European radiographers' challenges in mammography education and clinical practice: an integrative review

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Background

The achievement of quality standards promoted by European and National entities can be challenging mainly due to the variability regarding mammography practice and education. Quality issues in breast cancer screening may be affected [1-7].

Aims

- To characterise the variability in mammography practice and education.
- To identify challenges in clinical education and daily mammography practice.

Methods

A systematic literature search was conducted. The PICO strategy was used for the construction of the research questions and for the bibliographical search. Dual rated study quality was performed and discrepancies were resolved through consensus (figure 1)[8-9].
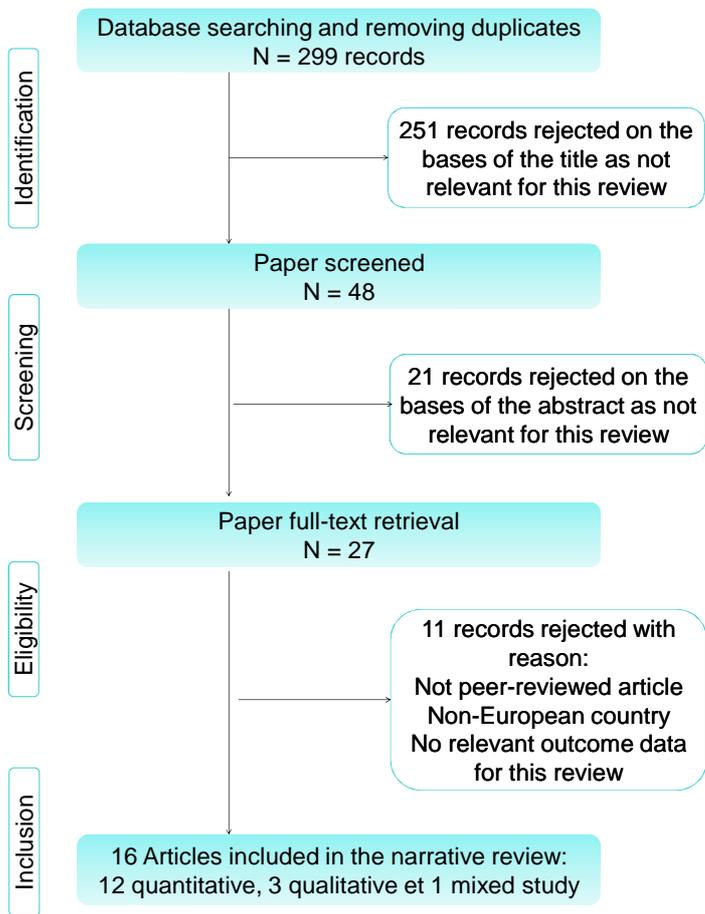

Identification

Database searching and removing duplicates
N = 299 records

251 records rejected on the bases of the title as not relevant for this review

Screening

Paper screened
N = 48

21 records rejected on the bases of the abstract as not relevant for this review

Eligibility

Paper full-text retrieval
N = 27

11 records rejected with reason:
Not peer-reviewed article
Non-European country
No relevant outcome data for this review

Inclusion

16 Articles included in the narrative review:
12 quantitative, 3 qualitative et 1 mixed study

Figure 1   **Flow diagram of studies included in the systematic review**

Databases	Medline, Cinahl, ERIC, EBSCO host, Science Direct, Pro Quest
Search Terms	Teaching OR learning OR education; radiographer OR radiologic technologist; mammography OR breast screening; challenge; quality OR image quality; patient centred Published in English between 2010-2016
Inclusion Criteria	JBI levels of evidence for effectiveness from 1 to 3 and the levels of evidence for meaningfulness from 1 to 3.

Results

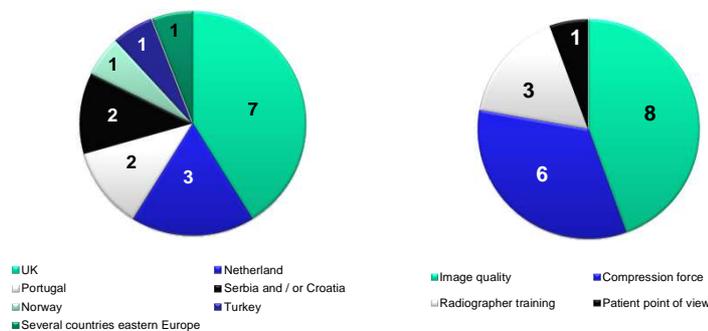16 papers coming from 7 different regions of Europe (figure 2) presented 4 categories of main topics (figure3).

UK | Netherland
Portugal | Serbia and / or Croatia
Norway | Turkey
Several countries eastern Europe

Figure 2   **Native country of the papers**

Image quality | Compression force
Radiographer training | Patient point of view

Figure 3   **Main topics of the papers**

The thematic analyses of the studies produced 6 categories of challenges.

Mammography Education

1) Training needs: in a multiprofessional approach, image quality assessment, new technologies and patient counseling;
2) Taking part with training: On-the-job training, lack of commitment and motivation;
3) Training offers: insufficient information about training opportunities;

Clinical Practice

4) Deficient image quality: positioning, artifacts identification and solving, exposure optimization, and breast compression;
5) Limited competences with quality control procedure
6) No standardized image quality assessment system

Conclusion

Variability in mammography clinical practice and in mammography education were identified due to different human and material resources and also different cultural contexts. For this reason, the implementation of international guidelines and harmonised practice can be a challenge. Training needs for radiographers seam to change from technical aspects to patient-centred issues.

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