



ISSN: 0975-833X

RESEARCH ARTICLE

AN EPIDEMICAL STUDY ON SYPHILIS ON PREMARRIED COUPLES AND PREGNANT WOMEN IN THE CITY OF BAQUBA

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ARTICLE INFO

Article History:

Received 18th February, 2015
Received in revised form
20th March, 2015
Accepted 06th April, 2015
Published online 25th May, 2015

Key words:

Plasma,
RPR-Carbon.

ABSTRACT

This study is from December, 2013 to March, 2014 in Al-Batool hospital for childbirth and center laboratory. About 240 samples of blood divided into two groups, the first group is the (240 samples) healthy ones who are going to marry and the second is a hundred pregnant women as samples. Antibodies of plasma of a sample have discovered by using diagnostic equipment RPR-Carbon. The study shows that the first group is uninfected, while the second group about (13%) is positive and the highest rate which infected those who under (30) years old with a rate of gravity (6.1) and on the other side the infected pregnant in the first three months of the pregnancy is (81%).

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INTRODUCTION

Syphilis is a sexually transmitted infection caused by the spirochete bacterium *Treponema pallidum* subspecies *pallidum* (Olokoba *et al.*, 2009; Onwwezobe *et al.*, 2010; Rebecca *et al.*, 2006). The primary route of transmission is through sexual contact. Other cases of syphilis may also be transmitted from mother to fetus during pregnancy or at birth, resulting in congenital syphilis (Saloojee *et al.*, 2004). Syphilis has several various symptoms. It has, however, been known as "the great imitator" due to its frequent atypical presentations (Rapini *et al.*, 2008). The estimated incubation period is two to three weeks. It goes through three stages during its evolution: primary, secondary, and latent. The disease is contagious during the primary and secondary stages "early syphilis" while the latent stage starts after several years from the infection (Murray, Patrick 2009). The primary stage is marked by a skin lesion in the genitals accompanied by painless enlargement of lymph nodes three weeks after the infection (Onwwezobe *et al.*, 2010). The secondary stage starts after 7-10 weeks from the infection. The symptoms of this stage vary but the most common ones are the alteration of complexion and mucous membranes. It is possible that the patient passes the primary and secondary stages without any symptoms. The latent stage can fall into two periods. The earlier period is accompanied by the inflammation of complexion, mucous membranes, bones, and inner organs.

The late period affects the heart, blood vessels, and the nervous system (Farhi and Dupin, 2010).

It is also possible that certain cases of congenital syphilis occur during pregnancy or birth in which spirochaete is able to pass the infection to the fetus (Shazia Parveen *et al.*, 2012). Congenital syphilis is very dangerous on pregnancy and fetus due to the high possibility of transmission and the effect of the infection on the growth of the fetus as well as the possibility of death or abortion (Values *et al.*, 2002).

Studies show that the high possibility of infection is in pregnant women of the age group 25-30 years, as well as the high possibility of infection during the first third of gestational age (Isa *et al.*, 2014; Berman, 2004). Syphilis can be treated using penicillin, tetracycline, doxycycline, cephalosporin, as well as azithromycin (Mitchell *et al.*, 2006; Lukehart *et al.*, 2004).

MATERIALS AND METHODS

RPR-Carbon is used as a diagnostic device for syphilis infection

Study Groups

The study was conducted in Baquba city between December 2013 to March 2014. It included 240 sample divided into two groups.

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The first group included 140 healthy premarried couples 18-36 years. The second group included 100 infected pregnant women 16-36 years in different gestational ages.

Collecting Samples

5 mg venipuncture collected from the two study groups using syringes. Next, they were loaded in disinfected tubes to be coagulated in the room temperature. Then, for extracting the test serum, the samples were put in a centrifuge on 2000 rpm for 10 minutes. Every patient's age and gestational age. RBC examination was used to find the infected person by determining its results according to the instructions of the RPR-Carbon device supplying company (Rapini *et al.*, 2008).

Statistical Analysis

The data were analyzed using T and ANOVA tests.

RESULTS AND DISCUSSION

The study revealed that the premarried group registered no infection which is a sign of the awareness of the society (Wright *et al.*, 2003). Concerning pregnant women, the infection was 13% as shown in Table (1) below. This rate is good if compared with western societies in which the infection rate reaches 60% especially with drug takers (Shazia Parveen *et al.*, 2012). This shows the commitment of our society to Islamic principles

Table 1. Rate of Syphilis Infection in Pregnant Women

Total	R		W		N	
	Amount	%	Amount	%	Amount	%
100	13	13%	34	34%	53	53%

R=reaction, W=weekly, N=negative

Table (2) shows the rate of infection on pregnant women according to the age. It shows that the highest rate was under 30 years (15%) comparing the above 30 year age group with a significant difference and a risk factor 6.1 which agrees with many studies conducted (Wright *et al.*, 2003; Pennap *et al.*, 2011). This can be related to the amount of problems during youth and the speed of infection.

Table 2. Rate of Syphilis Infection in Pregnant Women According to Age

Age	R		W		N		Risk factor
	Amount	%	Amount	%	Amount	%	
Under 30	10	15	26	38	32	47	6.1
Over 30	3	9	8	25	21	55	
Total	13		34		53		

Sig> 0.05

Table (3) shows the rate of infection according to gestational age. It reveals that the highest rate of infection (15%) occurs during the first third of gestational age with a significant difference and a risk factor 6.4 which also concurs with the results of many studies (18,10,8). This can be linked to lack of attention in healthy conditions, immunity during pregnancy,

and response to medication (Berman, 2004; Values *et al.*, 2002).

Table 3. Rate of Syphilis Infection in Pregnant Women According to gestational age

Gestational age	R		W		N		Risk factor
	Amount	%	Amount	%	Amount	%	
1,2,3	7	18	13	34	18	47	6.4
4,5,6	3	14	7	32	12	54	
7,8,9	3	7	14	35	23	58	
Total	13		37		53		

Sig> 0.05

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