



Perception of female patients about trans-vaginal sonography

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Abstract

Purpose: The aim is to assess the Perception of female patients about trans-vaginal sonography.

Methodology: A prospective study was conducted by making objective type questionnaire and filled it by female patients undergo trans-vaginal sonography.

Result: This study contains an objective type questionnaire was designed containing 12 questions that were filled by the twenty five patients who came for special radiological procedure that is TVS. Result shows that almost all the patients were satisfied with the procedure nobody was unsatisfied with her procedure. Almost all patients give positive answer for providing gown at the time of procedure only four patients said that they were not provided gown while performing their procedure. Most of the patients were not satisfied with cleanness of gown provided to them while only two patients were satisfied with gown cleanness mostly patients were satisfied with the behavior of radiologists. There only three patients were not satisfied with radiologist's behavior every patient answered that they were informed about the procedure that how it is done, how long it is, why it performed that and what we get benefits from that. Some patients were satisfied with the privacy provided to them during the procedure while about ten patients were not satisfied with privacy during procedure. 16 patients want that no student should be present, fourteen patients said that students' behavior was normal, they can present there. Almost all patients were feeling uncomfortable. Six patients said it was normal. Almost all patients said that pain was bearable.

Conclusion: It can be concluded that the patients' satisfaction with how many students were present in the ultrasound room are divided in the two criteria if less than two students were present at the time of trans-vaginal scan, patients are satisfied and if more than two students are present at the time of trans- vaginal scan, patients are not satisfied.

Keywords: trans-vaginal, students, radiologist, ultrasound, patient.

Introduction

Ultrasound imaging uses sound waves to produce pictures of the inside of the body. It is used to help diagnose the causes of pain, swelling and infection in the body's internal organs and to examine a baby in pregnant women and the brain and hips in infants. It's also used to help guide biopsies, diagnose heart conditions, and assess damage after a heart attack. Ultrasound is safe, noninvasive, and does not use ionizing radiation. Different types of probes, transducer is used to produce ultrasound image. Ultrasound is the only non-ionizing radiation used for the diagnosis of disease like PCOD, renal calculus, hydronephrosis, ureteric calculus. Figure number 1.1 shows the ultrasound machine.

Types of Ultrasound Scan

Abdominal Ultrasound Imaging

Pelvic Ultrasound Imaging

Trans-abdominal

Trans-vaginal

Trans-rectal

Trans- Esophageal etc,



Fig 1: Ultrasound equipment

Trans-Vaginal Sonography

Trans-vaginal sonography is a type of ultrasound study, using high frequency transducer (7.5MHz to 10MHz) known as TVS probe or TVS transducer although transducers frequency varies from manufacture to manufacture & model to model. Trans-vaginal sonography is an intensive study used for female gynecological pathologies which are prescribed by respected gynecologist.

Also TVS probe is used as trans-rectal scan for both male and female for various colonic deceases. Trans-vaginal means “through the vagina”. This is internal examination; TVS probe is specially designed for retrograde or vaginal introduction. Ultrasound examinations are painless & easily tolerated by most patients. Some women may have discomfort from the pressure of probe.

Trans-vaginal ultrasound is a imaging technique used to create a picture of the genital tract in women. The handheld device that produces the ultrasound waves is inserted directly into the vagina, close the pelvic structures, thus often producing a clearer and less distorted image than obtained through trans abdominal ultrasound technology, where the probe is located externally on the skin of the abdomen. Figure 1.2 shows trans-vaginal transducer:



Fig 2: Transvaginal Transducer

Indications

Trans-vaginal ultrasonography can used to evaluate problems or abnormalities of female genital tract. It may provide more accurate information of the genital organs than Tran’s abdominal ultrasound for women who are being evaluated or treated for infertility or for women who are being evaluated or treated for infertility, for women who have difficulty in keeping a full bladder. However, it does provide a view of a smaller area than the trans-abdominal ultrasound. Types of conditions or abnormalities that can be examined include.

- The endometrium of women with infertility problems or who are experiencing abnormal bleeding.
- Sources of unexplained pain
- Congenital malformation of the ovaries and uterus
- Ovarian cysts and tumors
- Pelvic infections, such as pelvic inflammatory disease
- A misplaced IUD (intrauterine device)
- Other caused of infertility

Trans-vaginal ultrasound can also be used during pregnancy. Its capability of producing more complete images means that it is especially useful for identifying ectopic pregnancy, fetal heartbeat, and abnormalities of uterus, placenta, and associated pelvic structures. Trans-vaginal ultrasound is performed by a radiologist. A trans-vaginal ultrasound is used for looking at organ and structures with in the pelvic area that are the solid and uniform. A trans-vaginal ultrasound is used for looking at organ and structures with in the pelvic area that are the solid and uniform.

Preparation of Patient

There is no special preparation required by a woman before a trans-vaginal ultrasound. She can continue to take medications prescribed by her health care provider, although she should not drink the liquids for four hours before the test. A full bladder is not required for a trans-vaginal ultrasound, as is required for a transabdominal ultrasound. The test cannot be performed during menstrual cycle.

Probe Cover

The probe cover in TVS is the most important factor to be take care of as it is not just only the medium for applying jelly but also the barrier to the patients with various infections and infecting agent because the same TVS transducer is used as same equipment to all other patients who so ever has come for TVS scan in the respective department.

Generally, as a probe cover a male condom is used in most of the diagnostic centers, hospitals, maternity clinics, nursing homes, fertility clinics, etc. this type of covering is used to prevent the infection from patient to patient as it’s a direct mode of contact and internal also.

Characteristic of Probe Cover Used for TVs Scan

- Should be soft.
- Latex free.
- Should be Disposal able and not be reused
- Flexible.

Caution

Federal law restricts this device to scale by or on the order of a physician.

What the Patient Feels Before the Procedure?

Every patient was asked what they felt when radiologist told them about the procedure of trans-vaginal sonography. The patient told that they were shocked to listen about the procedure and they had many questions in their mind like all procedure will be safe or not. Radiologist will be male or female and they decide that if radiologist will be female then they will agree for procedure. What will be behavior of radio logist. They clear their every question and after get the satisfaction they agree for that procedure.

What they are Feeling During the Procedure?

After asking the patients get that test done by a female radiologist who was very careful with this and it was not like a normal test. Firstly she was feeling nervousness when she removes her clothes. After that radiologist felt her comfortable and said that nothing

will be happened. Then She stretch the cervix with that probe which is cover by the gel and condom and then insert It that time it may be painful. During the scan or even after the scan due to the force and compressed movements of TVS prove. The patients sometimes feel terrible pain or may be no any pain. That can be physiological or may be emotionally affect the patients and their sentiments.

How the test is performed

Patient will lie down on a table your knees bent. Your feet may be help in stirrups. You will be given a probe, called a transducer, to be placed into the vagina. The probe is covered with a condom and a gel. The probe sends out sound waves, which reflect off body structures. A computer receives these waves and uses them to create an image. The ultrasound technician or doctor can see the picture on a TV monitor. The radiologist will move the probe around the area to see the pelvic organs. In some cases, a special trans-vaginal ultrasound method called saline infusion sonography may be needed to more clearly view the uterus.

Risks

There are no known harmful effects of trans-vaginal ultrasound on patient or their fetuses. Unlike harmful traditional X-ray there is no radiation exposure with the test. Till date no any specific effect has been noticed due to TVS scan on pregnant women or on its fetus.

After Care

There is a slight risk of infection associated with a trans-vaginal ultrasound, especially if a biopsy was done in conjunction with the procedure. Therefore, the patient should be aware of symptoms of an infection and seek care from a health care professional as necessary.

Possible Results of Scan

Normal Results

In a normal trans-vaginal ultrasound, the pelvic structures or organs or the fetus are found to have no abnormalities

Abnormal Result

Abnormal ultrasound results can be done due to a variety of conditions and diseases. In non –pregnant woman, these abnormal results may include:

- Cancerous tumors or nan cancerous growths of the uterus, ovaries, vagina, or other pelvic structures
- Ovarian torsion
- Infection such as PID
- Congenital malformations

In pregnant woman, the following abnormalities may be diagnosed through trans vaginal ultrasound

- Ectopic pregnancies
- Multiple pregnancies
- Fetal death
- Short cervix death, which may indicate the risk of preterm labor
- Placental abnormalities such as placental previa and placental abruption
- Tumors of pregnancy, including gestational trophoblastic

disease

A biopsy is needed to determine whether a tumor that is found during the trans-vaginal ultrasound scan is cancerous or non-cancerous.

Aim

The aim of the study to investigate the perception of female patient about trans-vaginal sonography.

Materials and Methods

A questionnaire was designed where questions are based on the perception of female patients in trans-vaginal ultrasonography. A total of 12 questions were made and filled up by the patients. A total of 25 patients were included in this survey and asked about their perception regarding trans-vaginal ultrasonography by mean of this questionnaire after their trans-vaginal examination.

All the OPD patients are included in this survey. All the patient included in this survey were married. No IPD patient are included in this survey. The patient age bar is between 22- 30 years.

In the bottom of the questionnaire suggestions and comments are also asked by the patients.

Questions like comfortless, radiologist behavior, number of students present at examination time, gown provided or not. Patients were explained the purpose of questionnaire. Questionnaire filled up by the patients without any pressure on them. Questionnaires do not contain any column for name to maintain the privacy of patient’s result and to get the best results. Sample questionnaire is given below in table no 4.1

QUESTIONNAIRE

1. Are you satisfied with your examination?
Yes No.....
2. Were you feeling comfortable during the examination?
Yes..... No.....
3. Were you provided a gown during the examination?
Yes..... No.....
4. Was your gown clean and tidy?
Yes..... No.....
5. Did you get information about procedure by the staff prior to the examination?
Yes..... No.....
6. What is your perception about radiologist’s behavior?
Yes..... No.....
7. How many people were present during the examination?
.....
8. How many students were present during the examination?
.....
9. Were you comfortable with students’ presence during examination?
Yes..... No.....
10. Do you think students should be allowed in scan room during TVS?
Yes..... No.....
11. Was the pain bearable?
Yes..... No.....
12. Did you fill consent form?
Yes..... No.....

SUGGESTION AND COMMENTS:
.....
.....

Fig 3

Table 5.1 shows the total number of patient satisfaction during trans-vaginal ultrasound scan. Graph 5.1 shows the total number of patients’ satisfaction during trans-vaginal ultrasound scan. Graph 5.2 shows about the total number of patients satisfied with the comfort during trans-vaginal ultrasound scan. Graph 5.3 shows the patients satisfied with the radiologist behavior during trans-vaginal ultrasound scan. Graph 5.4 shows that the patient satisfied with the student presence during trans-vaginal ultrasound scan. Graph 5.5 shows patient satisfaction with

number of student presence at the time of trans-vaginal scan. The patient satisfied with how many students presence in the radiologist are divided in the two criteria if less than two students are present at the time of trans-vaginal scan that it is taken to

patient satisfied and if more than two students are present at the time of trans- vaginal scan then it is taken to patient unsatisfied with presence of students.

Table 5.1: shows the total number of patient satisfaction during trans-vaginal ultrasound scan

Questions	Satisfied	Not Satisfied
1. Are you satisfied with your examination?	25	0
2. Were you feeling comfortable during the examination?	21	4
3. Were you provided a gown during the examination?	13	12
4. Was your gown clean and tidy?	6	7
5. Did you get information about procedure by the staff prior to the examination?	25	0
6. What is your perception about radiologist's behavior?	23	2
7. How many people were present during the examination?	23	2
8. How many students were present during the examination?	22	3
9. Were you comfortable with students' presence during examination?	19	6
10. Do you think students should be allowed in scan room during TVS?	8	17
11. Was the pain bearable?	25	0
12. Did you fill consent form?	15	10

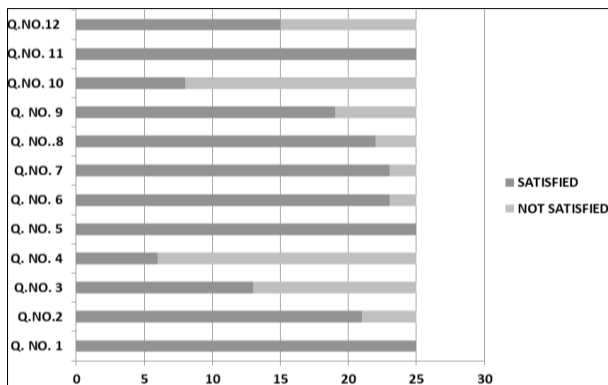


Fig 4: Total patients satisfied during trans-vaginal scan

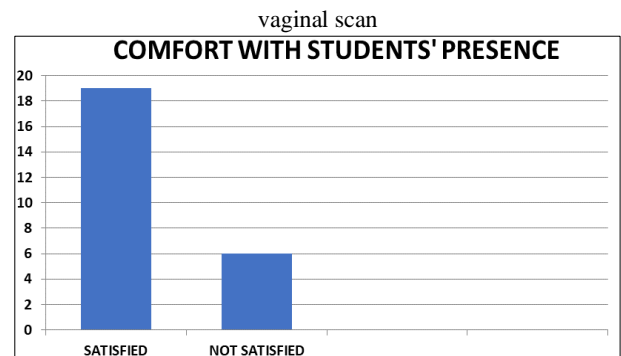


Fig 7: patient satisfaction with comfort with student presence at the time of trans-vaginal scan

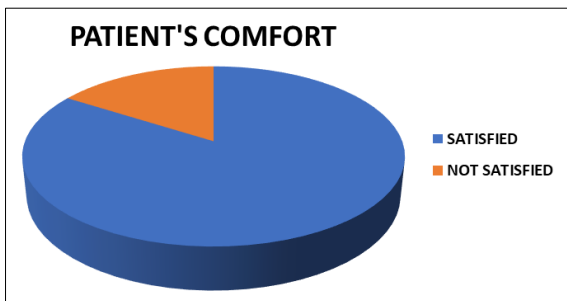


Fig 5: Patients' satisfaction with comfort during examination

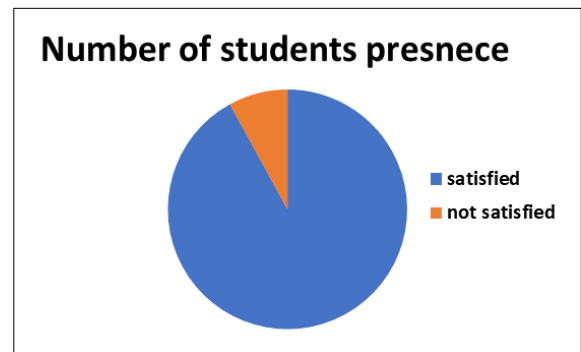


Fig 8: patient satisfaction with number of students' presence at the time of trans-vaginal scan

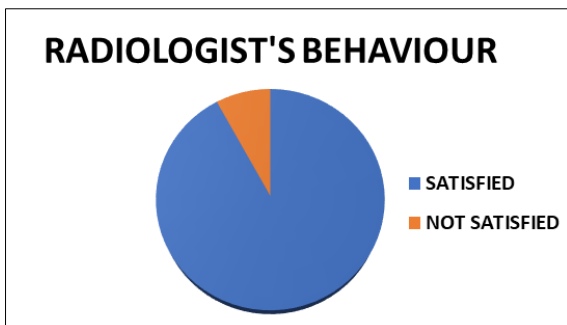


Fig 6: patient satisfaction with radiologist behavior during trans-

Discussion and Conclusion

In this study, the survey was done to investigate the perception of female patient about trans-vaginal sonography. Doctor might recommend a TVS like during early pregnancy, Monitor the fetal heart rate (FHR) female reproductive system information, UTI, RPOC, etc. In this survey a questionnaire was designed where questions are based on the perception of female patients in trans-vaginal ultrasonography.

It can be concluded that the patients' satisfaction with how many students were present in the ultrasound room are divided in the

two criteria if less than two students were present at the time of trans-vaginal scan, patients are satisfied and if more than two students are present at the time of trans- vaginal scan, patients are not satisfied.

Contributors

All authors contributed to the conception or design of the work, the acquisition, analysis, or interpretation of the data. All authors were involved in drafting and commenting on the paper and have approved the final version.

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Conflict of Interest

The author has no conflict of interest.

Disclosure

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