



Study of awareness towards a more accepted invasive procedure, Transvaginal ultrasound during the first trimester of pregnancy in a rural setup

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ABSTRACT

The objective of the present study is to assess women's experiences and attitude towards transvaginal Ultrasound in the first trimester of pregnancy in a rural background. Total of 100 women in their first trimester who attended the hospital clinics as Obstetric Outpatient were subjected to transvaginal Ultrasound and their perception regarding transvaginal ultrasound was assessed. Among the total agreed subjects for transvaginal ultrasound, the acceptability rate for a repeat procedure was as high as 82% which makes an acceptable and comfortable method amongst most of pregnant women and becomes less known area in the literatures regarding the perception of Trans Vaginal Sonography of first trimester pregnant among the rural patients in this part of globe and may be thought as an option to all in future.

INTRODUCTION

First trimester of pregnancy is a dynamic period, during which changes occur in human development at a more rapid rate than any other time during human life [1] The demand for ultrasound in the first trimester has been steadily increasing and is now a routine investigation for most women [2]. Transvaginal Sonography (TVS) has proven to be more accurate than Transabdominal in the diagnosis of early pregnancy and its complications and also safe [3,4,5]. The literature shows that during trans abdominal route is the first approach, up to 42% of the women will require a TVS either due to bladder not being sufficiently filled or the scan is inconclusive [5, 6, 7]. There is a paucity in research literatures regarding the perception of TVS by the population of first trimester pregnant patients. Literature has shown a favorable impression regarding TVS, but that impression has not yet been authenticated. Hence the current study is a novel intervention and presumes that it would be of significant value to explore and evaluate the study population's views on their perception of this procedure in a rural population, wherein most of

the patients had no idea about it.

MATERIAL AND METHODS

The study population included 100 pregnant women with gestational age between 5-11 weeks attending the Obstetric Outpatient department of K S Hegde Medical College in the study period from April 2007 to April 2009, after agreeing to a written informed consent to the study. The Study population was subjected to Transvaginal Sonography (TVS). The procedure was performed with a machine, GE- LOGIC 400 PRO series. The transducer used for TVS 7 MHz transducer. The study groups were counseled prior to the procedure of doing the scans regarding TVS, with special emphasis, regarding the technique of TVS. The operator personal was chosen to be a female for decreasing the apprehension regarding the procedure. Before the procedure, the patient was asked to void urine and after the procedure, these patients were given a questionnaire to fill with regards to their experience with TVS. The minor component of the questionnaire included the basic demographic characteristic and the patients' clinical histories. The major components

incorporated in the questions were about patients' past experience to the invasive procedure of TVS and their readiness to undergo future endovaginal ultrasound examinations. All the women recruited were in the first trimester were included in the study and Women who were not pregnant, as evident from the spectrum of history, clinical examination, early morning urine pregnancy test, sonography, and/or serum beta human chorionic gonadotropin were excluded. The groups were compared using the Fischer's exact test for the obstetric score influencing TVS and chi square test for comparing the various elements of their psychological state. A p value of >0.05 was considered to be significant.

RESULTS

The study showed that out of the total 100 patients in the study group, 54 were primigravida and 46 were multigravida who agreed to participate. Only 20 patients had a prior experience of TVS amongst them. The distribution of patients based on whether the patients had a prior TVS along with their obstetric score is described in Table 1. In the study group majority of the patients were not anxious during the procedure. Previous experience with

TVS also did not avert four patients from having a moderate degree of anxiety. Whereas a greater number of patients in the group with no previous experience had a moderate degree of anxiety, especially in the primigravida group. None of the patients who had undergone prior TVS experienced any marked anxiety. And in the patients with no prior experience, only one primigravida had marked anxiety.

Out of the total study, 36% of patients felt embarrassed by the procedure as they were undergoing it for the first time. The patients who had undergone TVS previously did not experience any kind of embarrassment.

Three patients who did not undergo a prior TVS complained of excruciating pain while 11 patients complained of mild pain. A prior TVS in eight patients did not prevent them from experiencing mild pain.

Our findings showed that the majority of women perceived TVS favourably (82%). Their perception was positive whether they had prior knowledge and experience of the procedure or not.

Table 1 : Distribution of patients based on obstetric scores

	PRIMIGRAVIDA	MULTIGRAVIDA	TOTAL
Previous TVS	6 (30%)	14 (70%)	20
No Previous TVS	48 (40%)	32 (60%)	80
TOTAL	54	46	100

$X^2 = 5.8$ $p = 0.016$ (significant)

Table 2 : Psychological impact on patients

	PREVIOUS TVS		TOTAL	NO PREVIOUS TVS		TOTAL	
	PRIMI	MULTI		PRIMI	MULTI		
1. Anxiety levels							
- No	4	12	18	39	28	67	} NS
- Moderate	2	2	4	8	4	12	
- Marked	0	0	0	1	0	1	
2. Embarrassment							
- Yes	0	0	0	22	14	36	} p<0.001
- No	6	14	20	26	18	44	
3. Pain levels							
- Absent	2	10	12	37	29	66	} p<0.022
- Mild	4	4	8	8	3	11	
- Excruciating	0	0	0	3	0	3	

Table 3 : Acceptability of TVS by patients

	ACCEPTABLE	DECLINE
PRIMIGRAVIDA	40	14
MULTIGRAVIDA	32	4

18% of women who would decline future TVS would do so because they felt embarrassed, or had pain and were uncomfortable in this experience with TVS.

DISCUSSION

Transvaginal ultrasound is an invasive investigation and there are a number of reasons for hypothesizing that it may be a difficult procedure for some women. For example, research has shown that a significant minority of women find vaginal examinations distressing [8] and that, for some women, vaginal examinations may trigger post-traumatic stress symptoms [9]. In contrast to few studies wherein women typically found the transvaginal scan less difficult than other common procedures such as cervical smears, blood tests and dental fillings. However, we found that women often experience a degree of anxiety before and during the scan [10]. Hence the necessity for the study due to its contrasting perceptions. This study was performed also because, very little has been published on patients' opinions regarding vaginal ultrasound in the rural background [10]. Earlier studies on the acceptability of TVS have shown that women tolerate the procedure [6]. This is similar to our study. The main reason for declining TVS was fear of miscarriages, pain and discomfort. The present study showed that the number of the women who did not experience any pain during TVS was higher and those with excruciating pain was higher as compared to a study done by Braithwaite [5]. While a study done by Bennett and Richards [11], found a higher percentage of patients experiencing some degree of discomfort and excruciating pain in contrary with our study. This is because of different pain perceptions by patients and prior counselling regarding the procedure which would alleviate the fears and anxiety.

According to a study done by Faisal Mohammed Salih et al [6], 378 did not consider transvaginal ultrasound as embarrassing (88.9%), 417 (98.1%) found it acceptable, 419 (98.6%) did not find it painful and 385 (90.6%) of the women were not stressed. Our study showed a similar psychological impact on the women. One of the causes for a higher acceptability rate in the present study can be attributed to the fact that the examiner was a female and this was mainly done with an idea of making the study population more comfortable with this procedure. However this aspect becomes a limitation with regards to gender bias of the observer as seen in the study done by Saliha Basama FM et al [12] and the results were not significant.

CONCLUSION

The study is a novel and an issue based study with some positive result on an invasive procedure. With all the paucities regarding the studies and availability in Indian literature, an attempt is made so that such a useful accepted practice can be performed as a routine intervention and also with few more researches done on similar ideas, thereby hoping to be helpful to both urban and rural society at large.

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