

# Intimate patient examinations: The awareness, acceptance and practice preference of transvaginal ultrasound scan among women in a South-southern State of Nigeria

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## ABSTRACT

**Background:** Transvaginal ultrasound scan (TVS) is a relatively new routine intimate examination in Nigeria carried out only in fertility clinics, specialist radio-diagnostic centres and a few public hospitals. It is a procedure, which many patients find intrusive and may result in anxiety. The gender of the practitioner and the presence of a third person in the room may influence patient's acceptance to undergo the procedure. Centres offering this service do not routinely ask for the patient's opinion, which negates the patient-centred care principle. The aim of this study is to assess women's awareness, acceptance and practice preference of TVS to get their opinion about the preferred gender of sonologist and presence of a third person during the procedure in comparison to other intimate examinations. **Materials and Methods:** It is a questionnaire-based prospective survey involving women referred for various indications to the radiology department of a Navy Hospital in south-southern Nigeria for 1 month. **Results:** We recruited 204 women. Although only 20.6% knew about TVS, 98.5% accepted to undergo TVS. Forty-six percent were indifferent about the gender of the sonologist, while 45% and 9% preferred a female and a male, respectively. About 50.3% wanted a third person in the room during the TVS and majority preferred their husbands (44.7%) to a chaperone (35.8%). **Conclusion:** The awareness of TVS is low, but it enjoys wide acceptance. Patient's preference for practitioner's gender and chaperone use are variable similar to findings from other intimate examinations, so consent should be sought before the procedure.

**Keywords:** Intimate examinations, transvaginal scan, women's practice preferences

## Introduction

Transvaginal ultrasound scan (TVS) is an intimate procedure, which many patients find intrusive and they may feel anxious and vulnerable.<sup>[1]</sup> Practice guidelines were set to regulate the conduct of this procedure primarily to protect the patients.<sup>[1,2]</sup> Studies have been done in America and Europe on the practice preference of TVS but there is a paucity of information on this subject in Nigeria coupled with our observation of under-utilisation of

TVS. This study aims to assess the level of awareness of TVS among women, their opinion about the gender of the sonologists and the use of chaperone.

## Materials and Methods

This cross-sectional questionnaire survey involved 204 women, aged 18–65 years in the cosmopolitan city of Calabar, at the Nigerian Navy Hospital. The hospital is a secondary health care centre that caters for the families of military personnel from the different regions of the country and the civilian population who reside in Calabar.

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A simple questionnaire with pre-coded responses; yes, no, either and indifferent was designed and tested in a pilot study, which was later modified. The women who are from different states of the country were grouped into regions with similar culture and religion to increase the sample size of the non-indigenes. The women recruited into the survey over 1 month were those sent to the radio-diagnosis department for ultrasound examination of varying indications. They were informed about the use and value of TVS, shown the transducer and the procedure was explained to them. The purpose of the survey was made known to them and those who consented to take part in the survey were administered the questionnaire. The data were analysed and the results are presented in frequency tables and figures.

## Results

About 233 questionnaires were given out, 213 were returned and 9 had incomplete entries, so only 204 were analysed. Tables 1 and 2 show the socio-demographic characteristics of the respondents. Most of the women were public servants from south-south geo-political zone, married, Christians with tertiary education and in the 26–33 years age group. Table 3 shows the level of awareness and acceptance to undergo TVS. Although 97.6% of the women were aware of ultrasound scan, only 20.6% knew about TVS and 98.5% agreed to have TVS. Tables 4 and 5 show the frequency distribution of the preferred gender of sonologist and need for a third person in the room during TVS among the socio-demographic variables. Figure 1 shows the gender preference of the sonologist; 94 (46.1%) of the women did not mind the gender of the sonologist, but 92 (45.1%) preferred to be scanned by a female sonologist and 18 (8.8%) by a male. One hundred and three women (50.3%) preferred to have a third person in the room during TVS, while 84 (41.2%) wanted to be alone with the sonologist, but 17 (8.3%) did not mind if a third person was present or absent as shown in Figure 2. Table 4 shows the frequency distribution of the need for a third person in the room based on the preferred gender of sonologists. Table 6 shows the percentage distribution of the preferred third person in the room during a transvaginal scan with the commonest choice being the husbands of the patients.

## Discussion

Like transvaginal scan, patients find digital vaginal examination or speculum insertion to obtain cervical and high vaginal swabs carried out by primary care physicians intimate and intrusive. It can be assumed that the level of anxiety a woman feels during an intimate examination might be heightened if she does not know the practitioner, who happens to be a male and the procedure is new to her. This is the reason different Medical and paramedical associations and their affiliate bodies in Europe, America and Australia developed guidelines to regulate the practice of intimate examinations by technologists, primary care physicians and specialist doctors. The practice guidelines are primarily to protect the patients and secondarily the practitioner against complaints of inappropriate conduct and false accusations

**Table 1: Age, geo-political zone and marital status distribution of the respondents (original)**

| Age (years)        | Frequency (n) | Percentage (%) |
|--------------------|---------------|----------------|
| 18-25              | 52            | 25.5           |
| 26-33              | 93            | 45.6           |
| 34-41              | 40            | 19.6           |
| 42-49              | 10            | 4.9            |
| 50-57              | 6             | 2.9            |
| 58-65              | 3             | 1.5            |
| Total              | 204           |                |
| Geo-political zone |               |                |
| South-south        | 135           | 66.2           |
| South-east         | 28            | 13.7           |
| South-west         | 13            | 6.4            |
| North-central      | 8             | 3.9            |
| North-west         | 10            | 4.9            |
| North-east         | 10            | 4.9            |
| Total              | 204           |                |
| Marital status     |               |                |
| Single             | 43            | 21             |
| Married            | 155           | 76             |
| Divorced           | 4             | 2              |
| Widowed            | 2             | 1              |
| Total              | 204           |                |

**Table 2: Religious, educational and occupational status distribution of the respondents (original)**

|                      | Frequency (n) | Percentage (%) |
|----------------------|---------------|----------------|
| Educational status   |               |                |
| None                 | 1             | 0.5            |
| Primary              | 9             | 4.4            |
| Secondary            | 50            | 24.5           |
| Tertiary             | 144           | 70.6           |
| Total                | 204           |                |
| Religion             |               |                |
| Christianity         | 178           | 87.3           |
| Islam                | 26            | 12.7           |
| Traditionalist       | 0             | 0              |
| Atheist              | 0             | 0              |
| Total                | 204           |                |
| Occupational status  |               |                |
| Health worker        | 15            | 7.4            |
| Other public servant | 83            | 40.7           |
| Business woman       | 46            | 22.5           |
| Artisan              | 11            | 5.4            |
| Unemployed           | 16            | 7.8            |
| Student              | 33            | 16.2           |
| Total                | 204           |                |

as the case may be. Boivin *et al.* stated that obtaining patients views about an examination is a vital aspect of developing guidelines to regulate its practice.<sup>[3]</sup> This means, if patients' views are not sought, the guidelines might be difficult to implement as observed in a review by Deed *et al.* which revealed that the sonographer's guidelines appear to conflict with the preferences of the women for TVS.<sup>[4]</sup> Intimate examinations have legal implications and some have been at the centre of high-profile

**Table 3: Awareness of and acceptance to undergo transvaginal scan (TVS) (original)**

| Variables                               | Responses | Frequency | Percentage |
|---|-----------|-----------|------------|
| Awareness of general ultrasound scan    | Yes       | 199       | 97.6       |
|   | No        | 5         | 2.4        |
| Awareness of transvaginal scan          | Yes       | 42        | 20.6       |
|   | No        | 162       | 79.4       |
| Acceptance to undergo transvaginal scan | Yes       | 201       | 98.5       |
|   | No        | 3         | 1.5        |

**Table 4: Sonologist gender preference and acceptance of a third person during TVS based on age, marital status and the geo-political zones (original)**

| Variables          | Preferred gender of the sonologist (n) |        |        | Need a third person in the room during TVS (n) |    |             |
|--------------------|--|--------|--------|--|----|-------------|
|                    | Male                                   | Female | Either | Yes  | No | Indifferent |
| Age (years)        |  |        |        |  |    |             |
| 18-25              | 5                                      | 32     | 15     | 31   | 19 | 2           |
| 26-33              | 11                                     | 31     | 51     | 43   | 41 | 9           |
| 34-41              | 2                                      | 19     | 19     | 18   | 17 | 5           |
| 42-49              | 0                                      | 4      | 6      | 7  | 3  | 0           |
| 50-57              | 0                                      | 4      | 2      | 2  | 3  | 1           |
| 58-65              | 0                                      | 2      | 1      | 2  | 1  | 0           |
| Total              | 18                                     | 92     | 94     | 103  | 84 | 17          |
| Geo-political zone |  |        |        |  |    |             |
| South-south        | 17                                     | 50     | 68     | 65   | 61 | 9           |
| South-east         | 1                                      | 17     | 10     | 13   | 11 | 4           |
| South-west         | 0                                      | 5      | 8      | 5  | 6  | 2           |
| North-central      | 0                                      | 5      | 3      | 5  | 2  | 1           |
| North-west         | 0                                      | 7      | 3      | 7  | 2  | 1           |
| North-east         | 0                                      | 8      | 2      | 8  | 2  | 0           |
| Marital status     |  |        |        |  |    |             |
| Single             | 4                                      | 22     | 17     | 23   | 18 | 2           |
| Married            | 14                                     | 66     | 75     | 78   | 63 | 14          |
| Divorced           | 0                                      | 2      | 2      | 0  | 3  | 1           |
| Widowed            | 0                                      | 2      | 0      | 2  | 0  | 0           |

scandals against doctors.<sup>[5]</sup> One of the key elements in guidelines for patient examination is the use of chaperones especially when it is intimate. Chaperoning is not a common practice in Nigeria as revealed in a study in 1998 which shows that 72% of general practitioners (GP) rarely or never used chaperones and only 3% always do when examining the opposite sex.<sup>[6]</sup> A more recent study in Nigeria in 2016 showed a slightly higher percentage (73.6%) of practitioners that have never used or occasional used chaperones in their practice.<sup>[7]</sup> The use of chaperone is however not compulsory. The Australian Medical Association recommended that a patient must consent to having a chaperone and must agree to the individual who will serve as the chaperone.<sup>[8]</sup> Doctors are persuaded to make patients see the importance of using a chaperone during examinations or permit them to bring a support person of their choice if this would be more comforting for them.<sup>[9]</sup> In a more recent guideline by the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, practitioners are encouraged to respect the

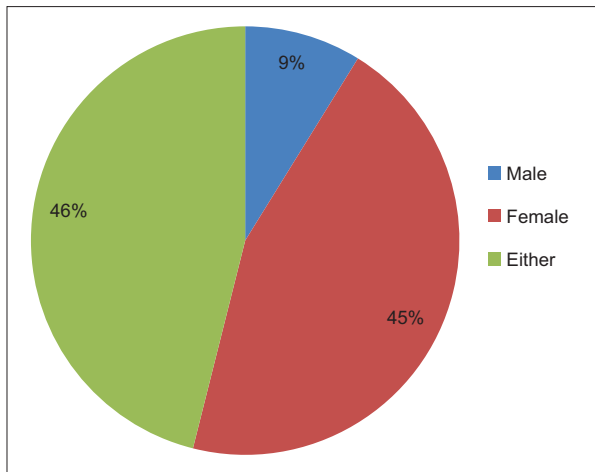
**Table 5: Sonologist gender preference and acceptance of a third person during TVS based on religion, educational and occupational status (original)**

| Variables            | Preferred gender of the sonologist (n) |        |        | Need a third person in the room during TVS (n) |    |             |
|----------------------|--|--------|--------|--|----|-------------|
|                      | Male                                   | Female | Either | Yes  | No | Indifferent |
| Educational status   |  |        |        |  |    |             |
| None                 | 0                                      | 1      | 0      | 0  | 1  | 0           |
| Primary              | 1                                      | 4      | 4      | 5  | 2  | 2           |
| Secondary            | 2                                      | 27     | 21     | 31   | 15 | 4           |
| Tertiary             | 16                                     | 60     | 69     | 67   | 66 | 11          |
| Religion             |  |        |        |  |    |             |
| Christianity         | 17                                     | 74     | 87     | 86   | 77 | 15          |
| Islam                | 1                                      | 18     | 7      | 17   | 7  | 2           |
| Traditionalist       | 0                                      | 0      | 0      | 0  | 0  | 0           |
| Atheist              | 0                                      | 0      | 0      | 0  | 0  | 0           |
| Occupational status  |  |        |        |  |    |             |
| Health worker        | 2                                      | 6      | 7      | 10   | 5  | 0           |
| Other public servant | 8                                      | 30     | 45     | 36   | 41 | 6           |
| Business woman       | 4                                      | 24     | 18     | 25   | 16 | 5           |
| Artisan              | 1                                      | 4      | 6      | 6  | 4  | 1           |
| Unemployed           | 2                                      | 8      | 11     | 7  | 6  | 3           |
| Student              | 1                                      | 20     | 7      | 19   | 12 | 2           |

**Table 6: The influence of the sonologist's gender on the request for a third person during TVS (original)**

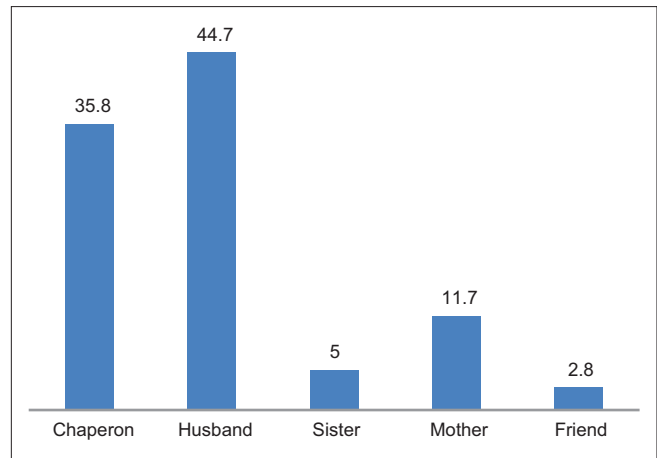
| Preferred gender of the sonologist | Need for a third person in the room during transvaginal scan |     |      |
|------------------------------------|--|-----|------|
|                                    | Responses  | (n) | (%)  |
| Male                               | Yes  | 7   | 3.4  |
|                                    | No   | 11  | 5.4  |
|                                    | Indifferent  | 0   | 0.0  |
| Female                             | Yes  | 54  | 26.5 |
|                                    | No   | 31  | 15.2 |
|                                    | Indifferent  | 7   | 3.4  |
| Either                             | Yes  | 42  | 20.6 |
|                                    | No   | 42  | 20.6 |
|                                    | Indifferent  | 10  | 4.9  |

choice of the patient to have a support person who can be a parent, carer or friend during gynaecological examinations and procedures.<sup>[10]</sup> While reiterating the provisions of established guidelines, it was recommended that every discussion concerning the use of chaperone should be written in the patient's note: the use of chaperone, his or her identity and the decline of an offer for medico-legal reasons.<sup>[11]</sup> Though TVS has enjoyed wide patronage in developed countries, only the private fertility clinics, specialist radio-diagnostic centres and a very few public secondary and tertiary hospitals offer this service routinely in Nigeria. In a study conducted among women who had TVS at a newly established private ultrasound diagnostic centre in Ibadan, southwest Nigeria, all the women stated that they would accept to undergo the procedure again in future if indicated.<sup>[12]</sup> An earlier study in same environment at two centres, but between women who have not underdone TVS, showed that majority



**Figure 1:** Preferred gender of the sonologist (original)

were willing to have it done without necessarily opting for any gender preference of the operator.<sup>[13]</sup> With the level of acceptance observed in the two local studies and spread of advance fertility services to all major cities and to a few government tertiary hospitals of the country, it is our belief that the use of TVS will increase in Nigeria. For these reasons, we need to look ahead and know the practice preference of this relatively under-utilised procedure, among our intending clients, to achieve a patient-centred care as recommended by O' Sullivan *et al.*<sup>[14]</sup> A study in a multi-ethnic population of Caucasians, Turkish and other mixed show a cultural and religious variations in the gender preference and use of chaperone.<sup>[15]</sup> The findings of our study show that the level of awareness of transvaginal scan is low (20.6%) compared to the 56.6% observed in the study in south-west Nigeria.<sup>[13]</sup> However, the rate of acceptance to undergo TVS was high (98.5%), which is comparable to 99.3% found by Russell<sup>[15]</sup> and 99.0% by Dutta and Economides.<sup>[16]</sup> This is higher than the findings of Atalabi *et al.* (84%).<sup>[13]</sup> The United Kingdom General Medical Council recommended that a chaperone who should be a qualified health worker is offered during intimate examinations such as transvaginal scan irrespective of the gender of the doctor.<sup>[17]</sup> The council advised that a chaperone should know how the procedure is done, be sensitive and respect the patient's dignity, should reassure when the patient is in distress or discomfort, be present all through the examination and takes a position that allows him or her to observe the examination if practical and be ready to raise concerns about the doctor's behaviour or actions. It went further to state that friends or relations are impartial observers, so are not suitable as chaperones. However, they can also be present on request if possible. The American College of Radiologist, however, said that a female member of the staff should be used as a chaperone whenever possible, when a male is carrying out the TVS.<sup>[18]</sup> It did not state the qualities of the staff. The chaperone is supposed to be a neutral third party during intimate examinations like the TVS. However, the opinion of the sonologists and the patients about chaperones and their reasons for their use vary. In Baber *et al.*'s study about the attitude of women towards the use of chaperones for anogenital



**Figure 2:** Distribution of the preferred third person during transvaginal ultrasound scan (original)

examination, it was revealed that majority of women felt they should be involved in the decision to have a chaperone.<sup>[19]</sup> Ehrenthal *et al.* observed that the reasons for chaperones use during pelvic examinations, also vary among male and female resident doctors; mainly medico-legal and technical assistance, respectively.<sup>[20]</sup> The patient and practitioner therefore need to mutually agree to the presence or absence of a chaperone during the examination. If patients do not want a chaperone, this should be witnessed and documented.<sup>[21]</sup> In our study, the collective views showed that majority (46.1%) of the women were indifferent concerning the gender of the sonologist and 45.1% preferred to be scanned by a female. Though the trend is the same with the findings by Atalabi *et al.*, a higher percentage were indifferent (54.2%) but about same percentage (44%) preferred a female sonologist.<sup>[13]</sup> The preference for a female sonographer or sonologist in these two studies are much lower than the findings of Okeji *et al.* (63.1%) in Nigeria<sup>[22]</sup> and by Sharma *et al.* in a postmenopausal Caucasian population, where 83.3% of the women preferred to be scanned by female sonographers.<sup>[23]</sup> In a different study by Nkwo *et al.* concerning pelvic examinations in south-east, Nigeria, it was revealed that 51.7% of the women in the study preferred to be examined by a female doctor.<sup>[24]</sup> The percentage that preferred a male sonologist (8.8%) in our study is higher than the 1.7% observed by Atalabi *et al.*<sup>[13]</sup> Similarly, a study conducted among seven male and nine female physicians in a group family medicine practice in Montreal, Que Canada, suggested that being a male primary care physician remains associated with lower rate of cervical cancer screening.<sup>[25]</sup> Analysis of the various socio-demographic subgroups in our study showed that most women preferred to be scanned by a female than a male sonologist, but majority in the south-south (50.4%) and south-west (61.5%) geo-political zones, the 26–33 (54.8%) and 42–49 (60%) age groups, the Christians (48.9%) and the married (48.3%) did not mind the gender of the sonologist. These show an influence of culture, age, marital status and religion on the choice of sonologist's gender. Although, the sample size for Muslims was significantly smaller in this study, only 26.9% of them agreed to be scanned by any available



sonologist (male or female) and 65.4% want a third person in the room during the examination. This is in contrast to 48.9% of Christians who are predominantly from the southern part of the country, who indicated that they will allow any gender of sonologist available to carry out the TVS and 48.3% of them want a third person in the room. This cultural and religious bias was also observed by Russell's study which revealed that 25% of the Turkish women objected to a male sonographer.<sup>[15]</sup> Generally, majority (48.5%) of our respondents prefer to have a third person in the room during TVS, but most in three of the socio-demographic groups preferred not to; south-west (46.2%), 50–57 years age group (50%) and the divorced (75%). Surprisingly most (61.1%) of the respondent who preferred to be scanned by a male sonologist did not want anyone else in the room, while most (58.7%) who chose a female sonologist wanted a third person during the scan. This is not in keeping with the findings in most studies which shows that female patients are more likely to request for a chaperone if they are being examined by a male practitioner as stated by Fan *et al.*<sup>[26]</sup> A similar trend was observed in a survey of women's opinion about the use of chaperone with different categories of GPs and nurses by Stanford *et al.*<sup>[27]</sup> Their findings of the preference for a chaperone in descending order were: usual GP, GP of same gender, practice nurse, GP you do not know well and GP of opposite sex. This might be due to embarrassment felt during TVS, even in the presence of a female, which was reported by Davenport *et al.*<sup>[28]</sup> The embarrassment experienced is however less than they expected.<sup>[29]</sup> This is also reflected in the views of 94.8% of postmenopausal women who do not want a third person in the room during TVS.<sup>[23]</sup> However, 88.9% of women in another study considered TVS not embarrassing.<sup>[30]</sup> To the best of our knowledge, there is no guideline for the GPs regulating intimate physical examinations or for sonologist carrying out transvaginal scan in Nigeria, so we suggest the adoption of that of the Royal Australian College of GPs which encourage individualised joint decision making with patients<sup>[31]</sup> with a few modifications based on our findings.

## Conclusion

Although, transvaginal scan is relatively unknown by our women, most accepted to undergo the examination. Religion and culture were shown to influence the choice of sonologist and a third person during the examination. Majority of the women were indifferent about the gender of the sonologist and most preferred a third person in the room during the procedure, ideally their husbands. Patient's opinion about chaperone use should be sought and not forced on them. We recommend that clinics and hospitals that offer transvaginal scan should employ sonologists of both the gender and trained female chaperones to adequately satisfy the varying needs of their clients. They should also permit the relation or friend of the patients to offer support during TVS whenever possible, especially when there is no chaperone. The Nigerian Medical Association and other professional groups within it should come together to develop a common document on the guidelines that will regulate intimate examinations from our local research findings.

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## Conflicts of interest

There are no conflicts of interest.

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