Assessment of Maternity Staff Nurses Knowledge Regarding Antiphospholipid syndrome

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Abstract

Background: Antiphospholipid syndrome (APS) is a complex autoimmune disorder that increase risk thromboembolic events that result in various problem for pregnant woman as sever preeclampsia, miscarriage , still birth , preterm labor. **This study aimed** to assess maternity staff nurses knowledge regarding antiphospholipid syndrome. **A descriptive** study design was used. This study conducted at high risk pregnancy unit at Ain Shams Maternity Hospital. **A convenient sample** was used to recruit two hundred twenty five staff nurses working in Ain Shams maternity university hospital. **Data were collected** through structured interview questionnaire. **The result of the study** shows that 79.6% of the studied nurses had unsatisfactory knowledge regarding APS. **Conclusion and recommendations:** The study concluded that most of the studied maternity staff nurses had unsatisfactory level of knowledge regarding antiphospholipid syndrome. **Accordingly, the following recommendation is proposed:** Developing a training program, booklets, and guidelines for maternity staff nurses for improving their level of knowledge regarding antiphospholipid syndrome.

Key words: Maternity Staff Nurses, Antiphospholipid syndrome.

Introduction

Pregnancy itself is safe to the mother and the child. Pregnant women with antiphospholipid syndrome APS are viewed as high risk obstetric patients, medical and nursing care are organized as a basic care ***(Simchen, et al, 2011)*** Antiphospholipid syndrome (APS) is an autoimmune disease. APS make unusual proteins called antiphospholipid autoantibodies in the blood. This makes blood stream flow dishonorably can lead to dangerous clotting in arteries and veins thrombosis that result in various problem for pregnant woman as sever preeclampsia miscarriage , still birth , preterm labor ***(Iwasawa , et al, 2011 and Dennen & Gabrielle , (2013).***

Antiphospholipid syndrome is autoimmune syndrome (APS) characterized by recurrent venous, arterial or small vessel thrombosis and pregnancy morbidity in the presence of antiphospholipid antibodies. APS can be found in pregnant women having neither clinical nor laboratory evidence of another definite autoimmune condition these referred to as primary APS. Or it may be associated with other diseases, mainly systemic lupus erythematous (SLE), and also can be found in other autoimmune disease, occasionally during infections, malignancies and in response to some drugs, these condition referred to as secondary APS ***(Biggioggero & Meroni, 2010).***

APS is a result of altered immunity. The cause of it is unknown but there is evidence of both genetic and environmental factor are implicated. Other autoimmune disease such as lupus increases the incidence of APS. Approximately 30 percent several drugs have implication for APS as phenothiazine ,phenytoin and which used for treatment of psychotic disorder and epileptic , hydralazine and propranolol which used for

treatment of hypertensive disorder , procainamide and quinidine which used as antiarrhythmic agent, Alfa interferon which used for treatment of leukemia disorder , amoxicillin used as antibiotic , chlorothiazide used as diuretic for hypertensive disorder , oral contraceptive drugs used as pregnancy controlling agents , and new immune suppressive as anti B cell drugs rituximab used to treatment of autoimmune disorder and types of cancer ***(Hughes & Sangle, 2012).***

Women with APS develop some clinical manifestation include signs of blood clots lead to stroke, heart attack, DVT and pulmonary embolism. Women with APS develop thrombocytopenia and bleeding disorder. Women may have chest pain, shortness of breath, upper body discomfort in arms, back, neck and jaw ***(Donadini & Crowther, 2010).*** Moreover, pregnant women can develop problems as miscarriage, still birth, abortion, pre-eclampsia intrauterine growth restriction, placental abruption, preterm delivery, intrauterine fetal death ***(Tincani et al, 2008).*** APS is one of the leading cause of un explained fetal loss and associated with 16% to 38% of fetal or embryonic deaths,15%to 30% of fetal growth restriction, and 18% of pre eclampsia in all pregnancies ***(Buyon, 2009).***

The primary pharmacologic treatment for APS during pregnancy is heparin which used instead of warfarin because of warfarin teratogenicity, and it is associated with live birth in 71%to 90% of treated patients . the dosage of standard, unfractionated heparin may range between 5,000 and 20,000 units subcutaneously every 8to 12 hours Treatment with anticoagulants should continue for 6 weeks following delivery because the risk of embolic formation . low dose of aspirin therapy (75mg/day to 100mg/day) ,alone or with heparin to enhance the management of APS . Aspirin is contraindicated during the third trimester because it can delay labor due to prostaglandin suppression , increase the risk of bleeding , neonatal jaundice and premature closure of the duct us arteriosus in the fetus (**Bates SM, et ,al 2008), (Bramham K, et ,al 2011)**

Nursing care for pregnant women with APS is very important . The nurse has crucial role in nursing assessment and history taking , obtaining and assisting in diagnostic procedures , monitoring of maternal and fetal condition , prevention of infection , administration of pharmacological therapy and education **(Littleton & Engerbereston , 2005)**

The maternity nurse often care for the pregnant women with APS who require treatment , education and support . the prevalence of APL antibodies increase and associated adverse pregnancy out- come , its imperative that the nurses are aware of APS , its risks , associated complication , medical treatment and nursing management . nurses may fail to anticipate changes indicating pregnancy complications. **(Dennen & Gabrielle 2013)**

Significance of the study:

Pregnant women with APS still develop morbidity and mortality despite current treatment as APS has great impact on the health status of pregnant women not only recurrent pregnancy loss and premature delivery, but whole body affected. In Egypt there were few researches were carried about APS. It was showed that many of the pregnant women with APS felt their diagnosis was delayed due to lack of knowledge of the health care providers.

Aim of the study

The aim of study is to assess maternity nurses' staff knowledge regarding anti phospholipid syndrome.

Research questions

1.Does maternity nurses' staff have knowledge regarding anti phospholipids syndrome?

2.What is the practice of maternity nurses' staff regarding anti phospholipids syndrome?

Subjects and methods

Research design:

A descriptive analytical study design was used

Setting:

The study was conducted at high risk pregnancy unit at Ain shams university maternity hospital.

Sampling;

Sample type:

A Purposive sample was used.

Sample size:

All maternity nurses staff (225) at Ain shams university maternity hospital.

Tools of data collection:

I. Interview questionnaire sheet developed by the investigator after reviewing related articles. It includes two parts as follows:

Part 1: **assessing staff nurse's demographic data** as age, level of education, years of experience...etc.)

Part 2: to assess staff nurse's knowledge regarding anti phospholipids syndrome adopted from ***(Dennen & Gabrielle, 2013).***

Scoring system.

1- Correct =3
2- Incomplete correct = 2
3- Incorrect=1

The total scoring system was graded as <75% unsatisfactory, ≥75% satisfactory .

Administrative design :

An official latter clarifying the title, purpose, and proposed setting of the study was obtained from the dean of the faculty of nursing, Ain Shams University. It was addressed to the director of the maternity hospital of Ain Shams University to obtain his approval for conducting the study.

Validity and Reliability

Tool of data collection was reviewed by a jury committee of three professors of Maternity and gynecological nursing to ensure its validity and reliability and modification needed was done.

Ethical considerations;

Field work phases

Written informed consent was obtained from participant after explaining the purposes of the study. The investigator clarified the objective and aim of the study to maternity nurse staff included in the study. All participants were informed that they have the right to withdraw from the study at any time. Finally, data will be confidential and will be used by the researcher only.

(A) Preparatory phase:

It was included reviewing of literature and Review of the past and current local and international related literature using books, scientific magazines and net search articles, and then developed tools. The developed tools were examined by experts to test its face and content validity. the investigator gave the maternity nurses questionnaire to fill by their own for assessing their knowledge about APS.

Pilot study:

It was carried out on 10% staff nurses and was not excluded from total sample in order to evaluate the efficiency and content validity of the tools to find the possible obstacles and problems that might be faced during data collection and necessary modification was done .

(B) Implementation phase;

The researcher visited high risk unit at Ain shams university Maternity Hospital 3 days/week during the morning shift till the end of data collection. The researcher interviewed each maternity staff nurses individually to assess their knowledge about APS.

Analytical Statistics:

Recorded data were analyzed using the statistical package for social sciences, version 20.0 (SPSS Inc., Chicago, Illinois, USA). Quantitative data were expressed as mean± standard deviation (SD). Qualitative data were expressed as frequency and percentage.

Results

Table (1): shows that percentage distribution of the studied nurses according to their socio-demographic characteristics. As regards to nurses' **Age (years)** 57.3% of them had more than

30 years old. Concerning level of education 75.1% of the studied nurses had technical diploma.

Figure (1): Shows that 82.2% of the studied nurses had more than five years of experience on maternity hospital.

Figure (2): Indicates that 4.0%, 42.7%, 28.0%, and 25.3% of the studied nurses working at antenatal clinic, high risk inpatient department, intensive care unit, and delivery department respectively.

Figure (3): Points out that 33.8% of the studied nurses caring with pregnant women suffering from antiphospholipid syndrome

Figure (4): reveals that only 0.9% of the studied nurses had attended training course regarding antiphospholipid syndrome.

Table (2): shows that 71.6%, 67.1%, 64.4%, and 64.4% of the studied nurses had unsatisfactory knowledge regarding effect of APS on pregnancy, causative factors for APS, effect of APS on mother during labor, and complications of APS respectively.

Figure (5): shows that 79.6% of the studied nurses had unsatisfactory knowledge regarding antiphospholipid syndrome.

Table 3 shows that there was statistically significant relation between nurses' age, working department and their level of knowledge. While, there was a highly statistically significant relation between nurses' level of education, years of experience, Care for pregnant women with APS and their level of knowledge.

Table (1): Number and percentage distribution of the studied nurses' according to their socio-demographic data (N=225)

Socio-demographic data	No.	%
Age (years)		
>20-24 years	34	15.1
25-29 years	62	27.6
≥30 years	129	57.3
Level of education		
Technical diploma	169	75.1
Bachelor of nursing	56	24.9

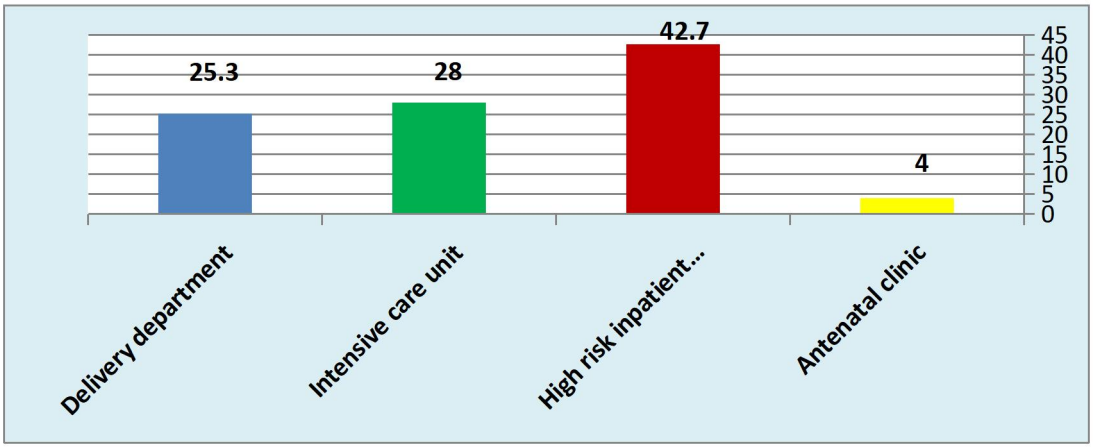

Figure (1): Percentage distribution of the studied nurses according to their years of experience

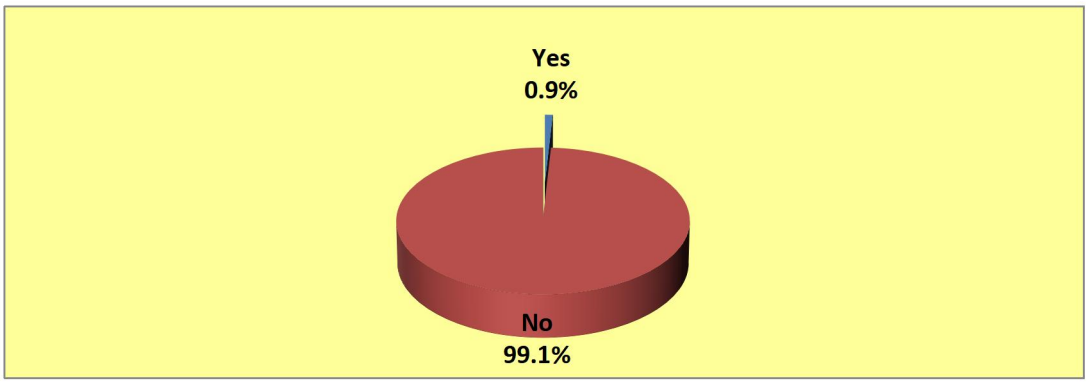

Figure (2): Percentage distribution of the studied nurses according to their working department

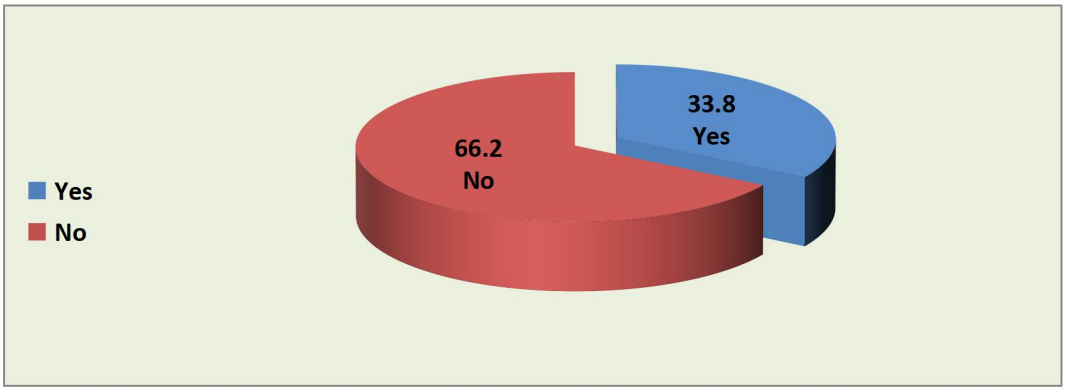

Figure (3): Percentage distribution of the studied nurses according to their care for pregnant women suffer from antiphospholipid syndrome.

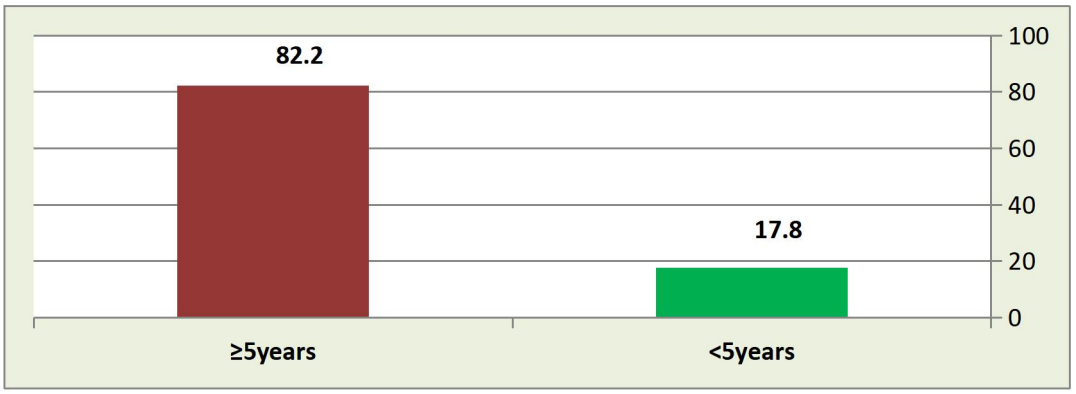

Figure (4): Percentage distribution of staff nurses according to their attendee for training course about antiphospholipid syndrome.

Table (1): Number and percentage distribution of the studied nurses according to their knowledge regarding antiphospholipid syndrome (N=225).

Items	Unsatisfactory		Satisfactory	
	No.	%	No.	%
1. Definition APS	143	63.6	82	36.4
2. Method of diagnosis	141	62.7	84	37.3
3- Types of APS	143	63.6	82	36.4
4- Causative factor	151	67.1	74	32.9
5. Associated manifestation	143	63.6	82	36.4
6. Effects of APS on pregnancy	161	71.6	64	28.4
7. Effects of APS on mother during labor	145	64.4	80	35.6
8. Effects of APS on fetus	127	56.4	98	43.6
9. Nursing care for pregnant women with APS	129	57.3	96	42.7
10. Medical treatment	129	57.3	96	42.7
11. Complications	145	64.4	80	35.6

APS "Anti-Phospholipid Syndrome".

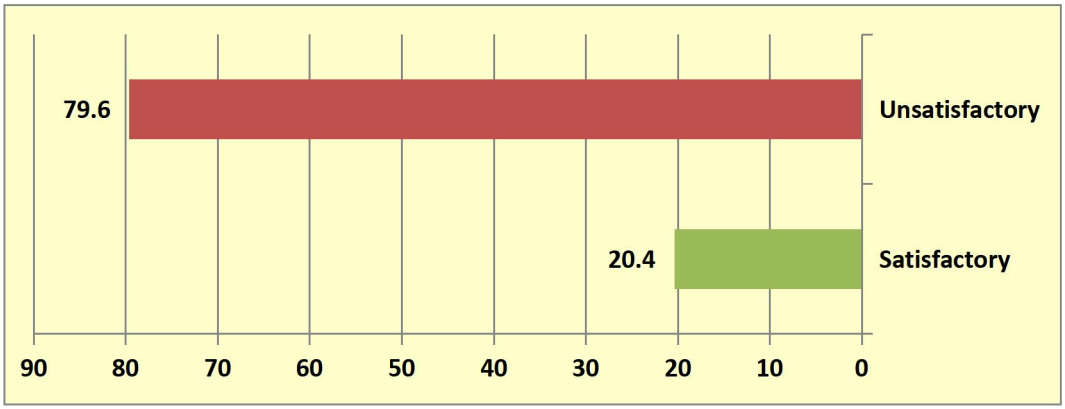

Figure (5): Distribution of the studied nurses according to their total knowledge regarding antiphospholipid syndrome (N=225).

Table (3): Relation between nurses' level of knowledge and their general characteristics (n=225).

Items	Level of knowledge				X^2	P-value
	Satisfied		Unsatisfied			
	No.	%	No.	%		
Age (years)						
>20-24 years	12	26.1%	22	12.3%	6.720	0.035*
25-29 years	14	30.4%	48	26.8%		
≥30 years	20	43.5%	109	60.9%		
Level of education						
Technical diploma	22	47.8%	147	82.1%	23.184	<0.001**
Bachelor of nursing	24	52.2%	32	17.9%		
Years of experience						
< 5 years	0	0.0%	6	3.3%	18.382	<0.001**
≥ 5years	46	100.0%	173	96.7%		
Working department						
Antenatal clinic	4	8.7%	5	2.8%	9.552	0.023*
High risk inpatient	26	56.5%	70	39.1%		
ICU	8	17.4%	55	30.7%		
Delivery	8	17.4%	49	27.4%		
Training courses						
Yes	0	0.0%	2	1.1%	0.519	0.471
No	46	100.0%	177	98.9%		
Care for pregnant women with APS						
Yes	42	91.3%	34	19.0%	85.544	<0.001**
No	4	8.7%	145	81.0%		

Discussion

Antiphospholipid syndrome (APS) is an autoimmune disease characterized by antiphospholipid antibodies (aPL) associated with thrombosis and/or pregnancy morbidity ***(Danowski et al 2009*)**. APS may occur in association with other autoimmune disorders called secondary APS or may be primary in the absence of any underlying illness ***(Dhir and Pinto, 2014)***.

Obstetric complications are the hallmark of antiphospholipid syndrome. Recurrent miscarriage, early delivery, oligohydramnios, prematurity, intra uterine growth restriction, fetal distress, fetal or neonatal thrombosis, pre-eclampsia / eclampsia, HELLP syndrome, arterial or venous thrombosis and placental insufficiency are the most sever APS related complications of pregnant women **(*Prima et al, 2011*).**

The present study is aimed to assess maternity nurse's staff perception and practice regarding anti-phospholipid syndrome.

As regarding of demographics characteristics of the study sample the result of present study revealed that more than half of maternity nurses staff their age over 30 years. This finding was in the same line with ***Dennen &Gabrielle (2013)*** who conducted across sectional survey design at one of the nation's buiest women and children's hospital in metropolitan city in the Southeastern United States on 83 of maternity staff nurses to assess the perinatal nurses knowledge of antiphospholipid syndrome and nursing management of pregnant women with antiphospholipid syndrome and mentioned that the mean age of maternity staff nurses was 41.5 years (±12.4).

Concerning educational level of maternity staff nurses the current study findings pointed out that more than three quarter of the studied maternity staff nurse had diploma degree. This finding was supported by ***Abd El salam, Shahin, and Ayoub; (2017)*** who carried out a quasi –experimental study at Shebin El-Kom teaching hospital , Menoufia university hospital and two maternal and child health centers (Kebly & Bahary) at Shebin El-Kom, Menoufia on 52 of maternity staff nurses to assess the impact of intervention program on nurses' knowledge and practice regarding nursing care of pregnant women with antiphospholipid syndrome .Its result showed that (73.1%) less than three quarter of staff nurses had diploma degree. This similarity could be justified by both studies conducted at governmental hospital and most of nurses working on this hospital had diploma degree.

Several studies emphasis on attending training program is very important for nurses as method for continuous updating and renewal of their knowledge ***(Lopez –Pedrera et al; 2012& Soh MC et al; 2013).***

Concerning maternity staff nurses attending training program regarding APS the current study findings showed that the most of studied maternity staff nurses not attending of training courses regarding antiphospholipid syndrome. This finding was in accordance with the result of study of ***Dennen & Gabrielle (2013)*** who mentioned that less one fifth of studied maternity staff nurses attending of training courses regarding antiphospholipid syndrome.

The current study findings revealed that one third of the studied maternity staff nurses their source of information from hospital and caring of cases with APS. This finding was on contrast with ***Atterbury et al; (2012)*** who mentioned that the nurses who were familiar with APS reported that their information about APS came from nursing school. This study was also, disagree with the findings of the study done by ***Dennen &Gabrielle (2013)*** who mentioned that less one fifth of the studied maternity staff nurses their source of information from nursing school. This difference could be justified by midwifery educational curricula in our community need to be revised and update.

Provision of quality obstetric care is regarded as an important component of maternal health which assists in the reduction of

maternal and neonatal death rates. Improving the quality of obstetric care by ensuring optimum knowledge and practices of nurse midwives caring for women is one of the strategies for achieving this target ***(Fullerton, Thompson et al., 2011).*** Nursing and midwifery education is the basis of qualified and competent maternity staff nurses' workforce. Therefore, improving quality of maternity staff nurses' education and training is an imperative way of improving health system ***(WHO, 2009).***

The current study findings pointed out that more half of the studied maternity staff nurses had unsatisfactory knowledge of the definition of antiphospholipid syndrome. This finding was consistence with the study of ***Dennen & Gabrielle (2013)*** who mention that three quarter of the studied maternity staff nurses had unsatisfactory knowledge of the definition of APS. These similarities due to the majority of maternity nurses not attend the training program regarding APS.

The present study findings revealed that more half of the studied maternity staff nurses had unsatisfactory knowledge regarding diagnosis, complication of APS and nursing care for pregnant woman suffering from APS. This result study compatible with the study of ***Abd El salam, Shahin, and Ayoub; (2017)*** who mentioned that majority of the studied maternity staff nurses (80.8%, 73.1%, and 78.8%) had unsatisfactory knowledge concerning diagnosis, complications and nursing care for pregnant woman with APS respectively. This unsatisfactory level of knowledge may be due to many factors, First of all qualification of the studied maternity staff nurses where majority of the staff nurses having qualifications of Diploma nursing. Second; only one third of the studied maternity staff nurses cared of pregnant women suffering from antiphospholipid syndrome.

Nurses are the ones who provide constant care of in patients and thus, they can be the most reliable persons to spread their knowledge for the health and wellbeing of the people, humankind or nation. From the beginning, nursing is a profession which has been working to promote peoples health, relieve their pain and misery, advocate for the weak and the susceptible and educate the people to attain a better quality of life ***(Sadia et al, 2019).***

Conclusion

Based on the findings of the present study, it can be concluded that:

The findings of the current study revealed that more than three quarters of the studied maternity staff nurses had unsatisfactory level of knowledge regarding antiphospholipid syndrome.

Recommendations

On the light of the findings of the study, the following are recommended:

- Developing a training program, booklets, and guidelines for maternity staff nurses for improving their level of knowledge regarding antiphospholipid syndrome.

- Further research is needed to evaluate effect of training program on maternity staff nurses' level of knowledge regarding antiphospholipid syndrome.

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