

Assessment Pregnant Women's Knowledge Regarding Syphilis at Primary Health care centers in Baghdad City

تقييم معارف الأمهات الحوامل حول مرض السفلس (الزهري) في مراكز الرعاية الصحية الأولية في مدينة بغداد

Alaa Kahtan Mohamed, MSN *

Iqbal majeed Abbas, PhD**

* Academic Nurse , Iraqi Center for Heart Disease Baghdad Health Directorate, allakahtan31@yahoo.com

**Professor Maternal and Newborn Nursing Unit, College of Nursing, University of Baghdad, Iqbalmajeed1900@gmail.com

الهدف : تهدف الدراسة الحالية إلى تقييم معارف الأمهات الحوامل المراجعات لمراكز الرعاية الصحية الأولية في محافظة بغداد حول مرض الزهري (السفلس) وإيجاد العلاقة بين معارف الامهات الحوامل والمتغيرات الديموغرافية والانجابية.
المنهجية : أجريت دراسة وصفية تحليلية لعينة غير احتمالية (عينة غرضية) مكونة من (250) امرأة حامل خلال مراحل حملهن المختلفة للفترة من 2013/10/2 إلى 2013/4/25 باستخدام استمارة استبائية تكونت من جزئين الاول حول المعلومات الديموغرافية والانجابية والثاني حول تقييم معارف الامهات الحوامل حول مرض السفلس الامهات الحوامل المراجعات مراكز الرعاية الصحية الأولية في الكرخ والرصافة في محافظة بغداد تم تحديد معامل الثبات للاستبانة من خلال اعادة الاختبار وتم تحديد صدق المحتوى من خلال الخبراء وتم استخدام الاحصاء الوصفي الاستدلالي في تحليل البيانات .
النتائج : أظهرت نتائج الدراسة إن معظم النساء الحوامل المراجعات المراكز الرعاية الصحية الأولية في محافظة بغداد ليست لديهم معلومات كافية حول مسبب مرض الزهري أو أعراضه أو علاماته وكيفية طرق انتقاله أو ماهية تأثيره على الجنين أو طرق الوقاية منه .
التوصيات: زيادة وعي ومعلومات الامهات الحوامل المراجعات لمراكز الرعاية الصحية الأولية في محافظة بغداد حول مرض السفلس بإعداد برامج تثقيفية وكتيبات صحية تهدف حماية الأجيال القادمة من خطر هذا الخمج .
مفاتيح الكلمات :معارف ،النساء الحوامل ، السفلس

Abstract :

Objectives: To assess pregnant women's knowledge regarding syphilis dna to find out the relationship between women's knowledge regarding syphilis infection and demographic and reproductive variables.

Methodology: A descriptive analytical study of non probable (purposive sample) of 250 pregnant women during their different gestational ages for the period (October 2nd to April 25th 2013) by using questionnaire format consists of demographic variables and items of women's knowledge regarding syphilis who are visiting primary health care centers in Al-Kharkh and Al-Rrusafa in Baghdad city. The coefficient reliability of the questionnaire was determined through test and retest approach and content validity through a panel of experts. Data are analyzed using descriptive and inferential statistics.

Results: It was revealed that pregnant women have no enough knowledge about Syphilis infection causes, signs and symptoms, mode of transmission, effect of infection upon fetal health and methods of prevention.

Recommendations: The study is recommended that primary health care centers should increase pregnant women's knowledge and awareness who attained primary health care centers in Baghdad city through educational programs and health booklets to increase their knowledge about these dangerous infection and its effect upon pregnancy outcome and mother's health.

Key Words: Knowledge, Pregnant Women, Syphilis

Introduction:

Syphilis is an infectious disease caused by *Treponema pallidum* and transmitted via sexual contact, infected discharge and blood as well as vertical transmission. It causes various impacts on women during pregnancy and their newborns which results in various complications⁽¹⁾ Syphilis is transmitted during pregnancy from a mother to her fetus; the spirochaete is able to pass through intact mucous membranes or compromised skin.⁽²⁾ It is thus transmissible by kissing near a lesion, as well as oral, vaginal, and anal sex.⁽³⁾ Approximately 30 to 60% of those exposed to primary or secondary syphilis will get the disease.⁽⁴⁾ Its infectivity is exemplified by the fact that an individual inoculated with only 57 organisms has a 50% chance of being infected.⁽⁵⁾ Untreated syphilis can also lead to stillborn or developmentally delayed babies. Even if you have been cured of syphilis⁽⁶⁾ Syphilis in pregnancy poses major health risks for the mother and the fetus and also increases the risk for HIV transmission⁽⁷⁾ The World Health Organization (WHO) estimates that there are twelve million new cases of syphilis worldwide each year⁽⁸⁾.

So all pregnant women should be tested for syphilis at their first prenatal visit. The screening test is usually repeated in third trimester of pregnancy as well. If infected babies are born and survive, they are at risk for serious problems including seizures and developmental delays. Fortunately, syphilis in pregnancy is treatable⁽⁹⁾ Syphilis in pregnancy is an infection with widespread complications for both the infected woman and her fetus Maternal syphilis has been associated with obstetric complications such as hydramnios, abortion, and preterm delivery; fetal complications such as fetal syphilis, hydrops, prematurity, fetal

distress, and stillbirth; and neonatal complications such as congenital syphilis, neonatal death, and late sequelae. Although congenital syphilis has been studied and described for many years, our understanding of the pathophysiology of maternal transmission of *Treponema pallidum* is still incomplete. Furthermore, the natural history of in utero treponemal infection of the fetus, amniotic fluid, and placenta is poorly described compared with our knowledge of neonatal and congenital syphilis.⁽¹⁰⁾

Primary syphilis is typically acquired by direct sexual contact with the infectious lesions of another person⁽¹¹⁾. Secondary syphilis occurs approximately four to ten weeks after the primary infection. While secondary disease is known for the many different ways it can manifest, symptoms most commonly involve the skin, mucous membranes, and lymph nodes.⁽¹²⁾ There may be a symmetrical, reddish-pink, non-itchy rash on the trunk and extremities, including the palms and soles. The rash may become maculopapular or pustular. It may form flat, broad, whitish, wart-like lesions known as condyloma latum on mucous membranes.

In secondary syphilis, the infection has spread throughout the body, so other symptoms may be associated with the skin manifestations. Fever, enlarged lymph nodes, fatigue, weight loss, hair loss, headaches, and muscle aches have all been reported in the secondary stage of syphilis. These symptoms will eventually subside, but if this secondary stage of the infection is not treated, the infection can progress to tertiary syphilis⁽⁹⁾.

Tertiary syphilis may occur approximately 3 to 15 years after the initial infection, and may be divided into three

different forms: gummatous syphilis (15%), late neurosyphilis (6.5%), and cardiovascular syphilis (10%). Without treatment, a third of infected people develop tertiary disease. People with tertiary syphilis are not infectious⁽¹³⁾. Congenital syphilis may occur during pregnancy or during birth. Two-thirds of syphilitic infants are born without symptoms. Common symptoms that then develop over the first couple years of life include: hepatosplenomegaly (70%), rash (70%), fever (40%), neurosyphilis (20%), and pneumonitis (20%). If untreated, late congenital syphilis may occur in 40%, including: saddle nose deformation, Higoumenakis sign, saber shin, or Clutton's joints among other⁽¹⁴⁾. Laboratory tests for diagnosing syphilis : Venereal Disease Research Laboratory; VDRL; Rapid Plasma Reagin; RPR; Fluorescent Treponemal Antibody Absorption Test; FTA-ABS; Treponema pallidum Particle Agglutination Assay; TPPA; Microhemagglutination Assay; MHA-TP; Darkfield Microscopy; Automated Immunoassays for Syphilis Antibodies; Treponema pallidum by PCR⁽¹⁵⁾.

Targeted fetal ultrasonography, amniocentesis, and fetal blood testing by percutaneous umbilical blood sampling have provided means to improve our understanding of fetal syphilis. In utero infection accompanies maternal early syphilis approximately half the time, but it is difficult to assess the severity of fetal infection⁽¹⁶⁾. Despite several advances in treatment and management, syphilis remains a major public health problem. **Objective :** To assess pregnant women's knowledge regarding syphilis dna to find out the relationship between women's

knowledge regarding syphilis infection and certain variables (demographic and reproductive) and other study variables.

Methodology:

A descriptive analytic study was conducted to assess knowledge of (250) non probable (purposive) sample of pregnant women about syphilis infection who visiting primary health care centers in Baghdad city in both Alkark and AlRusafa , a questionnaire was designed for data collection and reviewed to 10 pregnant women through pilot study by using test and retest method and approach validity of the questionnaire through reviewing it by panel of (12) experts in numerous fields, the data were gathered through the pregnant women interview each interview took approximately (20-40) minute ,Assessment questionnaire was consist of two main parts as : Part one : socio demographic and reproductive for the study sample Part two : questions related to knowledge about syphilis which are measured on 2 levels of likert range scale Yes (2) No (1) so the cut off point 1.5 Assessment of knowledge was based on this formula as { No. of items which of consist of(23) items* cut off point (1.5)} , so the score 34.5 and more was for accepted while less than 34.5 for un accepted. Data was collected from pregnant women in their different stages of pregnancy who are visiting primary health care centers in Baghdad city The data was analyzed using the statistical package for social science SPSS version 19 .

Table (1): Distribution of the Study Sample according to Socio-Demographic Characteristics (N=250)

Demographic Variables	F	%
Age group (years)		
≥ 20	34	13.6
21-25	67	26.8
26-30	58	23.2
31-35	46	18.4
36-40	40	16
41 and above	5	2
$\bar{X}28.34 \mp 6.77$		
Body Mass Index :		
Under weight =(<18.5) Kg /m ²	4	1.6
Normal range=(18.5-24.99) Kg/m ²	93	37.2
Over weight=(pre obese)(25-29.99) Kg/m ²	87	34.8
Obese class1=(30-34.99) Kg/m ²	51	20.4
Obese class2=(35-39.99) Kg/m ²	15	6
$\bar{x} 26.53 \mp 4.8$		
Residence		
Rural	49	19.6
Urban	106	42.4
Suburban	95	38
Occupation for the study sample		
Housewife	179	71.6
Employment	60	24
Private employment	11	4.4

Continues

Table (1): To be continued

Educational level for the study sample		
Illiterate	5	2
Read and Write	11	4.4
Primary school graduate	25	10
Intermediate school graduate	47	18.8
Secondary school graduate	45	18
Institution graduate	51	20.4
University graduate and above	66	26.4
Monthly income from their point of view		
Enough	146	58.4
Just enough	93	37.2
Not enough	11	4.4

F: Frequency, %: Percentage, \bar{X} : Mean, Kg: kilogram, M: Meter

This Table shows that the highest percentage (26.8%) of age group was 21-25years; (37.2%) of them had normal body mass index; (42.4%) of them were from urban residence; (71.6%) of them were housewife; (26.4%) of them were university graduate and above and (58.4%) of them had enough income.

Table(2): Distribution of the study Sample according to the Reproductive variables (N=250)

Reproductive variables		F	%
Age at menarche / year	10-13	148	59.2
	14-16	98	39.2
	17 and above	4	1.6
Age at marriage / year	15-19	133	53.2
	20-25	84	33.6
	26 and above	33	13.2
Number of Gravid	1-3	94	37.6
	4-7	131	52.4
	8 and above	25	10
Number of abortions	None	123	49.2
	1-4	116	46.4
	5-8	11	4.4
Number of Para	1-3	169	67.6
	4-7	77	30.8
	8 and above	4	1.6
Gestational age	First trimester	29	11.6
	Second trimester	136	54.4
	Third trimester	85	34
Number of cesarean section	None	121	48.4
	1-4	113	45.2
	5 and above	16	6.4

F: Frequency, %: Percentage

This table shows that the highest percentage (59.2%) of study sample, their age at menarche ranged between 10-13 years; (53.2%) of them, their age at marriage ranged between 15-19 years; (52.4%) of them had 4-7 pregnancies; (49.2%) of them did not have any type of abortions ; (67.6%) of them had 1-3 times of deliveries ; (54.4%) of them were in second trimester of pregnancy; and (48.4%) had previous normal vaginal deliveries.

Table (3) : Assessment knowledge of pregnant women about syphilis (N=250)

List	Knowledge	YES		NO		MS
		F	%	F	%	
I.	Causative agent					
1	It is a dangerous chronic disease caused by a type of bacteria (treponemapalidum)	125	50	125	50	1.5
II.	Symptoms & signs					
1	Fever	143	57.2	107	42.8	1.57
2	Joint pain or pain diffused to all body parts especially palms of the hands and ankles of the feet	99	39.6	151	60.4	1.39
3	Asymptomatic Sores appears in the genital area inside the vagina without pain or itching or secretions disappears during 3_6 weeks	85	34	165	66	1.34
4	Muscular atrophy	84	33.6	166	66.4	1.34
5	Diffused in the blood	99	39.6	151	60.4	1.39
6	Skin rash without itching	65	26	185	74	1.26
7	Dangerous symptoms appeared may infect the brain or nervous system or the spinal	84	33.6	166	66.4	1.34
8	Hepatosplenomegaly	84	33.6	166	66.4	1.34
9	problems in the eyes	84	33.6	166	66.4	1.34
10	bleeding in the throught may lead to death	84	33.6	166	66.4	1.34
III.	Mode of transmission					
1	Through unsafe sexual relationship like homosexual , and rectal sexual relationship	150	60	100	40	1.6
2	Touching or friction with infected body like kissing or direct contact with infected area	146	58.4	104	41.6	1.58
3	infected mother to the fetus transplacentaly	146	58.4	107	0.42	1.58
4	Blood transfusion from infected to healthy persons	150	60	100	40	1.6
5	Through umbilical cord or directly to the neonate	146	58.4	107	42.8	1.58

Continues...

Table (3): To be continued

<i>IV.</i>	Effect of syphilis on the pregnancy and fetus and delivery					
1	Fetal and congenital anomalies	129	51.6	121	48.4	1.52
2	Abortion after third and fourth months of pregnancy	122	48.8	128	51.2	1.49
3	May be Birth of normal baby not carrying the bacteria of the disease except after one year or more or may no symptoms appears in spite of positive laboratory tests	117	46.8	133	53.2	1.47
<i>V.</i>	Prevention					
1	abstinence of unsafe sexual relationship and homosexual or rectal sex	198	79.2	52	20.8	1.79
2	Using condoms during sexual intercourse	190	76	60	24	1.76
3	Avoid using any materials of infected person in the family	201	80.4	49	19.6	1.80
4	Cleaning of infected clothes (with out merging them with others)	201	80.4	49	19.6	1.80

F: Frequency, %: Percentage, MS: Mean of score

This Table shows the means of scores is (1.5) in the item No.(1) ;It is dangerous chronic disease caused by a type of bacteria.

Table (4) : Association between pregnant women's knowledge about syphilis and studied variables

Studied variables		Knowledge Syphilis				χ^2	DF	P.Value	
		Accepted		Unaccepted					
		F	%	F	%				
Age /years	14-24	39	15.6	46	18.4	0.410	2	0.815	NS
	25-35	49	19.6	55	22				
	36 and above	25	10	35	14				
Body mass index	<18.5 kg/m ²	0	0	4	1.6	3.48	2	0.176	NS
	18.5-24.99kg/m ²	40	16	50	20				
	25 -29.99kg/m ²	73	29.2	83	33.2				
Setting	Urban	47	18.8	59	23.6	1.66	2	0.532	NS
	Rural	26	10.4	23	9.2				
	Sub urban	40	16	55	22				
Occupation	Not working	82	32.8	97	38.8	0.09	1	0.758	NS
	employment	31	12.4	40	16				
Education level	Primary school and less	21	8.4	19	7.6	1.06	2	0.586	NS
	Intermediate and preparatory	40	16	53	21.2				
	Institute and above	52	20.8	65	26				
Economic status	Enough	63	25.2	83	33.2	.80	2	0.669	NS
	Just enough	44	17.6	49	19.6				
	Not enough	6	2.4	5	2				
Type of family	Nuclear	47	18.8	62	24.8	3.28	2	0.193	NS
	Extended	54	21.6	52	20.8				
	Shared	12	4.8	23	9.2				

Continues

Table (4): To be continued

Reproductive variables									
Age at menarche/ Years	10-13	68	27.2	80	32	3.35	2	0.187	NS
	14-16	45	18	53	21.2				
	17 and above	0	0	4	1.6				
Age at Marge/ Years	15- 19	63	25.2	71	28.4	1.62	2	0.445	NS
	20-25	34	13.6	51	20.4				
	26 and above	16	6.4	15	6				
Number of gravid	1-3	40	16	54	21.6	0.75	2	0.687	NS
	4-7	60	24	71	28.4				
	8 and above	13	5.2	12	4.8				
Number of para	1-3	75	30	94	37.6	0.95	2	0.619	NS
	4-7	37	14.8	40	16				
	8 above	1	0.4	3	1.2				
Number of Abortion	Zero	51	20.4	72	28.8	1.70	2	0.426	NS
	1-4	58	23.2	59	23.6				
	5-8	4	1.6	6	2.4				
Gestational age	First trimester	13	5.2	16	6.4	0.18	2	0.912	NS
	Second trimester	60	24	76	30.4				
	Third trimester	40	16	45	18				
Number of cesarean section	Zero	57	22.8	64	25.6	1.56	2	0.458	NS
	1-4	47	18.8	66	26.4				
	5 and above	9	3.6	7	2.8				

F: Frequency, %: Percentage, NS: Not Significant

This table shows that there is no a statistical significance association between pregnant women's knowledge about syphilis and studied variables.

Discussion :

Table (3) shows the means of scores is (1.5) in item number (1), it is a dangerous chronic disease caused by a type of bacteria Syphilis is caused by a spirochete (spiral- or coil-shaped bacterium), *Treponemapallidum*; it is transmitted in the adult population by sexual intercourse. About 2-5% of children born to mothers diagnosed with syphilis will have the disease at birth. Syphilis has been added to the TORCH panel because of a rapid increase in reported cases since 1990. It is also a potentially life-threatening infection for the fetus. Syphilis can cause early delivery, miscarriage, or stillbirth. The mortality rate in infants infected with syphilis is about 54%⁽¹⁷⁾.

Symptoms and Signs of infection with Syphilis : The highest mean of score is (1.57) in item number (1) as in Fever ; while the lowest mean of score is (1.26) in item number (6) as in skin rash without itching. It was reported that untreated syphilis in a pregnant women leading death of the fetus up to 40% of infected pregnant women (stillbirth or death shortly after birth), so all pregnant women should be tested for syphilis at their first prenatal visit. The screening test is usually repeated in the third trimester of pregnancy as well. If

infected babies are born and survive, they are at risk for serious problems including seizures and developmental delays. Fortunately, syphilis in pregnancy is treatable.

Mode of Transmission : The highest mean of score is (1.58) in items number (2,3,5) it is the same for items of touching or friction with infected body under specific circumstances like kissing or direct contact with infected area, from infected mother to the fetus transplacentaly and through umbilical cord or directly to the neonate; while the lowest means of scores is (1.6) in item number (1,4) Through unsafe sexual relationship like homosexual and rectal sexual relationship, Blood transfusion from infected to healthy persons has indicated that poor knowledge about syphilis is also a potential barrier to testing⁽⁷⁾. For example, although many women could describe the symptoms of sexually transmitted infections (STIs) (itches, pimples, and vaginal discharge), have been unaware about syphilis or the consequences of untreated syphilis for the mother and child.

Effect of Syphilis on the Pregnancy Outcome : the highest mean of score is (1.52) in item number (1) as in Fetal and congenital anomalies fetus ; while the lowest mean of

score is (1.47) as in item number (3,4) that is Abortion after third and fourth months from pregnancy; may be Birth of normal baby not carrying the bacteria of the disease except after one year or more or no symptoms may appear in spite of positive laboratory tests .

Prevention : the highest mean of score is (1.80) in items No.(3,4) that is Avoid using any materials of infected person in the family, Cleaning of infected clothes (with out merging them with others) is the same, while the lowest mean of score is (1.76) in item No.(2) that is by using condoms during sexual intercourse .

The table shows that there is no a statistical significance association between pregnant women's knowledge about syphilis and studied variables as shown in table (4).

There is no vaccine for syphilis, no acquired immunity to syphilis, and past infection provides no protection! A person can be infected with syphilis, treated, and then become re infected, once, twice, or a hundred times⁽¹⁷⁾ .

The prevalence and incidence of syphilis is low in our area (Iran,shiraz) which may be due to variable reasons, such

as: reduction in the rate of unsafe and unprotected sex; improving knowledge, and adequate health care services. More studies are still needed to decide whether syphilis screening is beneficial and should be considered as a routine test in pregnancy⁽¹⁾ .

According to a report, about 98.7% of pregnancies which end up to live births in the United States have had at least one prenatal visit before delivery, The risk of occurrence of such complications caused by syphilis is relied on several factors such as: age, education, information sources ,etc.

A study was conducted in Shenzhen (China) reported that marriage in low ages less than 19 years old has been considered as a risk factor due to lack of knowledge about transmission ways of STDs, lack of health care, and did not use of appropriate contraceptive methods⁽¹⁷⁾ .

Recommendations: The study has recommended that primary health care centers should include their knowledge and awareness through educational programs and health booklets to increase their knowledge about these dangerous infection, and its effect up on pregnancy out come .

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