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Promoting the early detection of cancer: A systematic review of community pharmacy-based education and screening interventions

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ABSTRACT

Background: Given that the burden of cancer is set to increase globally, strategies are needed to improve the early detection of cancer. As such, increasing focus is now placed on promoting the early detection of cancer through education and screening interventions. One healthcare setting that has significant potential in delivering these approaches is the community pharmacy.
Aims: This study aimed to systematically review the literature to identify and assess the current evidence for the role of community pharmacies in delivering early cancer detection initiatives.
Method: A systematic literature search of four databases was undertaken (Medline, Embase, CINAHL, PsycINFO) from inception to June 2015 to identify peer-reviewed intervention studies.
Results: A total of 3711 articles were identified from the search, of which twelve were included in the review. The studies focused on a range of different cancers and showed it is feasible to recruit patients to education and screening interventions within a community pharmacy setting. However, the interventions were poorly described in the literature.
Conclusion: There is significant potential for community pharmacy to deliver education and screening-based interventions to promote the early detection of cancer, but more evidence is needed to ascertain how interventions delivered in this setting impact on patient outcomes.

1. Introduction

Early detection of cancer significantly improves the probability of a better survival outcome [1]. For example, 5-year survival rates for early stage non-small cell lung cancer (NSCLC) are around 50 times higher compared with late stage disease [2]. Given the ageing population, and that the cancer burden is set to increase globally [3], strategies are needed to improve the early detection of cancer. This challenge is acknowledged by the World Health Organization (WHO) [4], which has adopted a series of strategies to promote early cancer detection. One approach is developing interventions to raise public awareness through education regarding early warning signs of cancer (e.g. a mole that has recently changed), while another relates to cancer screening: typically individuals from healthy populations are tested to identify those who have previously undetected cancer but, as yet, do not exhibit any symptoms.

One healthcare setting that potentially has a role in providing both of these early detection approaches is the community pharmacy. Indeed, the WHO has acknowledged that community pharmacists are the most accessible healthcare professionals to the general public [5]. Studies have shown that community pharmacies offer easy and equitable access to healthcare [6,7] with estimates that, in the UK, 84 per cent of the population make at least one visit in the course of a year [8]. Community pharmacies, therefore, appear to be uniquely placed to raise awareness of and screen for cancer. Work has shown people present at community pharmacies seeking care for symptoms which could be indicative of early signs of cancer [9], yet, despite this potential, there is no comprehensive review of the role and contribution of community pharmacies in early cancer detection.

This study aimed to systematically review the literature to identify and assess the current evidence for the role of community pharmacies in delivering early cancer detection initiatives

2. Methods

2.1. Sources

The following electronic databases were searched to identify evidence: MEDLINE (Ovid), EMBASE (Ovid), CINAHL (EBSCOhost) and PsycINFO (EBSCOhost). The search period was from inception

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of the databases to June 2015. The terms used in the search strategy were related to cancer, community pharmacy and intervention (Appendix 1). The search strategy was modified when appropriate to suit syntax requirements; no MeSH terms were used. No limit was placed on study type, publication, date and language in the search strategy. The reference lists of the included studies were hand searched to identify relevant studies.

The review was designed and carried out following established guidelines on good conduct and reporting of systematic reviews [10,11]; the protocol was registered with PROSPERO [12], registration number 2014:CRD42014009092.

2.2. Study selection

To be included in the review, studies had to meet the following criteria:

1. Setting: include or take place within a community pharmacy. In this review community pharmacy was defined as pharmacy that is based in the community (not in a hospital, clinic or online) and is accessible to all;
2. Population: the general public accessing a cancer education or screening intervention;
3. Study type: all study types were included;
4. Intervention: patient-focused cancer education and raising awareness over early cancer symptoms, cancer screening and/or detection;
5. Outcomes: study outcomes were conceptualised in accordance with the framework proposed by Hardeman et al. [13]. This framework contains four categories: determinants of behaviour (e.g. increased patient knowledge), behavioural outcomes (e.g. reducing exposure to cancer risk factors), physiology and biochemical outcomes (identification of patients with pre-malignant disease) and health outcomes (incidence rates of cancer).

Interventions that solely sought to educate the community pharmacy team about cancer awareness or did not specifically include patients were also excluded. Studies that were reported as abstracts were also excluded from the review.

The initial screening of search titles and abstracts was undertaken by one researcher (LL) with a ten per cent sample checked by a second researcher (AT); any disagreement was discussed and, if agreement could not be reached, consensus was reached with a third researcher (AH). The full text version of selected studies were independently screened for by two researchers (LL, AT); data extraction was done independently by two researchers (LL, HN) using a template based on the EPOC (Effective Practice and Organisation of Care Group) data extraction

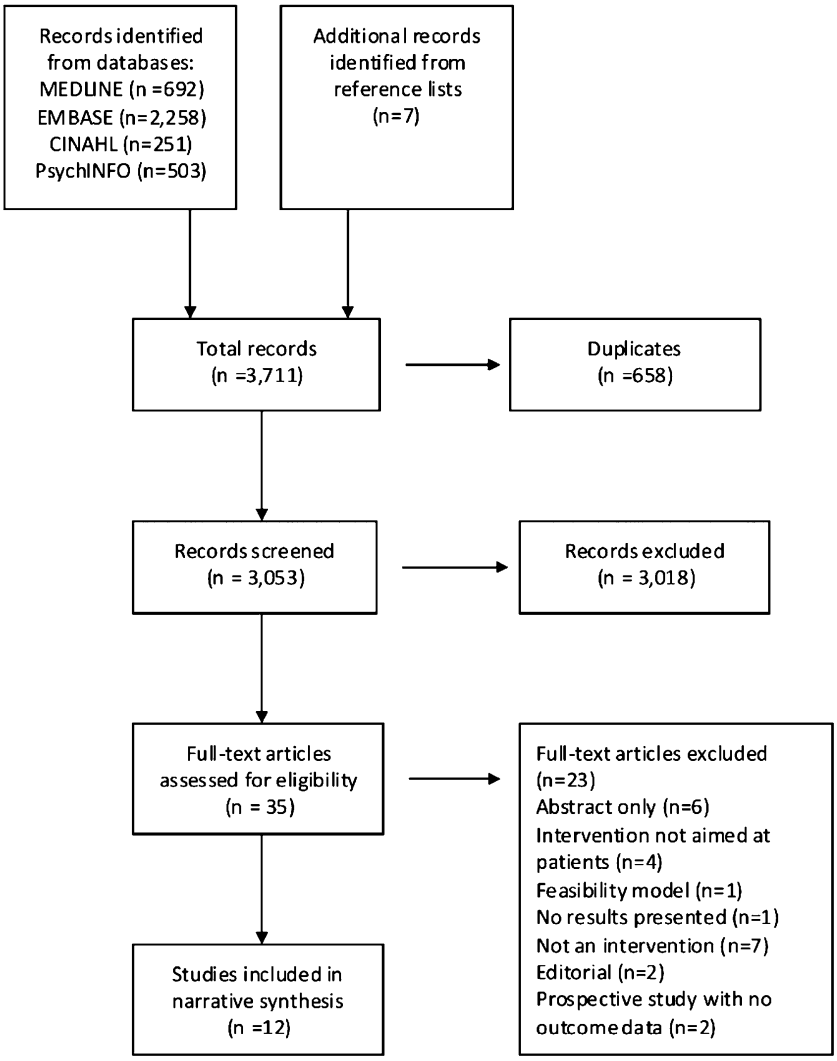

Fig. 1. PRISMA diagram showing study selection.