The effect of Instructional Program about Diagnostic and Therapeutic Intervention for Infertility upon Infertile Women's Knowledge in Kamal Al-Samaraee Hospital

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المستخلص:

الهدف: تحديد اثر برنامج إرشادي حول التداخل التشخيصي والعلاجي للعقم على معارف النساء العقيمات.

المنهجية: اختيرت عينة غير احتمالية (غرضيه) شملت (١٠٠) امرأة عقيمة قمن بزيارة مستشفى كمال السامرائي / مركز الخصوبة وعلاج العقم وأطفال الأنابيب. شملت استمارة الاستبيان على الخصائص الديموغرافية ، معلومات عن الحالة الاجتماعية ، التاريخ الطبي السابق ، الحالة الإنجابية لحالة الجنسية وأسئلة حول معارف النساء العقيمات بخصوص العقم.تم تحديد الثبات والمصداقية لاستمارة الاستبيان ، وتم جمع البيانات من خلال استخدام وتطبيق البرنامج على عينة الدراسة باستخدام المحاضرات ، الكتيبات ، وعرض فلم. اجري تحليل البيانات من خلال تطبيق الإحصاء الوصفي و الإحصاء الاستدلالي.

النتائج : كشفت النتائج بأن النساء العقيمات في المجموعة الدراسية استفدن من تطبيق البرنامج الإرشادي ، حول معرفتهن بخصوص العقم ، أي كان هناك تحسن وتطور كافي في المعلومات. كما كشفت نتائج الدراسة وجود فروق في متوسط معارف النساء بين الاختبار القبلي والبعدي .

التوصيات : أوصت الدراسة بأن مراكز الخصوبة في العراق يجب أن تتضمن برنامج إرشادي بخصوص التداخل التشخيصي والعلاجي للعقم.

Abstract:

Objective: To determine the effect of instructional program on infertile women's knowledge regarding diagnostic and therapeutic intervention for infertility.

Methodology: Non-probability (purposive sample) of (100) infertile women, who visit Kamal Al-Samaraee Hospital/ fertility and IVF center. The data are collected through the use of constructed questionnaire, which included: demographic characteristics, social status, previous medical history, reproductive status, sexual status and questions regarding women's knowledge about infertility. Instrument validity and reliability was determined. Data were collected through the use of questionnaire, the application of the instructional program was done for the study group which use the lectures, booklets and video film. Analysis of data was performed through the application of descriptive and inferential statistical data analysis approach.

Results : Revealed that the infertile women in the study group had benefited from the implementation of the instructional program ; their knowledge was adequately improved and developed. The study illustrated significant difference between women's knowledge means in pre and post periods.

Recommendations: the study recommended that all the fertility centers in Iraq should be includes instructional programs about diagnostic and therapeutic intervention for infertility.

Keywords: instructional program, infertile women, diagnosis for infertility, therapeutic intervention for infertility.

Introduction:

Infertility is a condition affecting over five million couples annually with important medical, economic, and psychological implications [(1)]. Infertility is an extremely common problem that affects approximately 1 in 6 couples at some stage in their lives. The cause may be related to a problem with the man, woman or both. In view of the intimate nature of the problem, there can be few conditions that cause such personal distress and embarrassment[(2)] .A couple who has never been able to conceive is diagnosed with primary infertility whereas, a couple who has been able to conceive in the past but is currently unable to do is diagnosed with secondary infertility[(3)]. Infertility is rarely absolute, and most couples have a degree of sub fertility. Around 80% of the normal fertile population will conceive within 1 year and 92% by the end of 2 years [(2)].

Methodology:

A quasi-experimental design was carried out throughout the present study with the application of a pre-test and post-test for the study group. The study was conducted at Kamal Al-Samaraee / fertility & IVF center which is located at the Centre of Baghdad city, in Al-Rasafa sector. Non-probability (purposive sample), the study sample consists of (100) infertile women who were selected from Kamal Al-Samaraee Hospital. The study group was exposed to instructional program; the criteria of this sample were infertile women in reproductive age, with different educational levels, who were seeking counseling for diagnosis and treatment for their problem. Content validity of the program was obtained by panel of experts. The responses for modification were made in regard to the expert's comments and recommendations.

The instructional program consists of three major parts, and it was implemented through classroom sessions which were produced with respect to the essential information relative to the infertile women's needs to improve their knowledge regarding diagnostic and therapeutic intervention for infertility. Each session was designed and scheduled for approximately (1) hour. They were presented in Kamal Al-Samaraee Hos-pital/fertility and IVF center from the period of 15th April 2010, to 29th May 2010. The program sessions were managed by three methods, booklets, lectures, and video film.

The final steps of the study are to evaluate the impact of the changes that occurs in women's knowledge toward diagnostic and therapeutic intervention for infertility. This is done through the application of two post test after implementation of the instructional pro-gram first post test after one month and the second post test after 2 weeks after the first one.

A questionnaire was constructed through the review of related of literatures, previous studies, the use of information which had emerged of prior assessment, and it was applied before implementation of instructional program. The questionnaire was used as a means of data collection. It comprised of two main parts, (Demographic, Previous medical history, Reproductive status & Sexual status) and others.

The instrument was constructed to assess the effect of instructional program for the infertile women knowledge toward their diagnostic and therapeutic intervention (ques-tions regarding male and female reproductive system, regarding infertility definition and types, regarding female causes of infertility, regarding male causes of infertility, regarding counseling, regarding diagnostic test for infertile woman, regarding diagnostic test for infertile man & infertility treatment). The questions scores (1) for each correct question the total questions were (72) questions.

Less than 36 marks=low=scored (1), 36-54=fair=moderate=scored (2), 55-72= good =high=scored (3), inadequate=less than 36, Adequate=36-72, Improvement status categ-ories by (yes and no).

Results:

Table 1. Distribution of the Instructional Program Items with their Assessments according to Bad & Good Respondents in Different Studied Domains of Women's Knowledge in Multiple Periods

Periods and Domains of the studied knowledge	Pre test				Post test- 1				Post test– 2			
	Mean	S.D.	RS	Ass.	Mean	S.D.	RS	Ass.	Mean	S.D.	RS	Ass.
Information about reproductive system	1.30	0.46	65.0	Low	1.71	0.46	85.5	good	1.66	0.48	83.0	good
Definition of Infertility	1.09	0.29	54.5	Low	1.67	0.47	83.5	good	1.70	0.46	85.0	good
Male causes	1.36	0.48	68.0	Low	1.68	0.47	84.0	good	1.86	0.35	93.0	good
Female causes	1.46	0.5	73.0	Low	1.71	0.46	85.5	good	1.72	0.45	86.0	good
Counseling	1.55	0.5	77.5	Good	1.56	0.50	78.0	good	1.78	0.42	89.0	good
Diagnosis	1.73	0.45	86.5	good	1.78	0.42	89.0	good	1.77	0.42	88.5	good
Treatment	1.46	0.5	73.0	Low	1.72	0.45	86.0	good	1.80	0.40	90.0	good

Cut of point =1.5; RS=75; low moderate=75-87.5; High=88.5-100; RS: Relative sufficiency; SD: Standard deviation; ASS. : Assessment.

The findings of this table indicate that there was low mean of scores in most domains of infertile women's knowledge in pre-test and most of them assessed as bad and assessed good in post1 and post2 after the implementation of the instructional program.

Figure 1. Bar-chart for Means of Score's Assessments of Improvements in Different Studied Women's Knowledge at the Three Periods.

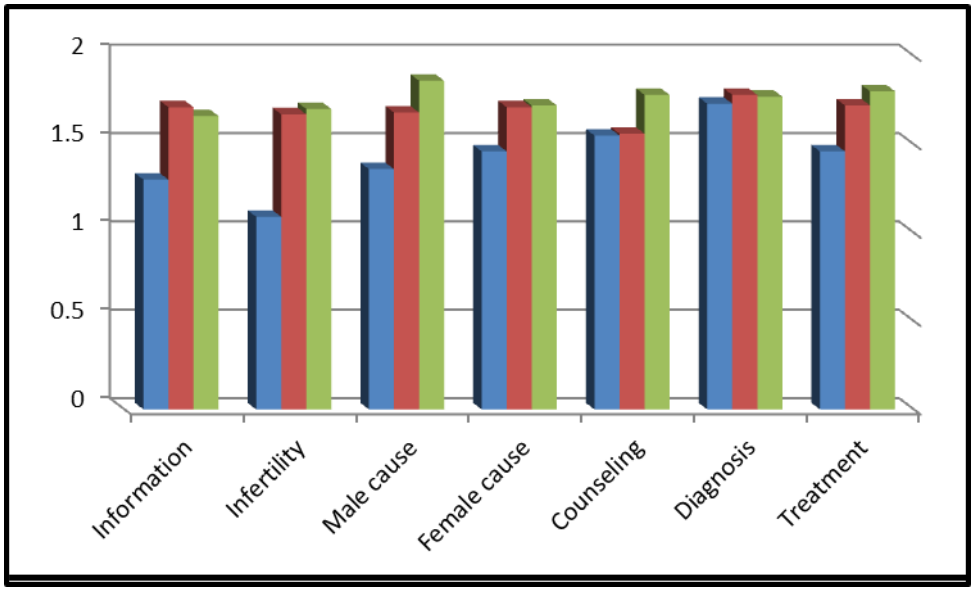

Table 2. Summary Statistics of the Instructional Program with their Assessments according to Bad & Good Respondents in Different Studied Overall Domains of Women's Knowledge in Multiple Periods

Periods and Overall the studied knowledge	Mean	Standard Deviation	Relative Sufficiency	Assessment
Overall Pre test	1.73	0.69	57.7	Low
Overall Post test 1	2.50	0.66	83.3	Good
Overall Post test 2	2.59	0.62	86.3	Good

Relative Sufficiency =66.6 low; Interval=100-66.6=33.4÷3=11.1; Moderate=66.7-77.8;High=77.9-88.9

The table depicts high mean scores in overall domains and their items concerning infertile woman's knowledge about diagnostic and therapeutic intervention after implementation of instruction program.

Table 3. Comparison of Significance between Each Contrast of Different Periods for Multiple Domains of Women's Knowledge of the Instructional Program:

Domains of the studied knowledge	Contrasts		P-value(*)
Information about reproductive system	Pre test	Post 1	0.000
		Post 2	0.000
	Post test	Post 2	0.332
Definition of Infertility	Pre test	Post 1	0.000
		Post 2	0.000
	Post test	Post 2	0.664
Male causes	Pre test	Post 1	0.000
		Post 2	0.000
	Post test	Post 2	0.001
Female causes	Pre test	Post 1	0.000
		Post 2	0.000
	Post test	Post 2	1.000
Counseling	Pre test	Post 1	1.000
		Post 2	0.001
	Post test	Post 2	0.000
Diagnosis	Pre test	Post 1	0.487
		Post 2	0.557
	Post test	Post 2	1.000
Treatment	Pre test	Post 1	0.000
		Post 2	0.000
	Post test	Post 2	0.152

(*) Mc-Nemar test ; HS = Highly Sig; at P-value < 0.01 ; NS : Non – Sig. at P-value > 0.05,P:probability level.

The table presents significant statistical association between information domain in pre-post1 and post 2, while no association between post1 and post2.

Table 4. Comparison of Significance between Multiple Overall Women's Knowledge of the Instructional Program Periods:

Ranks	Mean Rank
Overall Pre	1.330
Overall Post - 1	2.280
Overall Post - 2	2.400
Test Statistics(*)	
Chi-Square	126.835
Degree of freedom	2
P-value	0.000

(*) **Friedman Test; HS: Highly Sig. at P-value < 0.01**

The table shows high significant comparison between the overall women's knowledge in different periods of instructional program.

Table 5. Comparison of Significance between each contrast of different periods for overall domains of women's knowledge of the instructional program:

Wilcoxon Signed Ranks Test	Overall Pre Overall Post 1	Overall Pre Overall Post 2	Overall Post1 Overall Post 2
Z	-7.380	-7.817	-3.000
P-value	0.000	0.000	0.003

HS: Highly Sig. at P < 0.01

The table depicts high significant differences in comparison between the different periods for overall domains of infertile women's knowledge of the instructional program, pre-post1 (p=0.000), pre-post2 (p=0.000), and post1-post2 (p=0.003)

Figure 2. Bar – Chart of Improvement's Scores by Different Periods for Overall Domains of Women's Knowledge of the Instructional Program

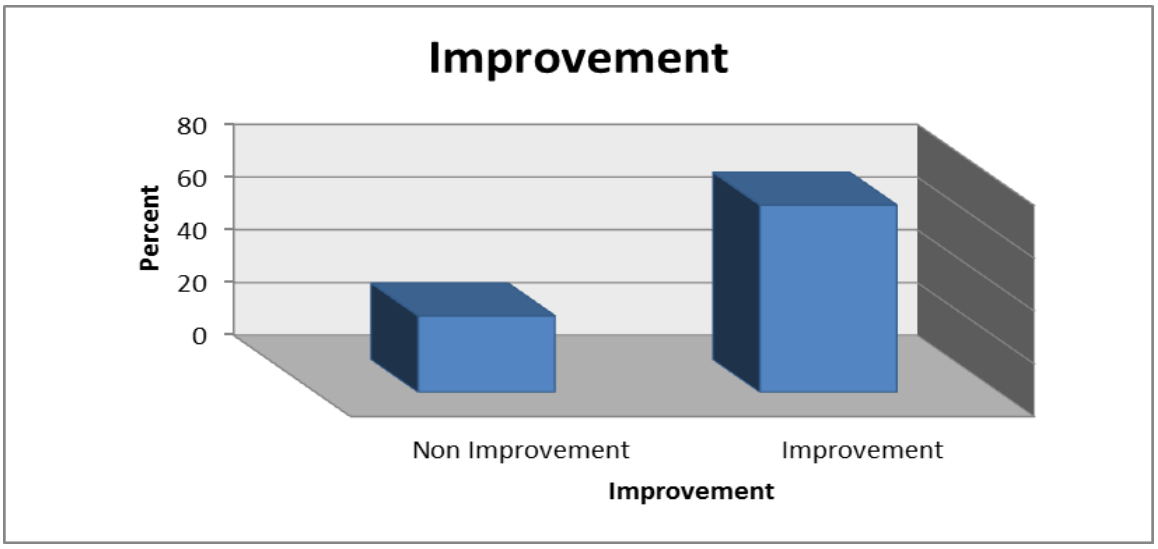

Figure 3. Pie-Chart of assessment's scores by different periods for overall domains of women's knowledge improvement after the instructional program.

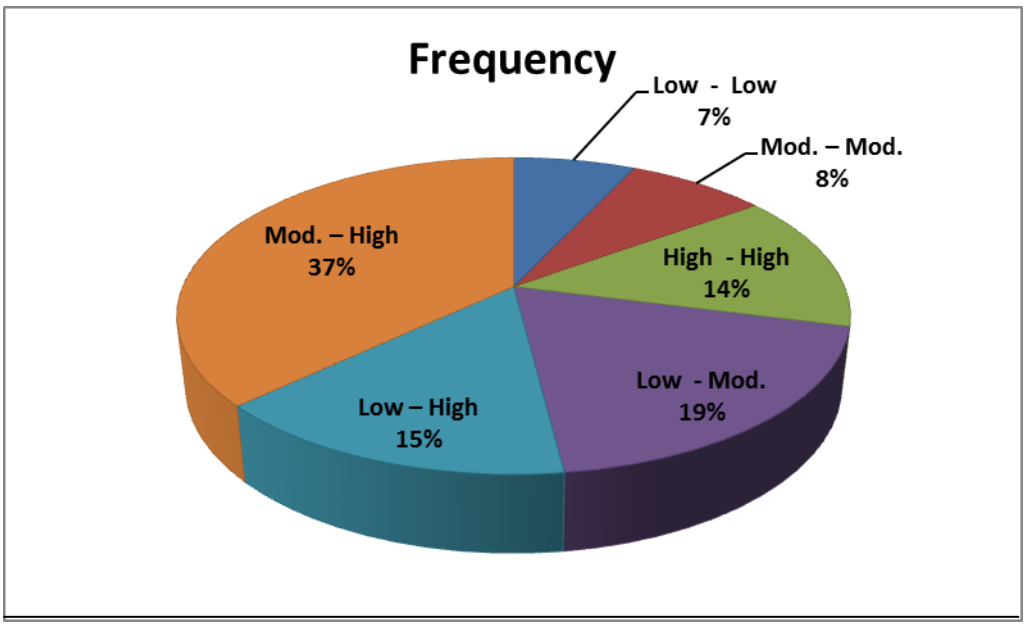

Table 6. Overall related treatment crosses tabulation among different periods for the different studied women's knowledge:

Related Treatment Cross tabulation					
Period	Assessment	Period		Total	McNemar Test Exact Sig. (2-sided)
		Post test1			
		Adequate	Inadequate		
Pre test	Adequate	38	8	46	0.000
	Inadequate	34	20	54	
Total		72	28	100	
Period	Assessment	Post test 2		Total	McNemar Test Exact Sig. (2-sided)
		Adequate	Inadequate		
Pre test	Adequate	41	5	46	0.000
	Inadequate	39	15	54	
Total		80	20	100	
Period	Assessment	Post test 2		Total	McNemar Test Exact Sig. (2-sided)
		Adequate	Inadequate		
Post test 1	Adequate	64	8	72	0.152
	Inadequate	16	12	28	
Total		80	20	100	

The table demonstrates high significant association between pre-post test1, and pre-post2 test, while no significant association was found between post1and post2test.

Table 7. Correlation ships between the Distributions of Demographical Characteristics and Overall Assessments due to the Suggested Women's Knowledge Program in Multiple Periods:

Demographical characteristics X Improvement Status(*)	Contingency Coeff.'s	Approx. Significant	Comparison Significant
Age of wife * Improvement	0.186	0.612	NS
Age of husband * Improvement	0.285	0.116	NS
BMI * Improvement	0.231	0.341	NS
Education of husband * Improvement	0.209	0.598	NS
Education of wife * Improvement	0.273	0.232	NS
Occupation of husband * Improvement	0.121	0.225	NS
Occupation of wife * Improvement	0.101	0.904	NS
Exposure * Improvement	0.112	0.261	NS
Previous wife married * Improvement	0.047	0.639	NS
1st married * Improvement	0.152	0.123	NS
Previous husband married * Improvement	0.033	0.745	NS
Multi Married * Improvement	0.007	0.941	NS
Husband - Smoking * Improvement	0.097	0.33	NS
No. of husband smoking cigarettes* Improvement	0.101	0.596	NS
Wife - Smoking * Improvement	0.091	0.361	NS
No. of wife smoking cigarettes * Improvement	0.091	0.659	NS
Family Smoking * Improvement	0.141	0.156	NS

NS= Non – Sig. at P>0.05 ;(*) Improvement Status categorical by (yes and no).

The correlation of this table has reported that the improvement of the infertile women's knowledge had no relationship with their socio-demographical characteristics in the overall assessments of women's knowledge program in multiple periods.

Discussion:

Distribution of women's knowledge regardings their information about male and female reproductive system:

The study revealed significant differences between pre-post1-post2 test concerning women's knowledge regarding information about male and female reproductive system (table 8).While there is no significant differences between post1 and post2 regarding information. The reproductive system or genital system is a system of organs within an organism which work together for the purpose of reproduction. Many non-living substances such as fluids, hormones, and pheromones are also important accessories to the reproductive system [4].

Regarding infertility definition and types:

The study depicted significant differences between pre-post1-post2 test in study sample concerning women's know-ledge regarding infertility definition and types (table 8), While there is no significant differences between post1 and post2 .Many women trying to conceive for the first time panic if their periods continue for even three or four months. But the standard definition of infertility is unsuccessful conception after an entire year of unprotected intercourse [5].

Regarding female causes of infertility:

The results of the study presented significant differences between pre-post1-post2 test concerning women's knowledge regarding female causes of infertility, While no significant differences between post1 and post2(Table 6). The major cause of infertility in Africa is infection-STD, furthermore infertility causes marital disharmony, which often leads to divorce. Women are blamed for the infertility. The couples also suffer stress from management of infertility [6].

Regarding male causes of infertility:

The results of the study presented significant differences between pre-post1-post2 test concerning women's knowledge regarding male causes of infertility. More than 90% of male infertility cases are due to low sperm

counts, poor sperm quality, or both. The remaining cases of male infertility can be caused by a number of factors including anatomical problems, hormonal imbalances, and genetic defects [7].

Regarding seeking counseling:

The study illustrated non-significant differences between pre-post1, while there were significant differences between pre-post2, and post1-post2 test concerning women's knowledge regarding seek counseling.

Discussions with the staff at the infertility clinic alleviate the situation and help to give it a new perspective [8].

Regarding diagnosis of the infertility:

The study depicted no significant differences between pre-post1-post2, and between post1 and post 2 test concerning women's knowledge regarding diagnosis of the infertility. Health care professionals diagnose infertility by performing an infertility workup, a series of tests conducted for both the man and woman [9].

Regarding treatment of the infertility:

The present study results revealed significant differences between pre-post1-post2 test concerning women's knowledge regarding treatment of the infertility, while no significant differences between post1 and post2. Infertility can be treated with medicine, surgery, artificial insemination or assisted reproductive technology. Many times these treatments are combined. About two-thirds of couples who are treated for infertility are able to have a baby. In most cases infertility is treated with drugs or surgery [10].

Recommendations

1. All fertility centers in Iraq should include instructional program about diagnosis and therapeutic intervention for infertility.

2. Nurses in the fertility centers should teach the infertile women about infertility in general.

3. Training programs for all nurses in the fertility centers to enable them to teach the infertile women and establishing new programs for nurses in the fertility centers to increase their information about infertility.

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