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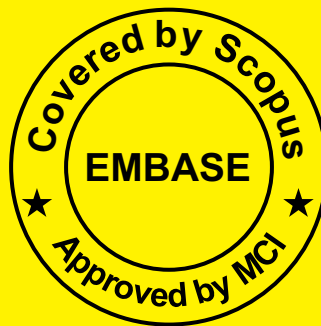
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165. Effectiveness of the Problem Tree Strategy in the Development of Multiple Intelligences among Preparatory School Students ..... 885  
*Laith Al-Janabi, Mohammed H.*
166. Gender-Specific Impact of Maternal Obesity on Birth Weight ..... 890  
*Shahla O. Al-Ogaidi, Sura A. Abdulsattar, Hameed M. J. Al-Dulaimi*
167. Interplay between EBERS and P27 Tumor Suppressor Proteins in Molecular Transformation of Nasopharyngeal and Sinonasal Carcinomas ..... 894  
*Marwa Mohammed Ali Jassim, Majid Mohammed Mahmood, Saad Hasan Mohammed Ali, Mohammed Sobhi Kamal*
168. Nosocomial Bacterial Strains Isolated from Patients Who Reside in Different Health Facilities in Duhok City with Their Antibiotics Resistance Patterns ..... 901  
*Zahraa Kamaz, Alla'a Miyasar Ahmed, Haval Abdulkhalik Hamadamin*
169. Prevalence and Risk Factors of Low Back Pain among Nurses in Kirkuk General Hospitals ..... 905  
*Omed Hamarasheed Mehammed-Ameen, Nashwan Nadhim Hasenb, Suhailah Mohammed Ali*
170. Quality of Life among Caregiver of Children with Thalassemia in Al-Najaf Governorate ..... 911  
*Wameedh Hamid Shaker*
171. The Impact of Teaching on the Skills of Visual Thinking and the Development of the Tendency of Pupils in the Fifth Grade Primary ..... 915  
*Olfat Kazem Omran, Mahdi Jader Habib, Qais Hatem Hani*
172. Uric Acid Correlates Negatively with Anti-Mullerian Hormone in Chronic Kidney Disease and/or Polycystic Ovary Syndrome Patients ..... 920  
*Samal Hakeem Kareem AL-Jaff*
173. The Cytotoxic Effects of Lipopolysaccharide Extracted from a Local Isolate of *Salmonella enteritidis* on Breast and Ovarian Cancer Cell Lines ..... 925  
*Rihab Abbas Sabeeh, Ahmed Jasim Neamah, Alaa Abdelkadhim Jawad*
174. Assessment of Knowledge for Pregnant Women toward Risk of Pregnancy in Al-Amara Primary Health Care Centers at Southern of Iraq ..... 931  
*Ghazwan Abdulhussein ALAbedi, Aqeel Aziz Arar, Thani Asmar Radhi*
175. Assessment of Level of Depression in Patient with Osteoarthritis at Handicap Center in Al-Nasiriyah City ..... 936  
*Qasim Ali Khasal, Amer Muhasin Naser, Hussein Abdulmohsin Dabis*
176. Assessment of Quality of Life in Patients with Brain Tumor after Surgery ..... 941  
*Shatha Saadi Mohammad, Raheem Malalla ABADi, Mohamed igrish, R. N. Kadhim Hussein Jassim*
177. Assessment of Senior Students' Knowledge Concerning Nursing Diagnosis at Southern of Iraq Nursing Faculties ..... 945  
*Aqeel Azeez Arrar, Ghazwan Abdul Hussein ALAbedi, Thani asmar radhi*
178. Bullying and Its Relation to Obesity and Overweight among School Age Children at Hilla City ..... 951  
*Nuhad Mohammed Kassim, Hussien Jassim Mohammed, Musadaq Abdulkadhim Dohan, Salma K. J, Katlhim Hussein Jassim, Abdul Rahim Mkhif Hassan*
179. Effectiveness of an Instructional Program of Nurses Knowledge Concerning Management of Anaphylactic Shock at Emergency Units in Babylon Teaching Hospitals ..... 957  
*Hussain Khalif Kitab AL-Sultiny, Hussein Hadi Atiyah*

# The Impact of Teaching on the Skills of Visual Thinking and the Development of the Tendency of Pupils in the Fifth Grade Primary

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## ABSTRACT

The aim of the research was to identify the effect of teaching on the skills of visual thinking in the collection of social subjects and the development of the inclination of the students in the fifth grade. The researcher adopted the method of experimental research as a methodology for the research, which includes independent variable (visual thinking skills) and two variables (achievement and tendency development) A partial-experimental experiment to adjust search variables, Before applying the experiment, the researcher was rewarded between the two research groups for the purpose of obtaining accurate and objective results with the following variables (The chronological age is a month, Grades of social subjects in the half year, Educational achievement of parents, Raven test for intelligence, Tribal test for tilt scale) After the equivalence between the two groups of research, the researcher prepared the application requirements of plans, objectives and tests for the two research groups, after the completion of the application of the experiment. The researcher applied her research tools to the two research groups and after correcting the students' answers, the researcher obtained data for the experimental group and control. The data were processed statistically by (spss) and (T-test) for both groups.

**Keywords:** education, Course of Study, Teacher, Modalities and skills, Social Studies, Visual thinking, Visual Thinking Skills, Collection, development of inclination.

## Introduction

Since education is a planned and deliberate process, it aims at making desired positive changes (educational and social) in the student's behavior, thinking and understanding. The main objective is to make the student a strong and influential figure in society and to establish relations with his peers. The first goal of education is to graduate men who are capable of producing new things, innovative men and explorers <sup>1</sup>, Hence, education has become one of the most important means adopted by nations and peoples to raise their children in accordance with the social philosophy they are following. This is the most powerful way for nations to prepare their generations <sup>2</sup>. The curriculum is a means of education that includes all the experiences that are given to the student from inside and outside the school. It also constitutes a

basis in shaping the life of the individual and the society and preparing generations capable of keeping pace with the progress of civilization and keeping pace with the scientific development. The curriculum is important for giving the individual the ability to deal with others Ability to think properly, which includes analysis, criticism, reasoning and evaluation in the stages of the educational process, all of which passes through the student <sup>3</sup> The school can achieve its objectives represented by the objectives of education through various means, including the school curriculum, which means the range of experiences and the practical activities of the school for students with the purpose of contact and interaction with them and the results of this interaction to learn and modify their behavior and lead these experiences and those activities to achieve the ultimate goal of education <sup>4</sup>. And that the school curriculum is closely related to the methods of teaching; because teaching methods are one of the important means in translating the curriculum to what the school aims to create habits, tendencies, trends and values when asked and the good way of teaching is not limited to providing methodological information

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only but helps to develop student tendencies and push them to Positive action and productive participation in education <sup>5</sup>, There is no better method of teaching, so the teacher must choose a method appropriate to the nature of the learner and the subject matter for each method of social and descriptive environment that achieves its objectives Titi, (2007), The social materials curriculum has a prominent place because of its importance and effective impact in the preparation of young people for their academic and professional future to make them useful and active members of society so that they can bear the consequences of life and their burdens, understand the problems surrounding them and their society and contribute to the development of successful solutions to them and have the will to change for what is best for them and their community. An important factor that leads to the success of the teacher in his work is his proficiency in teaching skills, because this leads to increasing the participation of students and attract their attention and raise their level of education. The successful teacher is the teacher who adapts the different methods and volunteering to suit the different grades that differ according to the students themselves <sup>8</sup>.

**Methodology**

**Experimental Design:** Research Methodology The researcher adopted the experimental approach to achieve the two research objectives and used the experimental design of the experimental groups and the partial control control.

**Research Community:** The research community is one of the fifth grade primary school pupils in the primary day schools for girls in Babil governorate for the academic year 2017-2018. A sample of schools from the Directorate General of Babylon was randomly selected. Fifth Primary Of the 69 students distributed between the two divisions (A - B) In a random way was chosen Division (A) to represent the experimental group and Division (B) to represent the control group and after the exclusion of student deposits in the two divisions (A - B) The total number of 63 students in each The experimental and control groups.

**Equal Search Groups:** The two groups were investigated in the following variables (IQ test, the age of the students, the grades of the social subjects in the semesters exam, the parents' educational achievement and the pre-test of the slope scale).

**IQ Test:** The researcher applied the Raven test for successive colored matrices on the students of the two research groups because of their suitability for the students of the research sample. After correcting the responses, the average score of the experimental group was (21.06), while the average score of the students in the control group was( 20.66), When the T-test was used for two independent samples, it was found that the difference was not statistically significant at (0.05).

**Table 1: The arithmetic mean, the standard deviation, and the calculated and tabular T value of the experimental and control groups in the IQ test**

Level of significance	T value		The degree of freedom	variance	standard deviation	Arithmetic mean	Number of sample members	the group
	Table	Calculated						
Non-D at the level of 0.05	2,000	0,223	61	44,36	6,66	21,06	31	Experimental
				61,00	7,81	20,66	32	Control

**The chronological age is computed per month:** The mean age of the experimental group was 130.94 months. And the arithmetic average of the control group (129,78) months. The variance of the control group was (19,27) and the experimental group (29,70), When the t-test was used for two independent groups to determine the difference between the age of the students of the two groups of research, it was found that the difference was

not statistically significant at (0,05) and the freedom degree (61). The calculated T value (0.928) Which is smaller than the scale value of (2,000) as in Table (2). The T tabular value is (2) at the degree of freedom (61) and the significance level (0.05), meaning that there are no statistically significant differences between the average age of months for the two research groups.

**Table 2: Arithmetical mean, standard deviation, variance, and T calculated and tabular value of the experimental and control groups in the chronological age variable**

Level of significance	T value		The degree of freedom	Variance	standard deviation	Arithmetic mean	Number of sample members	the group
	Table	Calculated						
Non-D at the level of 0.05	2,000	0,928	61	29,70	5,45	130,49	31	Experimental
				19,27	4,39	129,78	32	Control

**Grades of social subjects in the half year:** The score of the students in the experimental group was (64.29) and the standard deviation was 14.7. The average score of the students in the control group was (63.88) and the standard deviation was (14.74), When the t-test was used for two independent samples to determine the significance of statistical differences, it was found that the difference was not statistically significant at (0.05). The calculated T value (0.112) was smaller than the scale (2,000) and the degree of freedom (61) However, the experimental and control groups are statistically equivalent in the grades of social subjects in the semester, and Table (3) shows this.

**Table 3: The arithmetic mean, the standard deviation, and the calculated and tabular T value for the two social research groups for the half year (2011-2012)**

Level of significance	T value		The degree of freedom	Variance	standard deviation	Arithmetic mean	Number of sample members	the group
	Table	Calculated						
Non-D at the level of 0.05	2,000	0,112	61	216,09	14,7	64,29	31	Experimental
				217,27	14,74	63,88	32	Control

**Parental Achievement:**

**A. Educational achievement of parents:** The researcher conducted an equivalence between the two research groups in the educational achievement of the parents through an information form distributed to the students. After collecting the data on the parents’ achievement of the two groups, the achievement levels were (reading, writing, primary, intermediate, preparatory, Of these levels, In order to determine the parity of the students of the research groups (experimental and control) in the educational achievement of the parents, the researcher used the square equation of Ka (2) t was found that the difference was not statistically significant at the significance level (05, 0). The value of Ka (Ka2) calculated (1,032) was less than the value of Kai (Ka2) of the scale (7,815) and the degree of freedom (3) In parents’ academic achievement and Table (4)

**Table 4: Frequency of academic achievement of the parents of the students of the two research groups and the calculated and tabular values of Ka2 and the statistical significance**

Level of significance	The value of the square is Kai		The degree of freedom	Father’s collection			
	Table	Calculated		College and above	Preparatory and Institute	Medium	is reading Writes and initials <sup>1</sup>
Not statistically significant	7,815	1,032	3	6	7	8	10
				9	5	7	11
				15	12	15	21

**B. Educational achievement of mothers:** The researcher obtained information on this variable in the same way as the previous variable (parents' achievement). After collecting the data on the maternal achievement of the two groups, the achievement levels were: (Reading and writing, primary, intermediate, preparatory, institute, college and above) The results of the data showed that the calculated Kai value (1,968) was lower than the kai (k 2) tabular value of 7,815 and the freedom degree (3) at the level of significance (05, 0) and Table (5) shows that.

**Table 5: Frequency of educational attainment of mothers of the students of the two research groups and the calculated and tabular values (k2) and statistical significance**

Level of significance	The value of the square is Kai		The degree of freedom	Collecting the mother				Number of sample	the group
	Table	Calculated		College and above	Preparatory and Institute	Medium	is reading Writes and initials		
Not statistically significant	7,815	1,968	3	7	5	10	9	31	Experimental
				5	8	7	12	32	Control
				12	13	17	21	63	Total

**Search Accessories**

**Determination of scientific material:** The scientific material included the second and third units of the social books to be taught for the fifth grade for the academic year (2017-2018) during the period of the experiment.

**Teaching Plans:** The researcher prepared for the two groups research the teaching plans based on the content and behavioral objectives of the scientific material has been prepared (20) study plan for each group and formulated (141) behavioral goals.

**Search Tool**

**Collective test:** The researcher designed a collection test in light of the content of the social subjects to be studied during the trial period as shown in the following table

**Believe the test:** To achieve sincerity has been subject to a group of specialists in the field of teaching and measurement and evaluation and accepted the paragraphs by agreement 80% and more of the arbitrators

**Test correction standards:** The researcher prepared typical answers to the key of correcting the test scores by giving one degree to the correct answer and zero for the incorrect answer. The left words were answered without answering and the paragraph answered more than the answer of the incorrect answer. Thus, the total score of these paragraphs ranged from (40) The test scores were corrected by the researcher herself.

- **Test application for testing:** The researcher applied the experimental test to a sample of 100 students from the fifth grade The response time for students was approximately ( 46) minutes
- **Statistical analysis of test paragraphs:** The researcher applied the test to a sample of 100 students with the characteristics of the research sample to extract the statistical analysis of the test paragraphs in the school of rejoicing The coefficient of difficulty of the paragraph calculated by the researcher where Oujda it ranges between (0.39-0.70) The difficulty coefficients were acceptable because the coefficient of difficulty of the paragraph was acceptable, ranging from( 0.20 to 0.80). (Bloom, 1971: 40)
- **Parameter discrimination coefficient:** The coefficient of discrimination of paragraphs ranged from (0,33, 0-56) It is preferable to have a coefficient of distinguishing paragraphs (0.30) (Eble, 1972: 40).
- **The effectiveness of wrong alternatives:** The researcher used the equation of excellence with the wrong alternatives for each paragraph, which turned out to be attractive to the respondent of the low level, as he chose more than the high level
- **Test stability:** The test was verified In the equation of alpha chromosome Which is the usability that indicates the homogeneity of the interior which is closest to the concept of stability, but divided the test into parts with a number of paragraphs The

stability coefficient (0.88) It is a good stability factor because tests with a coefficient of stability of (0.60) and more, it is reliable.

The researcher used the statistical means T-test for two independent samples The coefficient of ease The difficulty And the effectiveness of wrong alternatives And the Kai box ( $\chi^2$  - quire - his).

The results indicated that there was no statistically significant difference at the level of (0, 05) between the experimental and the control groups between the average achievement scores and the experimental group that studied the social subjects through visual thinking skills and the average control group scores studied by the normal method The average score of the experimental group was (28.94) and the standard deviation was( 5.9), while the average score of the control group was (24.19) and the standard deviation was( 5,69).

### Conclusion

The adoption of visual thinking skills in teaching activate knowledge and generate excitement and motivation and suspense for the lesson, which increases the educational achievement of students, The adoption of visual thinking skills in learning social subjects for the fifth grade had a positive impact on the expansion of visual thinking of girls, And encourages learning based on the skills of visual thinking on freedom and express opinion and active participation in the lesson and this in turn increases self-confidence when expressing ideas and opinions without hesitation or fear, The teaching of social sciences according to the skills of visual thinking has had a positive impact on the level of students' attitudes toward social subjects.

**Financial Disclosure:** There is no financial disclosure.

**Conflict of Interest:** None to declare.

**Ethical Clearance:** All experimental protocols were approved under the University of Babylon, College of Basic Education, Babylon, Iraq and all experiments were carried out in accordance with approved guidelines.

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# Uric Acid Correlates Negatively with Anti-Mullerian Hormone in Chronic Kidney Disease and/or Polycystic Ovary Syndrome Patients

Samal Hakeem Kareem AL-Jaff

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## ABSTRACT

Female reproductive is deteriorating during CKD by a disruption in (hypothalamic-pituitary-gonadal axis). Our interest was to study the Anti-Mullerian Hormone (AMH) in CKD patients, with the possibility that CKD (not kidney failure) may effect on women AMH levels in CKD and/or PCOS, and the affection possibility of PCOS on kidney function. Eighty female involvement in this research (26-40) years old divided in to: twenty female as a healthy control. Twenty female PCOS group. 3) Twenty CKD group. Twenty female patients suffering from both CKD and PCOS (CKD+PCOS). This study conducted between (April 2015 to August 2017), in Baghdad. AMH was sub normal in CKD patients with a significantly higher level of LH ( $P \leq 0.01$ ), Uric acid, urea, Creatinine, monocytes and AMH was elevated in PCOS patients, uric acid correlate positively with and monocytes and negatively with AMH, also uric acid, LH, AMH and monocytes were significantly high ( $P \leq 0.01$ ) in CKD+PCOS group. Uric acid negatively affect AMH levels in women, AMH is not a good diagnostic indicator of PCOS status, if blood uric acid was high. PCOS may cause hyperuricemia leading to kidney failure. Kidney function showed be tested rottenly in any suspected case of PCOS.

**Keywords:** *Anti-mullerian hormone; Luteinizing hormone; Polycystic Ovary Syndrome; Chronic Kidney Disease; uric acid; monocytes.*

## Introduction

Menstrual defects, premature menopause, and infertility are mutual incident among chronic kidney disease (CKD) in women <sup>1</sup>. Their etiology is complex, such disorders may deteriorate fertility (secretion or metabolism) of several hormones <sup>2,3</sup>. The kidney is a sex hormone key regulator in CKD patients <sup>4</sup>, kidney disease onset results in the dysfunction of ovaries in women, predominantly though normal hypothalamus-pituitary-gonadal axis disruption <sup>1</sup>. Fertility disturbance by uremia in women with CKD may cause ovaries damage <sup>5</sup>. Luteinization of the follicles of the ovaries in patients with uremic CKD is very unusual leading to arrest of the ovary follicles <sup>6</sup>, the un Luteinization of ovary follicles in CKD seems to be similar to the Poly Cystic Ovary

Syndrome (PCOS) in women. In premenopausal women, PCOS is a very common endocrine disturbance, it's distinguished by, oligo-anovulation leading to changing in the morphology of the ovaries <sup>7,8</sup>. Anti\_mullerian Hormone (AMH) a delicate indicator for the activity of the ovaries and for diagnosis of PCOS <sup>9,10</sup>. AMH is a 140 kDa glycoprotein <sup>11</sup>, granulosa cells of essential pre antral follicles and small antral follicles in the ovaries synthesized AMH until these follicles reach to a diameter of 6-8 mm <sup>12</sup>. AMH function as folliculogenesis is to suppression the excessive of more primordial follicles recruitment and growth modification of the pre antral follicles and antral follicles by decreasing follicle sensitivity to Follicle Stimulation Hormone (FSH) <sup>11,13</sup>. The number of follicles correlates positively with serum level of AMH, Therefore, it is related to the reduction of growing follicles quantity <sup>14,15</sup>. Thus, the concentration of serum AMH reflects to follicles pool and it considers the best marker for ovarian reserve <sup>14,16</sup>. Serum Creatinine is an indicator, generally used to detect any small changes in Glomerular Filtration Rate (GFR). Hence, CKD represents a good biomarker. Serum Creatinine derived

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from the breakdown of Creatinine and phosphocreatine in muscle, it is filtered freely by glomerular. In Nerwan study, Creatinine and urea were significantly higher in CKD case, in addition, there is a growing proof that hyperuricemia (elevation in uric acid) is correlated with CKD development. There are limited literatures on the sexual problem of CKD in women. The aim of this study was to <sup>1</sup> comparing the level of AMH in PCOS patients and in CKD patients and in patients who have both diseases (PCOS and CKD). <sup>2</sup> Investigate the accuracy of using AMH for PCOS diagnosis when there is a kidney problem. <sup>3</sup> The causal relationship between PCOS leading to Kidney Disease. There are no other studies of this precise topic have been proceeding so far.

### Material and Method

This study accepted by all parties with the ethical standards of the responsible committee of the medical college in Mustansiriyah University.

**Subjects:** The informed written agreement has been signed by the participant. Before any involvement in this study. Eighty female involved in this study their age ranged between (26 - 40) years old, divided in to; (1) twenty healthy fertile female as control, (2) twenty female as PCOS patients (PCOS group), (3) twenty female previously diagnosed chronic kidney disease patients (CKD group), *not a stage of kidney failure that need hemodialysis*, and (4) twenty female patients with both CKD+PCOS. Blood sample and testing were collected in (Baghdad Medical City) in Baghdad during the period from (February 2015 to June 2017). Poly cystic ovary syndrome has diagnosed according to Rotterdam 2003 criteria: After exemption of any other disorders, PCOS defined as the existence of two of three of the following signs. (a) Menstrual and/or ovulatory disorder, Oligo or anovulation {Oligo menorrhoea, less than six menstrual periods in the prior year} or Amenorrhoea {no menstrual bleeding over prior three months}. (b) Hirsutism (clinical evidence of Hyperandrogenism) and/or biochemical signs of androgen excess. (c) Polycystic ovaries. This study discarded by a (questionnaire way) any patients with obvious system diseases such as diabetes, genetical diseases, obesity (Body Mass Index (BMI)  $\geq 25$  kg/m<sup>2</sup> was excluded), liver and thyroid diseases, and any endocrine disorder, also we excluded any patients on long-term treatment.

**Method:** Blood samples collected from the antecubital vein using a disposable syringe then centrifuged after that, serum was separated and kept in (-20 C) to be tested later by using.

- a. AFIAS- 6 {Automatic Florescence Immuno-Assay} were used to measure FSH, LH, by a Kite produced by (boditech)<sup>®</sup> from Boditech Med Inc. (KOREA).
  - b. {ELIZA} for AMH using (BECKMAN COULTER) <sup>®</sup> kite from Beckman Coulter, Inc. (U.S.A.).
  - c. Serum urea, uric acid, and Creatinine are most widely accepted parameters to assess kidney function status as well as renal status blood urea, Creatinine, and uric acid tested by using (BioSystems) <sup>®</sup> Kite, (Spain).
- Monocytes count was done with whole blood, using DxH 500\*, a five-part differential hematology auto-analyzer, (BECKMAN COULTER) <sup>®</sup>, (USA).

**Statistical Analysis:** The research data expressed as mean  $\pm$  standard error (M  $\pm$  SE). Considered data were analyzed by one-way analysis of variance (ANOVA) then followed by fisher's test for multiple comparisons using (Stat View software version 5.0). The differences were considered significant only when P-value is  $\leq 0.01$ . Analyses Regression were conducted through covariance analysis (ANCOVA) for correlation also carried out by using (Stat View software version 5.0).

### Results and Discussion

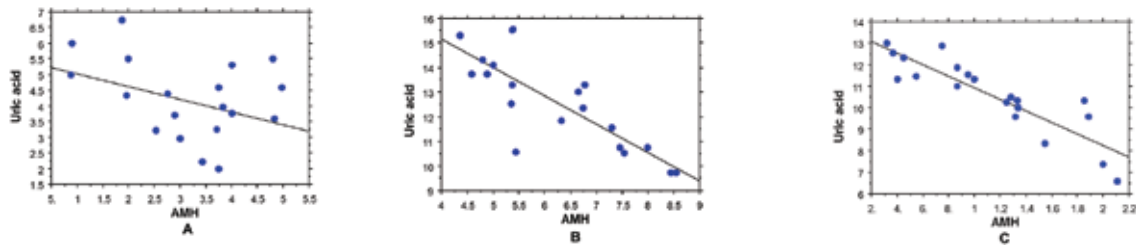
Anti-mullerian hormone data differenced significantly, in the table (1) AMH significantly differs ( $P \leq 0.01$ ) between all study groups and control group, it was higher ( $P \leq 0.01$ ) in PCOS group and lowest ( $P \leq 0.01$ ) in CKD group. In FSH, results showed significant differences ( $P \leq 0.01$ ) between all study groups and control group, the CKD group had the higher level ( $P \leq 0.01$ ) and the CKD+PCOS group showed the most lowest level ( $P \leq 0.01$ ), there were no differences ( $P \leq 0.01$ ) between CKD+PCOS group with PCOS group. This study showed a clear significant elevation ( $P \leq 0.01$ ) in LH concentration between all study groups compared with control group. It was very high ( $P \leq 0.01$ ) in the CKD+PCOS group and lowest ( $P \leq 0.01$ ) in the control group. Table (1) showed differences ( $P \leq 0.01$ ) in Creatinine. All groups under study showed a differences

( $P \leq 0.01$ ) compared with control group, Creatinine was higher ( $P \leq 0.01$ ) in CKD group and lowest ( $P \leq 0.01$ ) in the control group, urea concentration was significantly different ( $P \leq 0.01$ ) between all study groups compared with control group. Urea was higher ( $P \leq 0.01$ ) in CKD group and lower ( $P \leq 0.01$ ) in the control group. There were no differences ( $P \leq 0.01$ ) in Creatinine and urea levels between CKD+PCOS group and CKD group. Also in the table (1), a significant difference ( $P \leq 0.01$ ) in uric acid between all groups of the study compare to control group, it was higher ( $P \leq 0.01$ ) in the CKD+PCOS group and lowest ( $P \leq 0.01$ ) in the control group. No significant difference ( $P \leq 0.01$ ) was in uric acid between CKD group and PCOS group. Monocytes was increased significantly ( $P \leq 0.01$ ) in all study groups comparing with control group, it was higher in CKD+PCOS group and lower in control group. This study showed a negative association between AMH and uric acid in all study groups (fig 1, B.C.D) except in healthy control group (fig 1, A). Also Uric acid correlate positively with monocytes in all study groups (fig 2, B.C.D) except in control group (fig 2 A). In CKD group, AMH decreased under normal level; in women the onset of kidney disease results in dysfunction of the ovaries, largely by (hypothalamus-pituitary-gonadal axis) normal disarrangement, the degree of dysfunction seems to be linked directly to CKD, Thus, any disorder in menstrual cycle and in fertility become increasingly prevalent as CKD progressing in women (28). Logically impairment of ovulation in CKD may lead to increasing AMH, similar to PCOS cases (25), but our data showed decreases in AMH in CKD patients. We believe that this decrease due to the size of the follicles in the ovary, it might be bigger than (8mm) in CKD patient, normally AMH secretes from follicles less than (8mm)

in size (27). More studies should be done to compare the size of ovarian follicles between PCOS and CKD. Grabkaa (5) and Stoumpos (29) found that women with CKD, levels of AMH decreased but not in hemodialysis CKD patients, they found that with hemodialysis AMH increased, because AMH molecular weight of 140 kDa, and it cannot be cleared by dialysis (30). Uric acid in PCOS group was elevated, this result agreed by Gozukara (50) who also tested a high uric acid in PCOS patients, PCOS patients suffered from high C-Reactive Protein (CRP), and high CRP correlated positively with hyper filtration (49). This correlation is very important because increasing filtration is linked to renal function decline eventually (48). This declining in renal function leads to rising blood uric acid in PCOS patients. Luteinizing hormone in CKD+PCOS group was very high, higher than all study groups, this might be due to a synergism between CKD and PCOS, with the fact that both diseases cause LH elevations, LH elevated in CKD (34-36) and LH elevated in PCOS (24,32,39). AMH in CKD+PCOS group was lower than PCOS group this due to kidney disease which affect negatively on the ovaries by disruption of (hypothalamus-pituitary-gonadal) axis (28), also AMH was higher in CKD+PCOS group than the CKD group; this is a confusing result, logically it should be non-significant. This elevation of AMH in CKD+PCOS group may be hypothetical because: There are some small ovary follicles less than (8 mm) which still secrete AMH even with the disruption of (normal hypothalamus-pituitary-gonadal axis), this appeared to be due to kidney dysfunction (28), also, this is why AMH in CKD+PCOS group was higher significantly than control group. We believe that with time AMH will decrease in CKD+PCOS group.

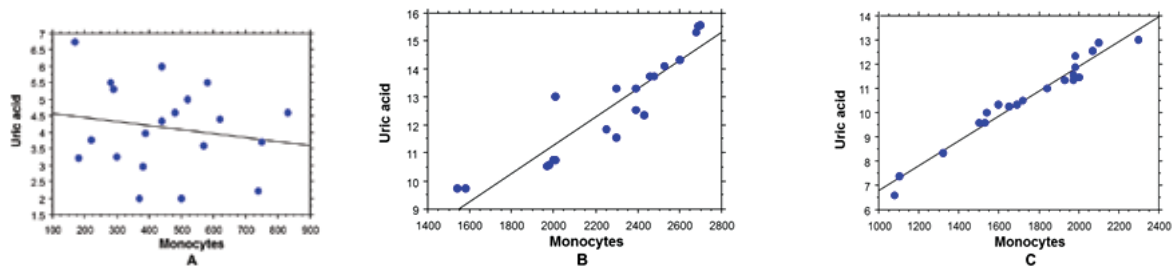
**Table 1: Comparison of data between study groups**

Parameters Groups	AMH ng/ml	FSH uIU/ml	LH mIU/ml	Creatinine mg/dl	Urea mg/dl	Uric acid mg/dl	Monocytes cell/mm <sup>3</sup>
Control	3.182 ± 0.269 S	6.281 ± 0.463 S	6.365 ± 0.430 S	0.558 ± 0.090 S	28.502 ± 2.051 S	4.099 ± 0.290 S	452 ± 42.401 S
CKD + PCOS	6.318 ± 0.301 S	3.267 ± 0.387 S	21.073 ± 0.531 S	2.808 ± 0.277 S	77.220 ± 3.910 S	12.617 ± 0.421 S	2264 ± 76.662 S
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CKD	1.123 ± 0.126 S	7.720 ± 0.312 S	15.965 ± 0.719 S	3.365 ± 0.272 S	80.496 ± 2.700 S	10.860 ± 0.386 S	1743 ± 73.990 S
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PCOS	9.881 ± 0.962 S	3.422 ± 0.286 S	14.054 ± 0.691 S	1.803 ± 0.173 S	67.452 ± 2.823 S	8.781 ± 0.775 S	1412 ± 151.849 S
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**Figure 1: Show the correlation between AMH: Anti-mullerian hormone (ng/ml) and Uric acid(mg/dl).**

**A) Control group: no correlation (P-value =0.490) (R<sup>2</sup>-value =0.136).B) CKD+PCOS group: negative correlation (P-value = 0.001)(R<sup>2</sup>-value = - 0.663). C)CKD group: negative correlation (P-value = 0.001) (R<sup>2</sup>-value = - 0.775).D)PCOS group: negative correlation (P-value = 0.001)(R<sup>2</sup>-value = - 0.932)**



**Figure 2: Show the correlation between Monocytes (cell/mm<sup>3</sup>) and Uric acid (mg/dl). A) Control group: no correlation (P-value =0.476) (R<sup>2</sup>-value =0.430).B) CKD+PCOS group: positive correlation (P-value = 0.001) (R<sup>2</sup>-value = + 0.268).C)CKD group: positive correlation (P-value = 0.001)(R<sup>2</sup>-value = + 0.680).D)PCOS group: positive correlation (P-value = 0.001)(R<sup>2</sup>-value = + 0.678)**

### Conclusion

Blood uric acid negatively affect AMH levels in women, AMH is not a good diagnostic indicator of PCOS status, if blood uric acid was high. PCOS may cause hyperuricemia leading to kidney failure. Kidney function should be tested routinely in any suspected PCOS cases. Blood uric acid positively correlate with monocytes numbers.

**Financial Disclosure:** There is no financial disclosure.

**Conflict of Interest:** None to declare.

**Ethical Clearance:** All experimental protocols were approved under the Mustansiriyah University, College of Science, Biology Department, Baghdad. Iraq and all experiments were carried out in accordance with approved guidelines.

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