venous catheters are connected to a 15-fold extended hazard risk for septicemia in contrast with the AV fistula. [12] Moreover, it is exceptionally connected to morbidity, also to the raised danger of infective endocarditis. [13] There is a 10% expanded danger of mortality with CRBSI. The information from France suggests that there is a general frequency of colonization of 38.9 and bloodstream contamination disease of 1.9/1000 catheter-days. [6] The process of CRBSI can be avoided by assuming stringent infection control measures and procedures. [14]. Also, many identified behaviors to reach this aim like early transfer of CKD patients to nephrologists before the beginning of hemodialysis to allow enough time the construction of AV access, trained access surgeon working as a part of vascular access team and veins saving. The Association for Vascular Access (AVA) and the American Society of Diagnostic and Interventional Nephrology (ASDIN) understood the significance of vein assurance in chronic kidney illness patients [15]. Up to our knowledge, there are very few studies have been performed to assess awareness of the importance of vein saving in patients with chronic kidney disease among medical staff. In this study; we will evaluate the knowledge of the medical staff to protect the vein in patients with CKD in our city (Taif) as there is no study in the literature about it in Taif. The burden of the common chronic, preventable disease and their serious outcomes make the determine awareness of medical staff vein saving in the patient with CKD topic enormously essential. Up to our knowledge, there are very little examination has been performed to assess the attention to the significance of vein saving in patients with chronic kidney disease among medical staff. This research will evaluate the knowledge of the medical staff to protect the vein in patients with CKD in our city (Taif) as there is no study in the literature about it in Taif. Thus investing in this topic well fulfills the researcher's aim.

### **Rationale**

There are very few studies have been performed to assess awareness of the importance of vein saving in patients with chronic kidney disease among medical staff. The decided attention to clinical staff vein-protect in the patient with CKD subject is hugely important. In this study; we will evaluate the knowledge of the medical staff to protect the vein in patients with CKD in our city (Taif) as there is no study in the literature about it in Taif.

### **Aim of the study:**

To determine the awareness of medical staff for vein saving in the patient with CKD in King Abdul-Aziz Specialist Hospital, King Faisal Hospital, and Armed Forces Hospital, Taif city, Saudi Arabia.

### **Objectives:**

- Determine the awareness of medical staff for vein saving in the patient with CKD in King Abdul-Aziz Specialist Hospital, King Faisal Hospital, and Armed Forces Hospital, Taif city, Saudi Arabia
- Determine the prevalence of awareness of medical staff for vein saving in patient with CKD in Taif city

### **Methodology**

#### **Study Design:**

A cross-sectional study will be showed to determine awareness of clinical staff for vein saving in the patient with CKD in Taif hospitals

#### **Study Area:**

This study has been conducted in Taif hospitals, which has a large number of different nationalities and different cultures. Out of these, in King Abdul-Aziz Specialist Hospital, King Faisal Hospital, and Armed Forces Hospital, Taif city, Saudi Arabia. Where the researcher has been conducted the research after all medical staff (physicians and nurses) caring for patients with CKD has been contacted during the study duration between medical staff.

#### **Study Population:**

This study has towards all medical staff (physicians and nurses) caring patients with CKD will.

#### **Inclusion criteria:**

- Ready to participate in the research.

#### **Exclusion Criteria:**

- No specific exclusion criteria.

#### **Sample Size :**

The researcher has used 50%, moreover, based upon a confidence level of 95% and margin of error of 5%. The sample size calculated using the Raosoft calculator will be 315 medical staff (physicians and nurses), which increased by 10% to overcome the non-respondents.

#### **Sampling Technique:**

The researcher has used simple randomization between all medical staff (physicians and nurses) caring for patients with CKD.

Has been contacted during the study duration between medical staff to cover the sample size.

#### Data Collection Tool:

The researcher has used a self-administrated questionnaire. The questionnaire has included; socio-demographic data, a checklist about the level of the awareness of medical staff for vein saving in the patient with CKD. The researcher has constructed and has put the questionnaire between the hands of Scientific Research Center Research Ethics Committee consultants for validation.

#### Data Collection technique:

The researcher has been distributed the questionnaire personally to all medical staff (physicians and nurses) caring for patients with CKD in the division after approval from higher authorities acquired, during the working hours, specifically between the break time. Where a short introduction about the research and its importance was introduced. Afterward, the researcher has handled the questionnaire to the available medical staff (physicians and nurses) at the department. The response rate was high.

#### Study variables:

- Dependent variable: the level of awareness and perception about vein saving in the patient with CKD.
- Independent variables: age, specialty, nationality, education, and occupation.

#### Data Entry and Analysis:

The researcher has used the statistical program for social sciences SPSS software 23.0 for data entry and analysis. Statistical tests such as Chi-square T-test and other appropriate tests had been used. A p-value of less than 0.05 has been adopted for statistical significance.

#### Pilot Study/Pretesting:

The questionnaire has been applied to 10% of the sample size over the medical staff which has dealt with the patient with chronic kidney disease in Taif city.

#### Scientific Research Consideration :

- Assent from the Scientific studies Center Research Ethics Committee experts for validation.
- Written consent has been obtained from the participants.
- All information will remain confidential and will not be accessed except for scientific research.
- The researcher has submitted a recommendation out of this study to higher authorities.
- Acknowledgment for all the supervisors, advisors, helpers, facilitators, and participants for their contribution.

#### Relevance & expectations:

- Knowing the size of the problem about vein-protect in the patient with CKD will increase the level of awareness in medical staff.
- To develop increase awareness of medical staff for vein saving in the patient with CKD.

#### BUDGET

Self-funded study.

#### Result

##### Response rate:

The study included 315 medical staff in King Abdul-Aziz Specialist Hospital, King Faisal Hospital, and Armed Forces Hospital, Taif city, Saudi Arabia follow up and were enrolled in this study.

**Table (1):** The Describe of demographic information in participants.

	N	%
<b>Age</b>		
<25	22	7.0
25-29	120	38.1
30-35	97	30.8
35-40	42	13.3
40-50	13	4.1

>50	21	6.7
<b>Sex</b>		
Female	189	60.0
Male	126	40.0
<b>Working years</b>		
<5	141	44.8
5-10	105	33.3
>10	69	21.9
<b>Job title</b>		
Medical doctor	144	45.7
Nurse	171	54.3
<b>Institute</b>		
King Abdul Aziz Specialist hospital	105	33.3
King Faisal Medical Hospital	76	24.1
Alhada Armed Forces Hospital	111	35.2
Other	23	7.3

Regarding the age majority of the study groups participants have been in the period variety of (25-29) ages in the rate of (38.1%) while participant staff were in the age, (30-35) were (30.8%).

Regarding the sex, many of the respondents were female (60.0%), male were (40.0%)

Regarding the working years, the majority of respondents have experience duration (5-10) had (33.3)

Regarding the job title, the majority participant were nurse (54.3) but a medical doctor were (45.7 %)

Regarding the institute, many of the respondents were in Alhada Armed Forces Hospital (35.2%) while King Abdul Aziz Specialist hospital were (33.3%) while King Faisal Medical Hospital were (24.1) while other were (7.3).

**Table (2)** Description the general awareness of the participants ( medical staff ) for vein saving in the patient with CKD

	N	%
<b>Do you think a vein preserve is important to renal patients?</b>		
Yes	284	90.2
No	9	2.9
I don't know	22	7.0
<b>Why vein preserve is important in renal disease patients?</b>		
To avoid infection.	56	17.8
Possible AV fistula creation in future	212	67.3
To avoid bleeding	19	6.0
I do not know	28	8.9
<b>Do you have a vein saving protocol for renal disease patients at risk in your institute?</b>		
Yes	175	55.6
No	40	12.7
I don't know	100	31.7
<b>If you answered yes, to the previous question, how often do you follow this protocol</b>		
All the time	80	45.7
Most of the time	37	21.1
Some time	38	21.7
Rarely	3	1.7
Never	17	9.7
<b>How to recognize renal disease patients who require vein preservation protocol?</b>		
By creatinine level	117	37.1
By GFR (Glomerular Filtration Rate)	117	37.1
Family history of renal disease	29	9.2
I don't know	52	16.5
<b>At which stage of chronic kidney disease patients needs vein preservation protocol?</b>		
Starting from stage 1	66	21.0
Starting from stage 2	27	8.6

Starting from stage 3	60	19.0
starting from stage 4	54	17.1
Only after hemodialysis initiation	38	12.1
I don't know	70	22.2

In the table 2 show whether a vein preserve is important to renal patients most the participants answer yes the percentage were (90.2%) while participant answer I don't know the percentage were (7.0%)

Regarding Why vein preserve is important in renal disease patient majority of the study groups answer Possible AV fistula creation future the percentage were (67.3 %) while to avoid infection the percentage were (17.8 %), While the correct answer was to avoid bleeding percentage were (6.0%) while answer I do not know percentage were (8.9 %).

Regarding you have a vein saving protocol for renal disease patients at risk in your institute the majority of participants answer yes the percentage were (55.6%) followed by I don't know percentage were (31.7%) while participant answer No (12.7%)

Regarding how often do you follow this protocol majority of the study groups answer all the time participants answer (45.7%) while some time participants were (21.7%) but answer most of the time were (21.1%) and the responses never were (9.7%) while answer rarely were (1.7%)

As to conclusion of renal sickness patients who require vein safeguarding convention, the greater part of the study groups answered wrong answers by creatinine level (37.1%) followed by I don't know (16.5%) family history of renal disease (9.2%)while the correct answer is by GFR (Glomerular Filtration Rate) their percentage (37.1%).

Regarding which stage of chronic kidney disease patients needs vein preservation protocol majority of the study groups answered wrong starting from stage 1were (21.0%) while starting from stage 3 were (19.0%) but the only after hemod were (8.6%) while the correct answer the starting from stage 4 were (17.1%).

**Table (3)** Description the general awareness the participants about know other targeted teams for vein saving in the patient with CKD.

	N	%
<b>Do you know other targeted groups (renal disease group) for vein saving?</b>		
Yes	157	49.8
No	158	50.2
<b>If you answered yes the previous question, what is/are the targeted group?</b>		
Functional kidney transplant	30	14.65
Patient with history of recurrent kidney stones	21	13.38
Patients on dialysis (HD or PD)	117	74.52
Previous history of kidney biopsy-proven acute interstitial nephritis (currently preserved kidney function)	45	28.66

Regarding you know other targeted teams (renal disease group) for vein saving the most of participants answer No the percentage were (50.2%) followed by answer yes the percentage were (49.8%).

Regarding what is/are the targeted group majority of the study groups answered correct functional kidney transplant were (14.65% ) and also correct answer patients on dialysis (HD or PD) were (74.52%) while

Answered wrong Previous history of kidney biopsy-demonstrated acute were interstitial nephritis (currently preserved kidney function) were(28.66%) followed by also answered wrong and answered wrong also wrong and replied mistakenly additionally affected person with presence of repeated kidney pebbles were (13.38%).

**Table (4)** Description the awareness of the participants about educates Patient with history of recurrent kidney stones.

	N	%
<b>Do you educate renal disease patients at risk or check their knowledge about the importance to save veins during the medical evaluation?</b>		
Yes	166	52.7
No	61	19.4
I don't know	88	27.9
<b>Do you use instruction or warning methods (like labels, written paper instructions..etc. ) to reinforce vein saving in those risky renal disease patients?</b>		
Yes	146	46.3
No	108	34.3
I don't know	61	19.4
<b>What is the primary site for venipuncture when you obtain blood samples from patients at risk?</b>		
Dorsum of the dominant hand	50	15.9
Dorsum of the non-dominant hand	67	21.3
Antecubital fossa of the dominant side	39	12.4

Antecubital fossa of the non-dominant side	65	20.6
I do not know	94	29.8
<b>For patients with AV fistula, Do you Procedure the fistula limb for venipuncture or an IV infusion or arterial mark?</b>		
Yes	47	14.9
No	213	67.6
I don't know	55	17.5
<b>If the participant needs an indwelling catheter for domestic antibiotics or different therapy, do you insertion or order to insert a small bore (&lt;8 French)?</b>		
Yes	74	23.5
No	133	42.2
I don't know	108	34.3
<b>What is the primary site for venipuncture when you obtain blood samples from those patients?</b>		
Dorsum of the fistula site	27	8.6
Dorsum of the non-fistula site	111	35.2
Antecubital fossa of the fistula site	22	7.0
Antecubital fossa of the non-fistula site	68	21.6
I do not know	87	27.6
<b>If a patient requires an IV catheter for medications, do you insert or order to insert a small-bore size (&lt;8 French)?</b>		
Yes	93	29.5
No	121	38.4
I don't know	101	32.1
<b>Do you need the fistula limb for venipuncture or an IV infusion or arterial mark?</b>		
Yes	47	14.9
No	199	63.2
I don't know	69	21.9
<b>for patients with AV fistula, Do you Use the fistula limb for blood pressure measurement?</b>		
Yes	36	11.4
No	212	67.3
I don't know	67	21.3

In the table 4 show you educate renal disease patients at risk or check their knowledge about the importance to save vein during medical evaluation the most of participants answer yes the percentage were (52.7% ) followed by I don't know percentage were (27.9% )while participant answer No (19.4%)

Regarding you instruction or warning methods (like labels, written paper instructions..etc. ) to reinforce vein saving in those risky renal disease patient the most of participants answer yes the percentage were (46.3 % ) while participant answer No (34.3%) followed by I don't know percentage were (19.4% )

**What is the primary site for venipuncture when you obtain blood samples from patients at risk.**

Regarding the primary site for venipuncture when you obtain blood samples from patients at risk the participants answered correct Dorsum of the dominant hand percentage were (15.9 %) followed by I don't know percentage were (29.8%) while answered wrong Dorsum of the non-dominant hand, Antecubital fossa of the non-dominant side and Antecubital fossa of the dominant side the percentage Respectively were (21.3 %, 20.6%, 12.4%)

Regarding patients with AV fistula, Do you need fistula limb for venipuncture or IV infusion or arterial mark, most the participants answer No the percentage were (67.6%) followed by I don't know percentage were (17.5 %)while participant answer yes (14.9%)

Regarding If a patient requires an indwelling catheter for home antibiotics or other medications, do you insert or order to insert a small bore (<8 French), most of the participants that answered No were (42.2 %), followed by I don't know were (34.3 %),while participants answered yes were (23.5 %)

**If an affected person has an operating HD entree (fistula or graft)**

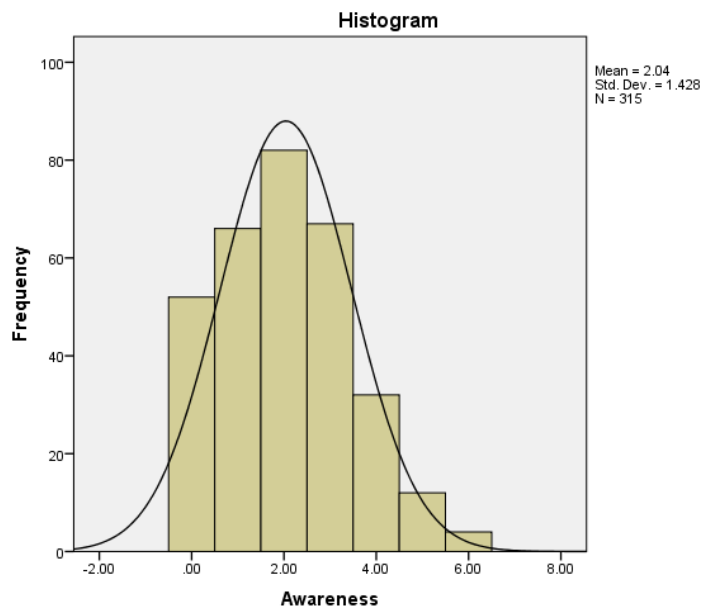
the primary site venipuncture when obtain blood samples from patients, percentage the participants answered correctly for dorsum of the non-fistula site were(35.2 %) followed I don't know (27.6%)but percentage the ones answered incorrectly for Antecubital fossa of the non-fistula site, dorsum the fistula site and Antecubital fossa of the fistula site Respectively were (21.6 %, 8.6%, 27.6%), patient requires an IV catheter for medications, you insert or order to insert a small-bore size (<8 French), the percentage most the participants that answered No were (38.4 %) followed I don't know (32.1 %)while participant that answered yes were (29.5 %)

Regarding need fistula limb for venipuncture or an IV infusion or arterial line most the participants answer No percentage were (63.2%) followed by I don't know (21.9%) while participants answered yes were (14.9%), patients with AV fistula, Do you Use the fistula limb for blood pressure measurement, percentage most participants answered No were (67.3%) followed by I don't know (21.3%) while participant answered yes were (11.4%)

**Table (5)** Description the Level of awareness

Level of awareness			Score	
	N	%	Range	Mean± SD
No	52	16.5	0-6	2.041±1.428
Weak	148	47.0		
Average	99	31.4		
High	16	5.1		
Total	315	100.0		
Chi-square	X2	125.19		
	P-value	<0.001*		

In the table (5) and figure (1) shows level of awareness about Patient history of CKD our study shows that a significant relationship between the Score the level of awareness was the p-value <0.001 and Chi-square (X2=125.19) while ranging were (0-6) and Mean±SD (2.041±1.428) and the most participants (47.0%) have Weak awareness about Patient with history of CKD While Among 'Average,' the participants were (31.4%), While No awareness were (16.5%) followed by high awareness were (5.1%)



**Figure (1):** Histogram with normal curve description level of awareness and frequency

**Table (6)** Describe the relation of the Demographic data (age, six, working years, job title, and institute) and Awareness about Patient with a history of CKD

Demographic data		N	Awareness		ANOVA or T-test	
			Mean	± SD	Test value	P-value
Age	<25	22	1.773	± 1.193	2.249f	0.049*
	25-29	120	1.867	± 1.328		
	30-35	97	1.969	± 1.388		
	35-40	42	2.429	± 1.595		
	40-50	13	2.308	± 1.797		
	>50	21	2.714	± 1.586		
Sex	Female	189	1.963	± 1.330	-1.155t	0.249
	Male	126	2.159	± 1.562		
Working years	<5	141	1.745	± 1.386	9.882f	<0.001*
	5-10	105	2.038	± 1.330		
	>10	69	2.652	± 1.483		
Job title	Medical doctor	144	2.194	± 1.657	1.705t	0.089
	Nurse	171	1.912	± 1.192		
Institute	King Abdul Aziz Specialist hospital	105	2.029	± 1.638	0.508f	0.677
	King Faisal Medical Hospital	76	2.197	± 1.386		

	<b>Alhada Armed Forces Hospital</b>	111	1.937 ± 1.223
	<b>Other</b>	23	2.087 ± 1.505

t: test value for T-test    f: test value for ANOVA test

As shown in table (6) Demographic data & Awareness about Patient with history of CKD

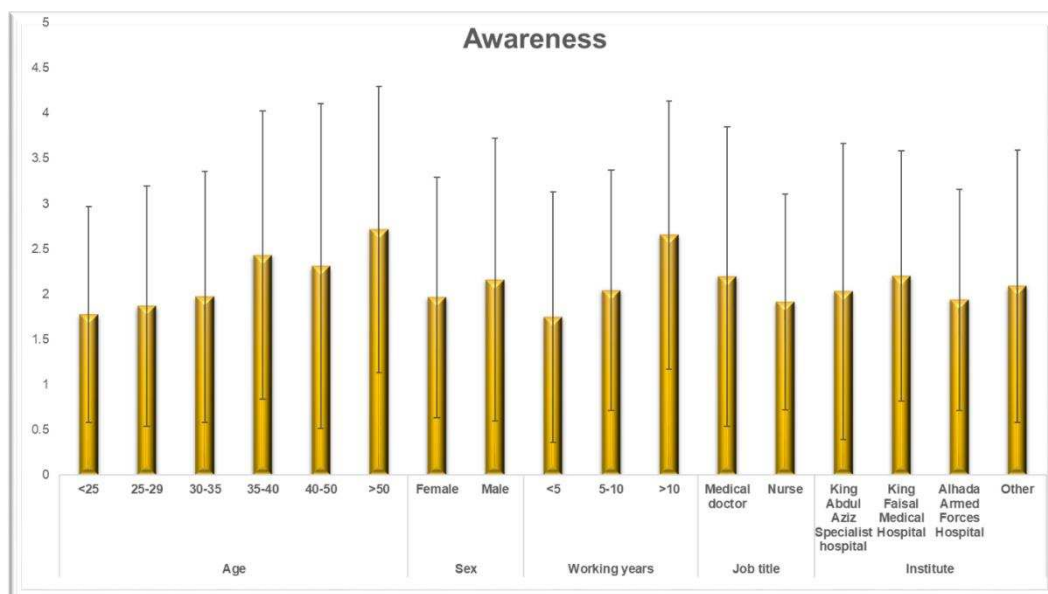
Regarding Age: stude clarified that most of the The patients' age >50 ages with Mean± SD (2.714±1.586) while between age 35-40 year with Mean±SD (2.429 ±1.595) while 40-50 year with Mean± SD (2.308±1.797) follow by 30-35 years with Mean± SD (1.969±1.388) and age (25-29) year with Mean±SD (1.867±1.328) and a statistical significance (F= 2.249 p< 0.049)

Regarding six: stude clarified that most of the women patients were Mean± SD (1.963±1.330). while and men Mean± SD (2.159±1.562) with no statistically significance (T= -1.155, p 0.249)

Regarding Working years: In our research show that most of the participants>10 years with Mean± SD (2.652 ± 1.483) while 5-10 years with Mean± SD (2.038±1.330) follow by <5 years with Mean±SD (1.745±1.386) and statistically significance (F= 9.882 p 0.001)

Regarding Job title: In our research show that most of the participants the medical doctor with Mean±SD (2.194 ±1.657) while Nurse with Mean± SD (1.912 ± 1.192) and no statistically significance (T= 1.705 p 0.089)

Regarding Institute: Our research clarified that most of the participants in the King Faisal Medical Hospital Mean±SD (2.029±1.638) while in the Other Mean±SD (2.087±1.505) while in the King Abdul Aziz Specialist hospital with Mean±SD (2.029±1.638). Alhada Armed Forces Hospital with Mean±SD (1.937±1.223) and no statistical significance (F= 0.508 p< 0.677)



**Figure (2):** Histogram with normal curve Describe the relation of the demographic data (age, six, working years, job title, institute) and Awareness about Patient with a history of CKD

**Discussion**

The awareness of medical staff for vein saving in the patient with CKD The purpose of this is to help physicians and nurses to be better at preserving the patient's vein [1]. The study strongly reflects a focus on high-quality awareness of medical staff for vein saving the patients with chronic kidney disease (CKD) the objective of the study to determine the awareness of medical staff for vein saving in the patient with CKD in King Abdul-Aziz Specialist Hospital, King Faisal Hospital, and Armed Forces Hospital, Taif city, Saudi Arabia. The study included 315 medical staff in King Abdul-Aziz Specialist Hospital, King Faisal Hospital, and Armed Forces Hospital, Taif city, Saudi Arabia follow up and were enrolled in this study. Most of the participant were in the age range of (25-29) years were (38.1%), many of the patients' were female (60.0%), the majority of participant heave experience duration (5-10) had (33.3), the majority of participant were nurse (54.3) see table (1). Estimates of provider awareness of CKD Several studies indicate that only 22–30% of family practice physicians and general internists are aware of the existence of National Kidney Foundation (NKF) Kidney Disease Outcomes Quality Initiative (KDOQI) guidelines, dealing with patients with CKD; in contrast, approximately 80% of the same physicians report that the American Diabetes Association (ADA) and Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC) guidelines influence CKD care [16]. The production of a successful arteriovenous fistula because of dialysis depends the central veins' existence healthy. Once the central vein is stenosis, creating a functioning arteriovenous fistula will be more difficult [15]. Awareness of CKD participants can be



measured about other targeted groups for vein saving in the patient with CKD. The majority of participants answered no for the question "Do you know vein saving?" with the percentage of (50.2% ) followed by answer yes with the percentage of (49.8% )see table (3) . Health-care provider awareness of CKD can be measured in a variety of ways; accurate estimates of the pervasiveness of provider awareness of CKD require an understanding of these degrees of awareness and different measures, including their strengths and limitations. [17] Current estimates on CKD Awareness indicate that each provider-level cognizance still unacceptably low. Awareness over CKD, among these together with CKD stage three and 4, also with albuminuria is lower than most appropriate yet has now not been improving over the last decade. [18]

According to the level of awareness, Patient with a history of CKD showed the weak awareness with the percentage of (47.0%) and high awareness with the percentage of (5.1%). Although, there is a significant relationship between the Score of the level of awareness, the p-value <0.001, Chi-square ( $X^2 = 125.19$ ) ranging (0-6) and Mean $\pm$  SD (2.041 $\pm$ 1.428) see table (5).

The importance of CKD awareness at earlier stages of disease implementation of evidence-based medication regimens cannot be underestimated. Additional studies examining the effect of increased provider awareness on patient awareness of CKD and patient behavioral changes are key. Also, the effects of earlier CKD diagnosis the subsequent progression of kidney dysfunction and cardiovascular outcomes are essential to document and understand. Potential negative outcomes associated with increased provider awareness of CKD cannot be neglected. [19]. In our study, the majority of our participants were noticed that age >50 age with Mean $\pm$  SD (2.714 $\pm$ 1.586) while between age 35-40 year with Mean $\pm$  SD (2.429  $\pm$ 1.595) while a statistical significance of (F= 2.249 p< 0.049). Regarding Working years In our study, the majority of our participants were noticed >10 years with Mean $\pm$  SD (2.652  $\pm$  1.483) while 5-10 years with Mean $\pm$  SD (2.038  $\pm$  1.330) follow by <5 years with Mean $\pm$  SD (1.745  $\pm$ 1.386) and statistically significance (F= 9.882 p 0.001). see table (6). Vein preservation important to Patients with chronic kidney disease (CKD) may be on hemodialysis (HD) or may need HD in the future.

- The best way for administering HD is through a fistula choice A fistula or graft has a much lower rate of complications than a catheter.
- Creation of a successful fistula is dependent on having patent peripheral arm veins and a healthy venous circuit back to the heart.
- Venipuncture, peripheral IVs, or PICC lines can damage veins and jeopardize future fistula construction or function. Preservation of arm and central veins needs to start before the patient necessities access. If already on HD, need to preserve all remaining veins. [20]

## Conclusion

Must be improved levels of awareness among the doctors and nurses for vein saving in the patient with CKD in King Abdul-Aziz Specialist Hospital, King Faisal Hospital, and Armed Forces Hospital, Taif city, Saudi Arabia. More research is needed to manage the implementation of awareness campaigns. Additionally, further studies are essential to fully know the awareness the variables among the doctors and nurses staff for vein saving in the patient with CKD However, because such studies will take time, efforts to increase awareness about vein saving in the patient Knowledge need to be implemented simultaneously with these studies, given the high prevalence of CKD and its risk factors.

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