

Review

The Role of Community Pharmacists in Addressing Medication-related Issues for Breast Cancer Patients Receiving Adjuvant Endocrine Therapy

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Abstract. Breast cancer is the most common cancer in women globally. To prevent relapse and prolong disease-free survival, adjuvant endocrine treatment such as selective oestrogen receptor modulators and aromatase inhibitors are being used. However, such oestrogen-blocking agents can cause serious adverse events. Community pharmacists are ideally positioned to ensure that such adverse events are addressed promptly and competently through their comprehensive knowledge of medicines. To identify the skills and training required to improve community pharmacists' communication in breast cancer settings regarding adjuvant endocrine treatments and to propose a conceptual framework for setting up such breast cancer service, we reviewed the literature using PubMed and performed a brief survey of eight community pharmacists using semi-structured interview method. To improve pharmacists' competencies in breast cancer settings, a clear framework for the proposed service on the national level is required. In addition to communication skills training programmes and problem-solving competences, reviewing the pharmacy pre-registration training curriculum and creating appropriate platforms that monitor medications in breast cancer patients are advocated.

Breast cancer is the most common type of cancer in women with a significant impact on patient quality of life. It has been estimated that two-thirds of newly diagnosed breast cancer

patients have hormone-receptor-positive disease (1, 2). Treatment for these patients is usually followed by adjuvant endocrine therapy, such as oestrogen-blocking drugs including selective oestrogen receptor modulators and aromatase inhibitors to eliminate any residual micro-metastases and thereby prevent recurrence and prolong disease-free survival (3-11). In women with a high risk of breast cancer, oestrogen-blocking drugs such as tamoxifen and aromatase inhibitors can reduce the risk of the disease. However, tamoxifen was found to increase the risk of thromboembolic phenomena and endometrial cancer (12, 13). Therefore, patients should be advised to promptly report any menstrual changes or irregular vaginal bleeding. It is also important that patients should report any thromboembolism relevant symptoms such as unexplained cough or shortness of breath and any heat or pain in the calf. Moreover, patients should be informed that long-distance journeys increase the risk of forming blood clots and therefore wearing below-knee compression stockings is recommended (14). Furthermore, patients starting adjuvant anastrozole should be warned regarding their ability to carry out tasks such as driving and operating machinery and those on anastrozole or letrozole also need to be reminded that bone mineral density should to be measured regularly.

The increasing number of cancer clinics prescribing oral preventive adjuvant endocrine therapies and the relatively long periods for which such patients are receiving these treatments with their serious adverse effects render it crucial for community pharmacists to take a proactive approach to ensure that adverse events are addressed promptly (15). However, community pharmacists' confidence and skills in communicating with breast cancer patients regarding adverse events associated with adjuvant endocrine treatment have not been satisfactorily addressed in the literature. Thus, identification of key elements needed to expand their knowledge, develop communication skills, and increase their confidence in adjuvant endocrine therapy setting is vital.

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Literature Review

The increasing pressures on NHS resources and the government's failure to address the tough challenges primary care services are facing make it imperative that services redesign their delivery by reducing pressures on general practice and shifting tasks into a community setting (16-20). There is a growing recognition that it is vital for well-established pharmacy networks, whose role is now being increasingly and widely recognised for its efficacy, to contribute to this transformation (21-23). The ease of access without an appointment, proximity to the patient and the existing relative comfort level between patients and community pharmacists enable them to identify any barriers to the uptake of endocrine therapies that might affect the overall management of their health. Therefore, community pharmacists have been asked to provide more services, which will assist in NHS savings (24-26). Even though there are no studies showing that community pharmacist interventions in adjuvant endocrine therapy settings lead to improvements in treatment outcomes, improvements in patient safety and quality of life and reductions in both unplanned hospitalisations and total costs are expected to follow. With a decrease in the duration and severity of adverse effects and a minimum disruption of care, expensive yet unnecessary hospitalisations will also be avoided and the ever-increasing cost to the healthcare system will be reduced as a result. However, to participate in patient's shared care, community pharmacists should prepare themselves for their evolving roles and integrate with the wider healthcare teams (27). In addition to pharmacists gaining assertiveness, confidence and clinical decision-making skills (28-30), they must also learn communication skills that are supportive and culturally appropriate for patients with the anxieties and worries of a cancer diagnosis (31). However, identifying the communication skills and competencies in these settings is rather challenging and such specialised training requires skilled tutors as well (32). Furthermore, practical concerns about what can be delivered within community pharmacy settings and how a proposed breast cancer support service can provide joined-up care in conjunction with that already provided by general practitioners (GPs) and consultants should be considered.

The Potential Roles of Community Pharmacists in Breast Cancer Settings

In order to conceptualise the current and possible roles that community pharmacists might undertake in breast cancer settings and to obtain a qualitative understanding of how confident they feel about advising on adjuvant hormone medications, a brief survey of a heterogeneous set of eight community pharmacists using semi-structured interview was

undertaken. Data were collected using two methods; telephone interviews and face-to-face site visits in which timings were chosen by pharmacists themselves.

Almost all pharmacists stressed the need for a standardised communication pathway that is consistent, relevant, and easily understood by the majority of breast cancer patients which, in turn, helps improve the reliability and encourage the flow of information. The lack of professional confidence and gaps in communication and problem-solving skills with regard to adjuvant endocrine therapy were matters of concern to most pharmacists. They also stated a lack of local provision of training in breast cancer care settings and that the allocated funding for training is not well-defined. Respondents also raised concerns over the distinct lack of clarity of their role in these settings which, in turn, could negatively impact their full integration. The results showed that a clear majority of pharmacists were uncertain concerning the overlap of roles with GPs and consultants and they reported resistance from GPs and, to a lesser extent, from patients.

Possible Solutions

It is evident that training that comprises professional communication and critical appraisal skills, problem-solving competences and the development of decision-making and leadership qualities for pharmacists' new roles is essential (29, 33, 34). Training can be delivered by formal or informal programmes where pharmacists from community pharmacies or primary care clinics attend a two-day course and then transpose the knowledge and skills to their work colleagues. Throughout the course, concepts with community-based examples and case-based scenarios that reflect the intricacies of possible situations can be illustrated using diverse strategies, such as problem-based and simulated learning tasks, that are in line with the highest learning outcome approach, namely the adult learning pyramid (35). Further training programmes tailored to pharmacists' needs and based on local NHS priorities should be collaboratively delivered alongside GPs and consultants (36). However, training may be hindered by a lack of clarity as to what this new role involves and thus a clear framework on the national level is required. It has been postulated that having an independent prescriber status or working within a general practice would influence the adjustability of the roles that pharmacists are willing to hold and help them perform an even superior yet supportive role in coordinating the medications prescribed with the patient's condition and treatment protocols (28, 37, 38).

In view of the evolving nature of community pharmacists' roles, more effective engagement and collaboration between pharmacists and GPs should be developed (39, 40). However, some resistance may be encountered, and this collaboration will only happen if there is recognition at a regulatory level.

To inaugurate empathy through collaborative working with a clinical team and decrease any resistance to the pharmacist's role in breast cancer care by primary or secondary care teams, pharmacists might need to shadow breast cancer specialists or attend work placements in breast cancer clinics.

To alter patients' perceptions about the community pharmacist's role in breast cancer care and educate patients on their breast cancer preventive agents, relevant information could be disseminated *via* leaflets or promulgated by implementing an innovative model of service, a 'Breast Cancer Support Service'. To understand the service delivery and participate fully, community pharmacists need extra training in the optimisation of medicines and to improve their risk management and decision-making skills. Yet, pharmacists can employ the knowledge and skills acquired from the above-outlined educational course. The service can be signposted to local GPs and breast cancer support groups to inform them about it in case they choose to make any referrals. Patients could be recruited to the service either by their GPs' referral or identified either from issues raised by themselves or their medications in pharmacy records. To identify patients' health needs and set reasonable yet achievable goals, pharmacists could hold in-depth consultations at regular intervals with patients using condition-specific assessments. The purpose of the service is to ensure that patients on endocrine medicines are fully engaged with the management of their side effects and other related medicines adherence issues. To identify those requiring more in-depth consultation or referral, patients could also receive advice by telephone, which reduces the number of visits needed and frees face-to-face pharmacy capacity. To deliver a more personalised care, the service applies the patient activation measure (PAM) that comprises skills, confidence, and the knowledge patients have in self-managing their health and getting the best from their endocrine medicines (41-43). The service can also be used in conjunction with other tools such as STOPP/START to help identify endocrine medicines that are prescribed inappropriately (44).

Evaluation of Intervention

Evaluation of training programme. To ensure a strong capture of outcomes and decide if, when, and with what improvements the training course can be adopted more widely, it is crucial to robustly evaluate the impact of educational intervention. The improvement in skills and knowledge acquired can be assessed using Kirkpatrick's approach, which comprises four stages of training evaluation criteria: the evaluation of reaction, learning (skills and knowledge), behaviour, and outcomes (45, 46). Alternatively, we can utilise best practices in evaluating teaching professional development using either Guskey's or a utilisation-focused approach to data obtained from semi-structured interviews of the participants. This should be followed by qualitative analysis of the pharmacists' satisfaction, learning, and transformation of behaviour (47-51).

To assess acquisition and retention of acquired knowledge, the transferability of acquired learning into practice and whether this knowledge has been used after the training, qualitative and quantitative analyses of data from open-ended questions and multiple-choice questions evaluation before and after a period of the educational intervention can be conducted. However, simulated methods can provide a more practical tool for demonstrating the pharmacists' knowledge and implementing their communication skills (52).

Evaluation of service. To help recognise the challenges and identify the potential health-economic benefits of the proposed service before it is fully implemented on a large scale, an impact assessment framework should be developed (53). The NICE guidelines identified patient clinical outcomes, satisfaction, medication adherence, management of medication-related adverse events, and safety issues, as criteria to evaluate any given service (54). However, measurements of the clinical outcomes and patients' improvement with regard to medicines adherence and quality of life are rather challenging to collect and estimate accurately (55). Although the current definitions of quality of care comprise largely clinical outcomes and patient safety, there are no nationally standardised methodologies for evaluation of services, and there are several definitions of "quality" in the context of healthcare (56, 57). It has been advocated that interrogating the patients' feedback on the quality of the service they receive is an effective method to identify areas where quality of care can be improved and where these improvements ought to be made. Patients can fill in patient reported outcome measures (PROMs) questionnaires or be asked whether they would recommend a pharmacy to their friends provided they required comparable advice or care.

Barriers and Facilitators

Training pharmacists for roles in breast cancer care service is mainly hindered by challenges in enrolling them on the educational event due to their time limitations and therefore less time-consuming alternatives, such as e-learning and distance learning resources, can be implemented. Moreover, convincing pharmacists that there is a real problem by using patient stories etc. and convincing them of the solution by demonstrating the advantages of training are necessary. However, over-ambitious targets can alienate pharmacists provided they think the goals are unachievable (53).

The under-funding of training programmes and the lack of remuneration for the service in community pharmacy, at present, represent clear obstacles. The way forward could be to outsource training programmes and use alternative local facilities for training purposes. To provide strong evidence for adoption and local support of service, it has been argued that an accurate assessment of the true costs of training needed is crucial and the service should robustly show policymakers and

local stakeholders that it delivers savings as well (58). However, the lack of hard data with regard to total costs of the training is a potential barrier to making necessary comparisons.

Even though pharmacists can review patients' prescription history, the lack of real-time access to patients' care records represents a barrier to full implementation of the service (59). Due to the lack of interoperability of IT systems and the inherent gap in coordination between doctors and community pharmacists, which precludes the possibility of sharing and solving problems, it has been advocated that the benefits of real-time access to patients' summary clinical records are enormous (60). This is expected to facilitate effective communication and allow pharmacists to coordinate endocrine medicines with other healthcare issues while treatment progresses.

Further Actions and Recommendations

To develop pharmacists' competencies in breast cancer medications, it is advised to conduct a review of the pharmacy pre-registration training curriculum and find methods to incorporate a relevant module in undergraduate pharmacy programmes. Furthermore, reviewing prescribing policies, the quantity, and duration of prescriptions of endocrine medicines is also suggested (56). It has been proposed that community pharmacists should contribute to creating novel systems that monitor breast cancer patients' compliance to avoid the medication non-adherence and polypharmacy issues in these settings.

Finally, the new service should be assessed and benchmarked against the targets, and therefore practical research that shows that the service is sustainable yet cost-effective is necessary.

Conflicts of Interest

The Authors declare that they have no conflicts of interest that are relevant to the content of this study.

Authors' Contributions

Kinan Mokbel & Kefah Mokbel conceptualised the study and designed the research. Kinan Mokbel conducted the research. Kefah Mokbel supervised the study.

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