



Review article

Males in mammography – A narrative review of the literature

J. Ashton, H.M. Warren-Forward*

School of Health Sciences, University of Newcastle, Australia



ARTICLE INFO

Article history:

Received 23 June 2018

Received in revised form

30 April 2019

Accepted 4 May 2019

Available online 28 May 2019

Keywords:

Mammography

Gender

Breast screening

Males

ABSTRACT

Objective: There is a worldwide shortage of radiographers qualified to perform mammography. One solution is the employment of male radiographers. This literature review aims to assess the scope of information available that covers the prospect of males being employed in a breast screening setting. The review specifically focuses on the incidence of males employed as mammographers, training options and client perceptions of males performing breast imaging.

Key findings: Some countries employ male mammographers, though this is limited. There is contradictory information regarding the education of male radiography students in mammography. Several studies have indicated that clients of breast screening services would be open to males performing mammographic procedures, while others have reported strong opposition. The client's level of education, marital status and ethnicity affected their perception.

Conclusion: The review has shown that the employment of male radiographers in mammography may work better in some countries and in some subgroup of clients than others. The review has also highlighted some of the barriers that needs to be overcome if the widespread inclusion of men in mammography were to be successfully implemented. These include the use of chaperones and providing client choice in the gender of radiographer.

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Introduction

Breast cancer is the most common cancer affecting women around the world,^{1,2} accounting for 25% of new cancer cases diagnosed.³ Early detection and reduced mortality are both significantly increased by the use of screening mammography, clinical breast examinations and breast self-examinations.^{4,5}

Mammography is regarded as the gold standard for detection of early-stage breast cancer.^{6,7} As a result, many countries offer routine periodic breast screening. However, improvements could be made both in an increase in breast screening and mammography uptake. In the United States, 66.8% of women over 40 have had a mammogram in the last 2 years.⁸ In England 75.4% of 53–70 year old women utilised breast screening over the 2014–15 period,⁹ while in Australia only 53.7% of women aged 50–74 years attended breast screening during 2014–2015.¹ It is necessary to ensure that any changes to mammographic practice do not deter women from attending.¹⁰

The ageing population, increased incidence of breast cancer and successful breast screening campaigns have resulted in a growing demand for mammographic services. It is estimated that the next decade will experience a significant shortage of radiographers qualified to perform breast screening. A recent report by The Royal College of Radiologists revealed that an average of 26% of mammography practitioners in the United Kingdom are planning to retire within the next 5 years.¹¹ It is also a challenge to entice radiographers into mammography. Fitzpatrick, Winston and Mooney noted the challenge of radiographer recruitment for breast screening in Ireland.¹² A United States study highlighted a growing gap between supply and demand, with twice as many new professionals needed to enter the profession in order to maintain an adequate screening service.¹³ In Australia, similar workforce shortage issues were reported in 2012, where 53% of radiographers employed by BreastScreen Australia were over 50 years old, with 30% of the workforce planning to retire within 5–10 years of this research.¹⁴ A workforce report by BreastScreen NSW similarly indicated that 61% of radiographers performing mammography are over 45 year's old.¹⁵ The report indicates that at least a third of radiographers plan to retire or reduce their hours by 2023.

A solution to the shortage of radiographers performing mammographic screening needs to be addressed and resolved. One

* Corresponding author.

E-mail address: helen.warren-forward@newcastle.edu.au (H.M. Warren-Forward).

possible solution may be to attract males to work in the traditionally female-dominated field.¹⁴ There appears to be limited research conducted on the topic of male radiographers performing mammograms,^{10,16} particularly in a screening mammography setting.¹² Although no studies have been found that specifically encompass the feasibility, attitudes and employment prospects of male radiographers employed in breast imaging, several papers have touched on this notion.

This review aims to assess the scope of information available to answer the question “Is the employment of male radiographers in mammography a feasible solution to current radiographer shortages?”

Methodology

The following electronic databases were searched: Medline, EMBASE, Scopus, Cinahl Complete and Informit. Combinations of the following search (keyword and MeSH) terms were used: ‘mammo*’ OR ‘breast imaging’ OR ‘breast screen’ OR ‘breast*’ AND ‘radiographer’ OR ‘technologist’ AND ‘male’ OR ‘gender’ OR ‘sex’ OR ‘man’. The search strategy had limits set for humans, English language, adult population and publication date after 1990. Reference lists of all retrieved papers were also manually searched to identify any additional articles. All included journal articles were assessed for methodological quality by two reviewers using the Joanna Briggs Institute Critical Appraisal Tool (Table 1).¹⁷ The purpose of the quality review was to assess the methodological quality of a study and to determine the extent to which a study has addressed the possibility of bias in its design, conduct and analysis.¹⁷ All articles meeting the inclusion criteria were included in this review.

A variety of documents, studies, websites and articles were analysed for this review. Papers that were deemed irrelevant and therefore rejected from the literature review include:

- Papers regarding the referring General Practitioner’s (physician’s)/radiologist/consultant gender
- Papers on men attending breast screening services
- Perceptions of men from the general public towards breast screening
- Breast screening papers that do not refer to radiographer gender

A small number of studies regarding males in other intimate procedures was also included for comparison.

Results

In all, 40 articles comprising

- 3 dissertations/theses,
- 13 guidelines documents/reports/pamphlets,
- 5 websites,
- 17 full length published journal articles,
- 1 government act and
- 1 conference abstract were reviewed for this paper.

Of these 39 articles, 12 were deemed most relevant [Table 2]. Most of the literature sourced revolves around other themes, with the topic of male radiographers performing mammography mentioned but not specifically focused on. This review is sectioned into several thematic areas:

‘Countries employing males performing mammography’ – In this section, there was little literature specifically relating to male radiographer employment in mammography; data was therefore often inferred.

‘Training and Male Students in Mammography’ examines the current availability of mammography courses that are open to males. This section also includes perceptions of clients and radiographers towards male students and also questions whether male graduates have any interest in pursuing this field.

‘Clients’ perceptions on Male Radiographers in Breast Screening’ investigates whether the gender of the radiographer would influence client attendance and client characteristics that may affect willingness to accept males in mammography.

‘Client’s perceptions of males performing other intimate examinations’. While there are a variety of female medical procedures that males readily conduct, the section briefly covers males in sonography and obstetrics/gynaecology.

Countries employing male mammographers

Despite mammography being a field that is almost exclusively staffed by women, there are several countries that have

Table 1
JBI critical appraisal checklist.

	Yes	No	Unclear	Not Applicable
Qualitative Review				
1. Is there congruity between the stated philosophical perspective and the research methodology?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is there congruity between the research methodology and the research question or objectives?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Is there congruity between the research methodology and the methods used to collect data?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Is there congruity between the research methodology and the representation and analysis of data?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is there congruity between the research methodology and the interpretation of results?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Is there a statement locating the researcher culturally or theoretically?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Is the influence of the researcher on the research, and vice-versa, addressed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Are participants, and their voices, adequately represented?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quantitative Review				
1. Were the criteria for inclusion in the sample clearly defined?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Were the study subjects and the setting described in detail?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Was the measurements valid and reliable way?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Were objective, standard criteria used for measurement of the condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Were confounding factors identified?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Were strategies to deal with confounding factors stated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Were the outcomes measured in a valid and reliable way?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Was appropriate statistical analysis used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table 2
Summary table.

Title	Author	Year	Country	Study Population	Study Design	Type of Literature	Main Findings
Attitudes toward the male mammographer	Greer, K	1992	United States of America	180 clients	Survey - quantitative	Journal Article	<ul style="list-style-type: none"> • Examination by male mammographer: 25% objected
Survey of women's opinions of male mammographers	Serbus, C	1994	United States of America	960 clients	Survey – quantitative and qualitative	Journal Article	<ul style="list-style-type: none"> • All clients expressed a preference for female mammographers • Examination by male mammographer: 32% objected • Male students performing mammogram: 45% objected • Female students performing mammogram: 10.4% objected • Of 7 male students surveyed, none showed an interest in mammography as a further qualification
A pilot study of gender inequalities related to radiography education and career progression	Payne K	1998	United Kingdom	7 students	Survey - qualitative	Journal Article	<ul style="list-style-type: none"> • Of 7 male students surveyed, none showed an interest in mammography as a further qualification
Radiographer gender and breast-screening uptake	Fitzpatrick P, Winston A, Mooney T	2008	Ireland	1716 clients	Survey – quantitative	Journal Article	<ul style="list-style-type: none"> • 8.8% would have refused to have a mammogram performed by a male radiographer • 8.9% would allow a male radiographer to perform the mammogram but only with a presence of a female chaperone • 82.3% of women would have proceeded with a sole male radiographer • 42.7% strongly agreed or agreed with the statement “I would be equally comfortable with a male radiographer as with a female radiographer for breast screening” • 62.8% strongly agreed or agreed with the statement “Gender would not matter – the only relevant issue is how good a radiographer is at his/her job” • 78.1% strongly agreed or agreed with the statement: “Having my breast screening performed is more important to me than any concern about the gender of staff dealing with me” • 60% would prefer a female radiographer, 36.9% had no preference, and 3.1% would prefer a male
Preferences and perceptions of female patients undergoing mammography in Gauteng, South Africa	Louw A	2010	South Africa	274 clients	Survey – quantitative and qualitative	Dissertation	<ul style="list-style-type: none"> • Examination by male mammographer: 50.4% objected • Male students present during mammogram: 44.4% objected • Male students performing mammogram: 46.8% objected • Female students present during mammogram: 9.3% objected • Female students performing mammogram: 20.2% objected • Choice of mammographer gender: 52.6% wanted a choice; 30.4% choose 'Does not matter' option; 17% did not want a choice.
Anxiety in women presenting for mammography in Nigeria: Causes and Implications	Okeji MC, Udoh BE, Chiaghanam NO	2012	Nigeria	209 clients 5 mammographers	Survey - quantitative	Journal Article	<ul style="list-style-type: none"> • Male radiographers are employed in mammography to address shortage of trained radiographers • 76% of clients stated that they would prefer a female mammographer, with most common reason cited that “they could easily and willingly undress in the presence of females”
Radiographers practicing mammography: Should gender be a consideration?	Fisher K, Jagoe-Banks B, Ng L, Abubakar A	2013	Australia	217 radiographers 62 students 69 clients	Survey – quantitative	ASSMIRT Presentation	<ul style="list-style-type: none"> • Only 4% of current male radiographers indicated interest in mammography
Knowledge, Barriers and Attitudes Towards Breast Cancer Mammography Screening in Jordan	Abu-Helalah MA, Alshraideh HA, Al-Serhan A, Kawaleet M, Nesheiwat AI	2015	Jordan	507 clients	Face-face survey - quantitative	Journal Article	<ul style="list-style-type: none"> • An average of 86.2% of cohort stated that presence of female technicians is an important factor when considering mammography screening.

Table 2 (continued)

Title	Author	Year	Country	Study Population	Study Design	Type of Literature	Main Findings
Perceptions of Australian clients towards male radiographers working in breast imaging: Quantitative result from a pilot study	Warren-Forward HM, Mackie B, Alchin M, Mooney T, Fitzpatrick P	2016	Australia	146 clients	Survey – quantitative and qualitative	Journal Article	<ul style="list-style-type: none"> • Over 90% of women would have had their mammogram performed by a male, but 25% would have preferred a female for the examination • 9% of women would have objected to being examined by a male radiographer • Most participants would be surprised, have no reaction or be embarrassed to having a male radiographer • Most participants strongly agreed or agreed with the statements “would feel equally comfortable with a male practitioner as with a female practitioner”, that “the gender would not matter – it is more important to me that the practitioner is good at his/her job” and that “having the examination performed is more important than the gender of the radiographer”
JRCERT Mammography Rotations Position Statement	Joint Review Committee on Education in Radiologic Technology (JRCERT)	2016	United States of America	–	–	Policy Statement	<ul style="list-style-type: none"> • Demographic data (analysed by JRCERT) indicates that less than 1% of approximately 50,000 radiologic technologist registered in mammography in the United States are males.
Barriers and incentives for choosing to specialise in mammography: Qualitative analysis	Warren-Forward HM, Taylor J	2017	Australia	101 students	Survey – qualitative	Journal Article	<ul style="list-style-type: none"> • 43% of male students indicated an interest in receiving further training in mammography • 14% of male students indicated an interest in specialising in mammography • On average, students preferred MRI, CT and Ultrasound modalities to Mammography. • 84% of radiography students noted a shortage of clinical exposure in mammography while completing the undergraduate degree.
Barriers and incentives for choosing to specialise in mammography – A survey of Australian undergraduate diagnostic radiography students	Warren-Forward HM	2018	Australia	101 students	Survey – quantitative	Journal Article	

documented employment of males in mammography. Belgium,¹⁸ South Africa,¹⁹ and Nigeria²⁰ allow qualified males to conduct mammographic procedures. The Nigerian study noted that males are employed to address the shortage of qualified female radiographers.²⁰ Sweden employs male breast screen radiographers in rural areas.¹² United Arab Emirates employed males in mammography at least until 2008²¹, with the Abu Dhabi Health Authority enforcing in 2012 that only females are allowed to perform mammographic examinations.²² It is likely that other nations permit men to be employed within the field, but documentation of this is unable to be sourced.

Training and male students in mammography

Training male radiographers in mammography

The Joint Review Committee of Education in Radiologic Technology (JRCERT), based in United States, recommends that “male students should be allowed to observe mammography”. They also state that “a mammography rotation is a valid and valuable experience for all students, and [they] encourage program directors to keep mammography rotations ... open to all students”²³ (p.112). The Mammography Rotations Position Statement, released by JRCERT in 2016, dictates that “under the revised policy, all students will be offered the opportunity to participate in mammography clinical rotations”; conversely, it also states that “male students are advised

that placement in a mammography rotation is not guaranteed”.²⁴ Strict clinical site policies are the main reason for disallowing male student participation in these rotations. Several US training institutions^{25–28} specifically cite the JRCERT Mammography Rotations Position Statement, thus discouraging males from studying mammography.

Similarly, in South Africa where male radiographers perform mammographic procedures, the Health Professions Council (HPCSA) states that “the course [of mammography] should be offered to all diagnostic radiographers with a minimum of two year post-graduate clinical experience and registered with the HPCSA”¹⁹ (p.2). The document then proceeds to outline, however, “it is the responsibility of the education institution to ensure that the candidates are exposed to all examinations”(p.5).

Radiographers' perceptions of male students in mammography

Refusing mammographic clinical placement to male students seems to be a theme noted in several studies. Research by Louw in South Africa reported that 55% of qualified mammography staff believed that male students should not be present during mammographic procedures.¹⁶ Similarly, Poelhius in America writes that “although clinical rotations in mammography are encouraged to enhance student learning, many clinical instructors do not allow male students to participate in mammography rotations”²³ (p.113). Also from America, Schmidt remarked that even in the 21st century

there remains an unspoken and unwritten rule that restricts males from entry to mammography.²⁹ In his work, Schmidt holds the 'powerful medical community' accountable for the encouragement of gender segregation within mammographic workforce, while Louw writes that male students are "excluded from participating in procedures due to the mammographers' own preconceptions regarding patients' preferences"¹⁶ (p.5).

Clients' perceptions on male students in mammography

Current research assessing women's perspective regarding male radiography students is lacking. A 1993 American study reported that 45% of clients would have objected to a male student participating in the examination, compared to only 10% objecting to a female student.³⁰ Research by Louw revealed similar results, where 55.6% of women presenting for mammographic procedures did not object to male students being present, and 53.2% did not object to male students performing mammograms.¹⁶ Contrary to the radiographers' somewhat negative view of male students in mammographic settings, "[82%] of the participants stated that they had no objection to students performing mammogram examinations under qualified supervision, as students need to be trained"¹⁶ (p.140). In fact, Poelhius remarks that many women are accustomed to male physicians and these women would not be uncomfortable if male students observed breast imaging procedures, as long as they were asked.²³

Desire of male students to work in mammography

In order to include male radiographers in a mammography setting, it is necessary for men to be interested in pursuing this career field. Research on students (particularly male students) in mammography is lacking.¹⁶ Two, recently-conducted Australian studies^{31,32} appear the most relevant. In 2016, Warren-Forward and Taylor reported that 69% of male students believed that negative perception of clients towards male radiographers is a significant barrier against working in mammography.³¹ Warren-Forward in 2018 further reported that "Male students reported being discriminated against working in mammography as this is "female only" work".³² Another Australian study published in 2013 reported remarkably similar findings, with 70% of respondents (radiographers, student radiographers and patients) stating patient comfort as the main reason why males are not pursuing mammography.³³

The fact that mammography is currently a 'female-dominated' career is seen as a deterrent for students, with few males considering the modality of mammography.³¹ Reports of whether male students are interested in mammography are varied. Warren-Forward and Taylor in 2016 reported that 43% of male students indicated an interest in further mammographic training, and 16% demonstrated interest in specialising in mammography.³¹ Another very small-scale, 1998 study conducted by Payne³⁴ showed that none of seven surveyed male radiography students in the United Kingdom were interested in a mammography qualification. The findings of this study should be evaluated with caution due to the limited number of responses. Warren-Forward reported that students (both male and female), stated the lack of clinical experience during their undergraduate degree as a reason for low interest in mammography.³²

Client's perceptions of male radiographers in mammography

Influence of radiographer gender on client attendance

It is necessary to maximise breast screening and mammography uptake in order to improve cancer outcomes with early detection.³⁵ Breast screening uptake is affected by a variety of factors, one of which is the gender of the radiographer performing the examination. Research has revealed substantial variation in

participating women's views of male radiographers. An Australian study conducted by Warren-Forward, Mackie, Alchin et al.¹⁰ revealed that 9% of women would object to a male radiographer performing their mammogram. This is comparable with an Irish study by Fitzpatrick, Winston and Mooney, which reported that 8.8% of women would not proceed with their mammogram if it were to be conducted by a male radiographer.¹² Another study revealed similar results, with 78% of the patients confirming that the possibility of a male radiographer would not deter them from attending mammographic services.³¹ A 1992 Norwegian study³⁶ reported that 3% of the non-attending breast screen-eligible women quoted the reason behind their absence was the possibility of having a male radiographer.

Other studies have demonstrated more opposition. A study conducted by Serbus reported that 32% of clients would have rescheduled their appointment had they been assigned a male radiographer.³⁰ Another American study indicated that 25% of clients would have objected to a male radiographer.³⁷ In the South African study conducted by Louw,¹⁶ 49.6% of patients did not object to a male performing the examination. Okeji, Udoh and Chiaghanam²⁰ reported that 76% of surveyed Nigerian mammography clients preferred female radiographers. A study from Jordan³⁸ reported that 82.6% of the client cohort viewed the presence of female radiographers as an important factor. A study by Marmara, Curtis and Marmara involving 380 women attending breast screening in Malta revealed that 68.9% of the women would not undergo mammography if the radiographer was male.³⁹

Client's traits affecting perception of male radiographers performing mammography

Louw advises that the decision of employing males within a mammographic facility consider the significant presence of ethnic groups in that population.¹⁶ Through her research in South Africa, Louw noted that Asian/Oriental and white ethnic groups were more likely to object to male radiographers.¹⁶ Nigerian women stated their religious beliefs as a central reason for rejection of male radiographers.²⁰ In an American study by Padela, Vu, Muhammad et al.,⁴⁰ many Muslim participants discussed their preference for radiographers performing mammography, noting 'comfort with gender concordant health care' as one of the main influences for attending this examination. South-Asian women in Canadian studies also demonstrated reluctance to being radiographed by males due to modesty and cultural beliefs.^{41,42} Even among Asian hospital personnel in Kuala Lumpur, there seems to be a heightened negative perception towards male technicians/radiographers.⁴³ Other ethnic women including Latina,⁴⁴ Mexican-descent,⁴⁵ Korean,⁴⁶ Native American⁴⁷ and Arab women²¹ also appear highly modest due to cultural upbringing, seeing exposure of their breasts to male practitioners as indecent. Interestingly, although embarrassment and discomfort were the most common reasons for objecting to male radiographers in mammography, an Israeli study of Arab women reports that even the strongest religious concepts "did not constitute a barrier to undergoing medical examinations"⁴⁸ (p.39).

Louw¹⁶ reported that the clientele most likely to reject male radiographers were white or Asian/Oriental women, women with life partners and women with more education. Women of ethnic background appear to exhibit increased concern regarding mammographic imaging by a male, with cultural norms and religion often being disapproving influences.^{16,38,44,49,50} Like the Norwegian study, 28% of breast screen non-attending ethnic and minority women in United Kingdom reported that the possibility being radiographed by a male influenced their decision to not attend screening mammography.⁴⁹ The Maltese study reported that clients with primary and secondary level education were more

likely to refuse a mammographic examination conducted by a male radiographer.³⁹

Importance of Client's choice in regards to the gender of mammographer

Louw¹⁶ reported that 53% of respondents indicated the desire for choice regarding mammographer gender. The data indicated that women who were less educated and/or black were less interested in the choice. The author uses the data to convey the message that “allowing male mammographers to perform mammography without giving the patient any choice in the matter is a practice that should be implemented with care”¹⁶ (p.132).

Male radiographers performing mammography with the presence of a chaperone

Literature reveals the use of female chaperones could be implemented as a means of alleviating discomfort of women presenting for more sensitive procedures. While the use of chaperones may offset patient reluctance to the employment of male radiographers; this practice would come at a considerable financial cost to any department. In the United Kingdom, The Royal College of Radiologists⁵¹ considers x-ray mammography as an ‘intimate radiologic examination’, denoting that “patients should be offered a chaperone of their gender, present during the examination, and this applies whether or not the examination operator is the same gender as the patient”. The National Health Service⁵² (p.4) states that a patient must be offered a chaperone for all intimate examinations and where the patient is required to be in a state of undress.

The Patient Examination Guidelines by the Australian Medical Association⁵³ (p.3) state that should a chaperone be present, they must be qualified (e.g. a registered or enrolled nurse or appropriately trained). In essence, the chaperone must understand the support role they are performing on behalf of the patient, they must be of a gender approved by the patient or the patient's support person.

Fitzpatrick, Winston and Mooney reported that 9% of women would have only proceeded with a mammographic examination by a male radiographer if a female chaperone was present, while 82% of women did not feel a chaperone was needed.¹² Schmidt, however, stated that “the majority of the medical facilities will not train men [as mammographers] as it is not cost effective to “chaperone” them with the patients, a deterrent to be certain”²⁹ (p.163).

Client's perceptions of males performing other intimate examinations

The idea of men working in occupations dealing with female intimate areas is not novel. Male sonographers are commonly employed, performing intimate examinations such as breast and pelvic ultrasound.¹⁰ A Canadian study by O'Sullivan, Janssen, Wilson and Shaw⁵⁴ indicated that only 62% of respondents preferred a female sonographer for a vaginal examination. In fact, 72% of women stated that “gender was unimportant and that what mattered was that the sonographer was a trained professional” (p.16). In Australia, 62% of women presenting for a Papanicolaou (PAP smear) examination had a combination of male/female physicians performing the procedure; of these 42% had no preference as to the gender of the practitioner.¹⁰ Webb and Opdahl⁵⁵ reported that 52% of surveyed Canadian women had no preference for the gender of practitioner performing breast or pelvic examinations. However, a 2001 study from United Arab Emirates⁵⁶ revealed that 97% of women preferred a female for a Clinical Breast Examination.

Although obstetrics/gynaecology is a field traditionally dominated by the female workforce, men are also prevalent within the profession. In the United States, due to the National League for

Nursing's stance that nursing curriculum should have no differentiation regarding gender, male nurses have been allowed obstetric experience since 1960 (Fogg, 1962, cited by McKenna⁵⁷). A study of Turkish women attending gynaecological appointments revealed that less than half (45.5%) of women preferred a female examining doctor, with 49.9% having no preference.⁵⁸ An Iraqi study⁵⁹ revealed that 8% of women preferred a male obstetrician/gynaecologist and 18% had no preference in regards to gender. Interestingly, the author noticed that younger women tended to prefer female practitioners. Twenty-five percent of male nursing students reported rejection by women in Egypt, with authors calling for efforts to be made to give male students educational opportunities equal to that of females.⁶⁰ In Malaysia, 87% of male obstetrics/gynaecology students have experienced patient rejection during consultations, while 93.3% failed to receive consent for internal examinations.⁶¹ Additionally, it was noted that medical officers, obstetrics/gynaecology specialists and consultants are significantly more likely to discriminate against male students, than nurses and house officers, with the authors outlining the need for reduction of gender discrimination within the profession.

The presence of chaperones is commonly required with intimate medical examinations. Moores, Metcalfe and Pring⁶² have revealed that 90% of surveyed UK genito-urinary physicians requested chaperones during patient examinations. A Canadian study⁶³ reported 71% of male physicians use chaperones during female breast examinations. Another Canadian study⁵⁵ reported that 42% of patients desired the ability to choose whether a chaperone was present during breast and/or pelvic examinations, while 39% did not want the opportunity of choice. Nineteen percent wanted choice for the first examination only. The majority of practitioners (73.3%) believed that the use of chaperones aided patient comfort.⁶²

Conclusion

The exponentially increasing shortage of radiographers trained to perform mammography is evident. Urgency in finding a solution to the workforce shortage is imperative. There is therefore, a call for professionals, organisations, educators and policy makers to retain professionals already within the field and to encourage recruitment of radiographers into the modality.

Currently, mammography seems to be an imaging modality that is noticeably unattractive to both undergraduate students and employed radiographers due to the “high touch” aspect of intimate female anatomy.³¹ There is a stigma associated with males performing mammography. From the limited number of studies, it is evident that women worldwide generally prefer female radiographers during mammographic procedures; although in some westernised countries most clients are not averse to being radiographed by male radiographers.

Any gender changes to staffing need to ensure that there are no negative repercussions on the uptake of breast screening. The potential for men working in mammography needs further investigation through large scale multi-national studies involving students, radiographers and clients, as current studies on this topic are extremely limited. While employment of males in a mammographic setting may currently be problematic, it could be a possible future solution to the multinational shortage of radiographers qualified to perform mammography. This employment would necessitate the use of female chaperones (at an increased cost to the screening programme) and provide the clients with the choice of gender of radiographer. Both these avenues should help to minimise any negative effect on screening uptake. Current literature however indicates that this is not a solution for all countries due to cultural and religious beliefs.

Conflict of interest

None.

Acknowledgements

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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