

Knowledge and Awareness of Pregnant Women about Ultrasound Scanning and Prenatal Diagnosis

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Abstract

Objective: Antenatal screening and ultrasound scan has become an integral part of the antenatal care in the present time. The aim of this study is to accurately describe the background knowledge and awareness of pregnant women about ultrasound scan and prenatal diagnosis.

Methods: It is a clinic based cross sectional study. Four hundred women, attending the antenatal clinics, were asked to fill in a pre tested structured questionnaire. Different variables of interest were collected. Statistical Program for the social sciences (SPSS) was used for the data management.

Results: Over 93.5% of the women were aware that ultrasound examination is an important investigation. They believed that it should be performed at least twice during pregnancy but were not sure about the timing of the test. Most of them felt that it was to check the growth of the baby and 97% of women considered ultrasound to be safe. However, only 26% of women had any knowledge about Down's syndrome or its screening.

Conclusion: Pregnant women in our set-up are aware of importance of ultrasound examination during pregnancy. However, there is a need to improve public awareness of problems like Down's syndrome (JPMA 54: 553;2004).

Introduction

Ultrasound has become an integral part of modern obstetrics.^{1,2} In the first trimester it enables us to establish viability, determine chorionicity and measure nuchal translucency in order to evaluate the risk of chromosomal abnormalities like Down's syndrome. The second trimester scan is used primarily to detect structural abnormalities.³ Although the cost effectiveness of this examination has been questioned by some⁴, there is evidence to support that it might be cost effective to the health care system.⁵

Apart from providing diagnostic benefit, it has been

seen to improve maternal bonding.⁶⁻⁸ To some parents ultrasound is done only to determine the gender of the fetus.^{7,8} However, the use of this examination has led to unrealistic expectations that it is unable to satisfy.⁹

In Pakistan majority of women deliver at home and there is less public awareness on issues related to antenatal care including ultrasound scans. Factors responsible for this situation are low literacy rate and social and cultural environment. In our hospital we have a policy of offering ultrasound scan both in the first trimester and an anomaly scan at 18-23 weeks. It is seen that only half of the women attending antenatal clinics have these scans, as the rest of the women register after this time period (Qureshi RN personal communication).

We do not have any information regarding the knowledge, attitude and perception of women about ultrasound scanning during pregnancy in Pakistan. This study explores the pregnant women's background knowledge and attitude regarding this examination.

Subjects and Methods

This was a clinic based cross-sectional study conducted on the pregnant patients attending antenatal clinics, at The Aga Khan University Hospital, Karachi. This is a tertiary care teaching hospital of private sector equipped with latest diagnostic and therapeutic facilities. About 120 pregnant women come daily for their routine antenatal check-up in these particular clinics. Karachi is the largest city of Pakistan, with estimated population of 10-12 million belonging to different ethnic and socio-economic groups.

A pre-tested structured questionnaire was implemented to collect information on woman's background knowledge, indication of ultrasound, how often, and when it should be done during pregnancy. Question was inquired about the expectation of the pregnant women about ultrasound screening during pregnancy like assessment of

growth and viability and sex determination or diagnosis of abnormalities. Trained medical graduates interviewed 400 pregnant women who came for their routine antenatal visits during the study period (December 2001- February 2002) and consented to participate in this study. Statistical Program for the Social Sciences Version 10 was used to calculate various descriptive frequencies of the different variables.

Results

Four hundred women were enrolled in the study, with a mean age of 27+ 4.8 years. Thirty three percent of these women were primigravida. In the multigravid group 10% had a history of congenitally abnormal baby in the family and half of them had a previously abnormal baby. 22% of these abnormalities were diagnosed in the antenatal period.

On enquiring about the knowledge regarding ultrasound we found that 93% of women knew that ultrasound scan is necessary during pregnancy. Majority of women responded that ultrasound should be done at least once or may be twice during pregnancy. In this set of questions, study subjects responded 'mental retardation' as a congenital disorder, but when they were further asked about 'Down's syndrome' only 26% were aware of this (Table 1). Pregnant women's knowledge about the ultrasound examination (n = 400).

Question	Answer	Women's response (%)
Do you feel that ultrasound is necessary in pregnancy	Yes	374 (93.5)
	No	10 (2.5)
	Do not know	16 (4.0)
How often if should be done?	Once	44 (11.0)
	Twice	184 (46.0)
	More than twice	152 (38.0)
	Do not know	20 (5.0)
Do you know what are congenital abnormalities? If yes, what are these?*	Yes	305 (76.3)
	No	94 (23.5)
	Do not know	1 (0.3)
	Mental abnormalities	273 (68.4)
	Cardiac	53 (13.3)
	Abnormalities	61 (15.3)
	Cleft lip or/and palate	20 (5.0)
Others		
Do you know what is Down's syndrome?	Yes	103 (25.8)
	No	297 (74.2)

*Multiple response questions. Sum is not equal to hundred.

With respect to the indication for this examination 82% of women thought that the main purpose for this test is to monitor fetal growth. Only half of the women thought that ultrasound is also used to

determine viability and helps in the prenatal diagnosis of congenital abnormalities (Table 2). Pregnant women's expectation from their ultrasound

Table 2. Pregnant women's expectation from their ultrasound

Questions	Answers (%)*
Assess fetal growth	307 (82.1)
Determine fetal viability	199 (53.2)
To confirm the estimated date of delivery	20 (5.4)
Determine fetal sex	66 (17.6)
Detect the number of babies	14 (3.7)
Diagnose congenital abnormality	194 (51.9)
Detect obstetrical complications	8 (2.1)

*Multiple response questions. Sum is not equal to hundred.

Discussion

Ultrasound scan has become an essential part of antenatal care. In particular the 18-23week-anomaly scan has become a vital part of antenatal care.¹ Clinical evidence suggests that such a practice improves the effectiveness of the clinical management. Although some authors⁴ have questioned the efficacy of ultrasound, the vast majority agrees that in the hand of experienced persons, second trimester scan can prove to be a useful tool in screening for congenital anomalies.⁵ A vast majority of women in our setup were not aware of the exact indication of ultrasound scan and only about half the women thought that it was to detect congenital abnormalities. Others have also reported a similar observation.¹⁰⁻¹² In comparison Eurenus et al have shown that about 80% of women in their set up knew that the ultrasound is performed for the diagnosis of fetal abnormalities.¹³ Eighty two percent of women (82.1%) in our study population thought that ultrasound is performed mainly to predict fetal growth, which is consistent with those of the other studies.^{12,13}

Other studies have shown that the information given by health care professional about the ultrasound examination is lacking.^{10,11} We have also found that family and friends play a vital role in dispersing this information.

There is less public awareness about Down's syndrome in our set up as only 26% of the study subjects knew about the role of ultrasound scan in screening for this condition. This is similar to that reported by unlike that reported by the others.^{14,15} This information about the pregnant women's perception is essential prior to setting up such a service. It also aids in focusing on patient education.

In Conclusion, a great majority of women in our set-up consider ultrasound scans to be a useful test

during pregnancy.

This is through their personal experience and supplemented by that of friends. However, there is a need for more public awareness about Down's syndrome and its screening.

This study has its limitations being a questionnaire study. However, it provides a valuable information as it suggests that there is a need for more public awareness about Down's syndrome screening. This can be done by adequate counselling along with patient information leaflets at the time of antenatal booking visit. In addition, CME education programs for the General practitioners general public can also play an important role.

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