

# Unveiling the Challenges: Why Dating Scan Remain Elusive for Many Women?

Dating Scan by  
Women of  
Reproductive  
Age

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## ABSTRACT

**Objective:** To assess barriers in obtaining dating scan by women of reproductive age of Lahore.

**Study Design:** Cross-sectional study

**Place and Duration of Study:** This study was conducted at the Central Park Teaching Hospital from April 2021 to October 2021.

**Methods:** A detailed sociodemographic history and parameters were recorded including age, education and socioeconomic status. Obstacles in getting dating scan were assessed using a 9-item questionnaire which records responses in terms of yes and no. Data was imported to SPSS version 26.0 from Microsoft excel for statistical analysis. Data was stratified based on socioeconomic status, level of education and age. The study parameters were compared and correlated by using chi-square comparison and correlation test. For significance, a cutoff of p value of 0.05 was set as standard.

**Results:** The mean age for study participants (n=400) was noted as  $32.09 \pm 6.94$  year with age range of 18 to 45 years of age. 51.25% of women belonged to lower socioeconomic status while 49.75% had higher socioeconomic status. 25.75% (n=103) were illiterate, 36% (n=144) were matric and below and 38.25% (n=153) were those who had education above matric till masters. older women were reluctant to visit healthcare facilities when compared to younger females (21.20% v/s 5.22%) with the p value of 0.0001. Low income was a major obstacle in obtaining dating scan as compared to high income (47.26% v/s 9.55%) with p value of 0.0001. More the education greater the knowledge of antenatal care was observed between study groups as with p value of 0.0001.

**Conclusion:** Lack of knowledge regarding dating scan, poor socioeconomic status, age more than 35 years, uncooperative attitude of husband and family members are the major obstacles in obtaining dating scan.

**Key Words:** Antenatal care, dating scan, barriers, reproductive age, socioeconomic

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## INTRODUCTION

Prenatal care includes early pregnancy booking visit as an essential component. As of 2016, the World Health Organization (WHO) advises regular antenatal care (ANC) should include an ultrasound scan. In order to assess gestational age, enhance identification of fetal malformations and multiple pregnancies, lessen the need for induction of labour in post-term pregnancies,

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and enhance a woman's pregnancy experience, one ultrasound scan before 24 weeks' gestation is advised for pregnant women<sup>1</sup>. Dating scan is a non-invasive, affordable, safe and reliable method for detection of not only fetal wellbeing but also in early diagnosis of chromosomal anomalies like Down syndrome<sup>2</sup>. Ultrasound is widely considered as a harmless, convenient and painless procedure<sup>3</sup>. A routine ultrasound at 10 to 13 weeks of gestation is recommended to determine an accurate gestational age<sup>4</sup>. Due to memory-related and other sources of error, dating by first day of last menstrual cycle is less accurate than dating by ultrasound<sup>5</sup>. The crown-rump length, used in conjunction with first trimester ultrasonography, provides a 95% confidence interval of 5 days for dating. For the best evaluation of fetal growth later in pregnancy, obtaining an exact gestational age is crucial<sup>6,7</sup>.

To have a better pregnancy outcome, WHO recommends eight contact sessions throughout pregnancy. A minimum of four contact sessions are essential to reduce maternal and perinatal morbidity and mortality<sup>1</sup>. Only 51% of women had at least four ANC

visits for their most recent birth in the five years prior to the survey, according to the Pakistan Demographic and Health Survey (PDHS) 2017–18; however, this proportion varied between urban (71%) and rural (42%) women. In the first trimester of pregnancy, more than half of the women (55%), with a difference between urban (70%) and rural (47%) domicile, got ANC.<sup>8</sup>

Most of the women are unaware of optimal time to start ANC and they are unaware of the benefits of receiving ANC throughout pregnancy including dating scan<sup>9</sup>. It has been shown that as the educational standing of women in urban settings improves, prenatal care's value is becoming more widely known<sup>10, 11</sup>. Besides lack of knowledge there are major constraints faced by the pregnant women in getting first trimester visit and that include poor socioeconomic status, uncooperative attitude of husband and family members, lack of transport, long distance and long waiting hours<sup>12</sup>. Therefore, this study is warranted to assess barriers in obtaining dating scan faced by local population of Lahore.

## METHODS

As per guidelines Helsinki Declaration, ethical approval was obtained from institutional review board of Central Park Medical College & Teaching Hospital Lahore and a cross-sectional study was conducted for the assessment of barriers in getting dating scan at the department of obstetrics and gynecology at Central Park Medical College & Teaching Hospital Lahore from April 2021 to October 2021. Women ranging 15 to 45 years of the age were recruited for the study after obtaining prior written informed consent. While women of reproductive age with issues of subfertility and unmarried women of reproductive age were excluded from the study.

A detailed sociodemographic history and parameters were recorded including age, education and socioeconomic status. Knowledge about importance of dating scan was assessed. Obstacles in getting dating scan were assessed using a 9-item questionnaire which records responses in terms of yes and no. Questionnaire included responses on obstacles and were cooperation of spouse, income of family, restriction from family, remain busy in household, access and distance to healthcare facility, waiting time and attitude of health care provider. The questionnaire was validated with initial 50 responses with alpha Cronbach of 0.9 and afterwards was administered to whole study population. Age stratification was done using a cut off of 35 years of age. While education was clustered into three groups; illiterate (those who failed to attend school at any level), matriculation and below and those who had education from higher secondary to master levels. Socioeconomic status was established based on familial income and were categorized into two classes; class 1

(having familial income of <25000) and class 2 (having familial income of more than 25000).

**Statistical Analysis:** Data was entered into Microsoft Excel and was dually compared and checked for any errors and omissions. After cross checking and verification, data was imported to SPSS version 26.0 for statistical analysis. Qualitative data including education levels and socioeconomic status was assessed in terms of frequencies and percentages and was presented as pie charts. Data was stratified based on socioeconomic status, level of education and age with cut off of 35 years. The study parameters were compared and correlated by using chi-square comparison and correlation test. For significance, a cutoff of p value of 0.05 was set as standard.

## RESULTS

The mean age for study participants (n=400) was noted as  $32.09 \pm 6.94$  year with age range of 18 to 45 years of age. Overall study participants were grouped into two groups age less than 35 years were 62.25% (n=249) while 37.75% (n=151) had age 35 years or more. Socioeconomic status was decided based on monthly income, lower socioeconomic status was in those who had monthly income less than 25000 (n=201) was 51.25% while higher socioeconomic status was in those who had monthly income greater than of 25000 was 49.75 % (n=199). Level of education of study population was assessed and it was noted as; 25.75% (n=103) were illiterate, 36% (n=144) were matric and below and 38.25% (n=153) were those who had education above matric till masters.

On assessment of study variables i.e. obstacles in getting the dating scan based on their age groups; it was noted that lack of knowledge, low income, attitude of husband, familial restrictions and long distances to healthcare facility have been significant obstacles. As explained in table 1, relatively more antenatal obstacles were there with females age greater than 35. In females less than of 35 years of age 9.24 % of husbands were non-cooperative while on the other hand in females greater than 35 years of age 27.15% of husbands were non-cooperative with p value of 0.0001. Similarly, restrictions from family were also greater on older females when compared to younger ones (33.11% v/s 13.25%) with p value of 0.0001. Interestingly it was also noted that older women were reluctant to visit healthcare facilities when compared to younger females (21.20% v/s 5.22%) with the p value of 0.0001. Moreover, it was also noted that older women had complaints of not positive doctor's attitude (7.28% v/s 1.60) with the p value of 0.006. Long distance and long waiting hours have also contributed towards poor antenatal care as explained in table 1.

Based of socioeconomic status, obstacles in getting dating scan were assessed by employing chi-square and fisher exact test as explained in table 2. It was noted

that in class 2, who had greater income were considering education more important (95.98% v/s 89.05%) with p value of 0.012. Low income was a major obstacle in good antenatal care prevalent in class 1 (47.26% v/s 9.55%) with p value of 0.0001. Generally, it was observed that obstacles like non-cooperative husband, restrictions from family members, being busy in house hold and longer distances were noted as significant obstacles in class 1 (having lower socioeconomic status when compared to class 2) as explained in table 2.

Based on levels of education levels, a comparison of barriers of getting dating scan was assessed by employing chi-square test. More the education greater the knowledge of antenatal care was observed between study groups as explained in table 3 with p value of 0.0001. It was also noted hurdles of antenatal care like low income, non-cooperative husband and restrictions from family members were more common in cases of illiterate women as compared to literates as explained in table 3. Similarly, long distance and long waiting hours were major issues for group 1 when compared to group 2 and 3 as explained in table 3.

**Table No.1. Comparison of Obstacles in getting dating scan based on Age Stratification.**

Factors	Categories	Age Stratification		p-value
		Age < 35 years (n=249(%))	Age ≥35 years n-151(%)	
Importance of dating scan.	Yes	237(95.18)	133(88.08)	0.011*
	No	12(4.82)	18(11.92)	
Low income	Yes	44(17.67)	70(46.36)	0.0001*
	No	205(82.33)	81(53.64)	
Husband is non-co-operative	Yes	23(9.24)	41(27.15)	0.0001*
	No	226(90.76)	110(72.85)	
Nobody at home to take to health facility.	Yes	33(13.25)	50(33.11)	0.0001*
	No	216(86.75)	101(66.89)	
Restriction from family member	Yes	26(10.44)	44(29.14)	0.0001*
	No	223(89.56)	107(70.86)	
Remain busy in household.	Yes	48(19.28)	67(44.37)	0.0001*
	No	201(80.72)	84(55.63)	
Don't want to go to health facility.	Yes	13(5.22)	32(21.20)	0.0001*
	No	236(94.78)	119(78.80)	
behavior of doctors is not positive.	Yes	4(1.60)	11 (7.28)	0.006*
	No	245(98.40)	140 (92.72)	
Long distances.	Yes	36(14.46)	41 (27.15)	0.002*
	No	213(85.54)	110 (72.85)	
Long waiting hours	Yes	33(13.25)	41 (27.15)	0.0001*
	No	216(86.75)	110 (72.85)	

**Table No.2: Comparison of Obstacles in getting dating scan based on Socioeconomic Status.**

Factors	Categories	Stratification based on socioeconomic class		p-value
		Income < 25000 (n=201(%))	Income > 25000 (n=199(%))	
Importance of getting dating scan	Yes	179(89.05)	191(95.98)	0.012*
	No	22(10.95)	8(4.02)	
Low income	Yes	95(47.26)	19(9.55)	0.0001*
	No	106(52.74)	180(90.45)	
Husband is not co-operative	Yes	51(25.37)	13(6.53)	0.0001*
	No	150(74.63)	186(93.47)	
Nobody at home to take to health facility.	Yes	59(29.35)	24(12.06)	0.0001*
	No	142(70.65)	175(87.94)	
Restriction from family member	Yes	56(27.86)	14(7.04)	0.0001*
	No	145(72.14)	185(92.96)	
Remain busy in household.	Yes	72(35.82)	43(21.60)	0.001*
	No	129(64.18)	156(78.40)	
Don't want to go to health facility.	Yes	28(13.93)	17(8.54)	0.113

	No	173(86.07)	182(91.46)	
behavior of doctors is not positive.	Yes	10(4.98)	5 (2.51)	0.293
	No	191(95.02)	194(97.49)	
Long distances.	Yes	48(23.88)	29(14.58)	0.022*
	No	153(76.12)	170(85.42)	
Long waiting hours	Yes	42(20.90)	31(15.58)	0.197
	No	159(79.01)	164(82.41)	

**Table No.3: Comparison of Obstacles in getting dating scan based on Education Levels.**

Factors	Categories	Stratification based on Education			p-value
		Illiterate (n=103(%))	Matric & below (n=144(%))	Inter & above (n=153(%))	
Importance of getting dating scan	Yes	83(80.58)	134 (93.06)	151(98.70)	0.0001*
	No	20(19.42)	10 (6.94)	2 (1.30)	
Low income	Yes	58(56.31)	47 (32.64)	9(5.88)	0.0001*
	No	45(43.69)	97 (67.36)	144(94.12)	
Husband is not co-operative	Yes	35(33.98)	24 (16.67)	5(3.27)	0.0001*
	No	68(66.02)	120 (83.33)	148(96.73)	
Nobody at home to take to health facility.	Yes	40(38.83)	24 (16.67)	13(8.50)	0.0001*
	No	63(61.17)	120 (83.33)	140(91.50)	
Restriction from family member	Yes	38(36.89)	24 (16.67)	8(5.22)	0.0001*
	No	65(63.11)	120 (83.33)	145(94.78)	
Remain busy in household.	Yes	49(47.57)	44 (30.56)	22(14.38)	0.0001*
	No	54(52.42)	100 (69.44)	131(85.62)	
Don't want to go to health facility.	Yes	22(21.36)	14 (9.72)	9(5.88)	0.012*
	No	81(78.64)	130 (90.28)	144(94.12)	
behavior of doctors is not positive.	Yes	7(6.80)	6 (4.17)	2 (1.30)	0.159
	No	96(93.20)	138 (95.83)	151(98.70)	
Long distances.	Yes	39(37.86)	27 (18.75)	11(7.12)	0.0001*
	No	64(62.14)	117 (81.25)	142(92.80)	
Long waiting hours	Yes	28(27.18)	32 (22.22)	13(8.50)	0.0001*
	No	74(71.84)	112 (77.78)	140(91.50)	

## DISCUSSION

The purpose of this study was to identify the barriers which prevent women in accessing dating ultrasound. In our study, majority of women (90%) were aware of the importance of dating scan. According to one study conducted at Thatha district of Pakistan, women with knowledge about the importance of antenatal care were 6.6 times more likely to access ANC<sup>12</sup>. One of the studies conducted in Ethiopia found that women having knowledge of antenatal care were 3.54 times likely to utilize the services than those who did not have any knowledge<sup>9</sup>. In our study most of the women who were not aware of the importance of ANC and dating scan were more than 35 years of age, belonged to low socioeconomic group and had education below secondary school level. According to Afaya et al Participants' educational level was a strong predictor of optimum utilization of ANC services<sup>13</sup>. Women are more likely to use ANC services four or more times if they have higher educational levels, according to earlier studies conducted in underdeveloped nations<sup>14</sup>. This

demonstrates the need for stakeholders to take a multisectoral strategy, with the health sector collaborating with the educational sector to support female education, which will increase awareness and use of ANC.

In our study, nearly 70 percent of women did not perceive low income as a significant barrier to accessing antenatal healthcare. This finding contrasts with the prevailing understanding that financial constraints often hinder individuals' ability to seek essential medical care during pregnancy<sup>15,16</sup>. Comparing our findings to other studies in the field reveals a complex picture of the relationship between low income and antenatal care access. For instance, a study in a different socio-economic context found that low income significantly hindered antenatal care utilization, particularly in regions with limited healthcare infrastructure<sup>17</sup>. On the other hand, other studies highlighted socioeconomic inequalities and perceived quality of care had a stronger influence than income alone on women's healthcare-seeking behavior<sup>18,19</sup>.

A significant majority of women in our study do not view the absence of spousal cooperation and familial constraints as hindrances to accessing antenatal care. This stark contrast to findings from other studies sheds light on the dynamic interplay of sociocultural factors in shaping women's decisions surrounding maternal healthcare utilization<sup>20,21</sup>. While extant research has consistently underscored the pivotal role of husband and family support in influencing antenatal care attendance, our results suggest the possibility of evolving norms.

In most studies long waiting hours, long distances and unavailability of transport were also considered as a barrier in utilization of antenatal care. In our analysis, it is interesting to note that a significant majority of women do not perceive these traditionally identified obstacles as deterrents to attending antenatal care. These findings deviate from other studies which have consistently highlighted these factors as substantial impediments to accessing vital prenatal services<sup>22,23</sup>. Our research offers a novel perspective on the interplay of factors influencing antenatal care uptake, potentially reflecting evolving healthcare landscapes, improved service provision, or distinctive sociocultural contexts in our studied population.

## CONCLUSION

Our study concluded that lack of knowledge regarding dating scan, poor socioeconomic status, uncooperative attitude of husband and family members, lack of transport are major barriers that are more pronounced in women age more than 35 years and less educated, preventing these women in early booking visits and of course in getting early dating scan.

**Recommendation:** In this study the individual barriers which are discussed and elaborated can be prevented by providing health education, transportation, awareness regarding importance of dating scan and free medical camps. Trained medical troops can roam around for identification of barriers and that can be addressed accordingly.

### Author's Contribution:

Concept & Design of Study:	Nayyer Sultana
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