IMPLEMENTATION FORUM

Closing the gap between nursing research and practice

The problem of implementing valid research results in nursing practice is well known. Despite an accumulating body of knowledge about the effectiveness of some nursing interventions, a gap often exists between what is known and what is practised.

Continuing professional education has been promoted as one way to bridge the gap between research and practice so that patients may benefit. Davis et al described continuing medical education as the longest educational phase in the career of a physician, and this probably applies to other health professionals also. The term “continuing professional education”, however, often conjures up images of traditional lectures by “experts” in dark theatres. A more encompassing description might be “any and all ways by which (health professionals) learn and change after formal training is completed”.

This editorial will summarise what is known about the effectiveness of continuing professional education—behaviour change strategies, and make suggestions for choosing appropriate activities.

Evaluation of behavioural change strategies

Several systematic reviews of a broad range of interventions to improve health professional practice in general7–9 and nursing practice specifically,10 have been conducted. Although most reviews reported some improvement in practice, the importance of the change was not always clear.

One systematic review has focused specifically on the effectiveness of continuing nursing education,11 and covered complex interventions as well as traditional activities such as lectures. The author concluded that overall, continuing education was effective in improving practice, although it was not possible to ascertain the importance of these changes from the published review.

Other reviews have focused on specific interventions such as audit and feedback,12 educational outreach visiting,13 and computerised decision support,14 or a specific targeted behaviour, for example, immunisation,15 or a particular practice setting (eg, primary care).16 A recent “overview” of systematic reviews concluded that passive dissemination of information alone (even information viewed as important) was insufficient to improve the practice of physicians, although it may increase knowledge or create awareness (table 1).17 Behaviour change strategies which have shown an impact on practice include, prompts on patient charts, reminders, local consent processes, patient mediated interventions.

Interactive educational meetings

Participation of professionals in workshops that include discussion.

Patient mediated interventions

Any intervention aimed at changing the behaviour of professionals where specific information was sought from, or given to, patients.

Table 1 Interventions to promote behavioural change in health professionals

<table>
<thead>
<tr>
<th>Consistently effective strategies</th>
<th>Strategies with mixed effects</th>
<th>Strategies having little or no effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education outreach visits</td>
<td>Audit and feedback</td>
<td>Educational materials</td>
</tr>
<tr>
<td>(for prescribing) Use of a trained person who meets with professionals in their practice settings to provide information with the intent of improving practice.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reminders</td>
<td>Local consensus process</td>
<td>Distribution of published or printed recommendations for clinical care, including clinical practice guidelines, audiovisual materials, and electronic publications.</td>
</tr>
<tr>
<td>Any intervention, manual or computerised, that prompts professionals to perform a clinical action.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multifaceted interventions</td>
<td>Use of providers nominated by their colleagues as “educationally influential”.</td>
<td></td>
</tr>
<tr>
<td>A combination that includes two or more of: audit and feedback, reminders, local consensus processes, patient mediated interventions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interactive educational meetings</td>
<td>Selection of participating professionals in discussion to ensure that they agreed that the chosen clinical problem was important and the approach to managing the problem was appropriate.</td>
<td></td>
</tr>
<tr>
<td>Participation of professionals in workshops that include discussion.</td>
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*Adapted from Bero L, Grilli R, Grimshaw JM, et al. Reproduced with permission.

Getting research into practice

Getting research into practice is not as simple as choosing an intervention and hoping for the best. Aside from the intervention itself, mediating factors include the characteristics of the patient and the practitioner and the desired behaviour change. Getting practitioners to start doing something new, such as routinely asking patients if they smoke, may require a different strategy than that used to get practitioners to stop doing something they do frequently. Furthermore, administrative or financial policies may exist within organisations and settings that act as disincentives to improving the practice of individuals.

Interventions should ideally be tailored to an individual’s stage of change, and should address administrative barriers where appropriate. For example, health professionals might already be aware of the need for cervical screening and may not require an educational intervention, but they may need a prompt on the patient’s chart. If, however, practitioners lack information, awareness, or skills, then strategies such
as educational workshops that involve a high degree of interaction might be effective.

Planning for improving practice

As professionals, we need to develop systems of scrutinising our practice with a view to self improvement. An initial needs assessment can be accomplished using strategies such as self reflection, reading, and discussions with respected peers. However, two studies have shown less impact on performance if clinicians choose their own topics for further learning, and more impact if lower preference topics were studied. 17 18 It may be that practitioners tend to choose topics in which they have the greatest interest and are already quite knowledgeable.

The next step is to choose a learning activity, and there may often be a discrepancy between the health professional’s preference for a style of continuing education and what might be most effective in actually improving practice. Tassone and Speechley found that Canadian physiotherapists preferred short courses,23 while Covell et al reported that physicians preferred reading.24 Yet, poorly designed courses and reading alone may have little impact on practice.

Reading materials can be useful if they are evidence-based. Secondary sources such as this journal are ideal because they only present high quality research, and provide a commentary on each abstract by a clinician. The Cochrane Library is another important evidence-based source of information and should be available in medical and nursing libraries.25 Table 2 contains suggestions for matching the need for learning with different educational strategies.26 Although short “courses” are popular, practice is likely to improve if lectures are minimised and a high level of reflection and interaction is encouraged.27 Other sources of information about behavioural interventions can be found in the CCEPP.28

Completion of a formal or informal educational activity, although important, is likely to be insufficient on its own to improve practice. Changing behaviour is a complex process, and clinicians may revert back to usual practices unless the new behaviours are reinforced.29 Individual nurses should attempt to identify practical barriers to change, which need administrative/organisational support, and then attempt to influence existing managerial or quality improvement structures to address these barriers.

The gap between research and practice is not merely the consequence of nurses failing to keep up to date.30 Changing behaviour is complex, involves many systems, and is unlikely to be solved solely by educational strategies.29 Other efforts such as organisational supports and resources that encourage nurses to participate in research projects,29-30 to connect with larger networks,31 32 and to gain experience with critical appraisal tools and journal clubs33 are important considerations and should not be overlooked.

Table 2 Implementation strategies for different needs*

<table>
<thead>
<tr>
<th>Implementation strategies</th>
<th>Improve knowledge/attitudes</th>
<th>Improve skills</th>
<th>Change practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational outreach visits</td>
<td>+</td>
<td>?</td>
<td>+</td>
</tr>
<tr>
<td>Workshops with interaction</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Reminders</td>
<td>+</td>
<td>?</td>
<td>-</td>
</tr>
<tr>
<td>Social marketing</td>
<td>+</td>
<td>?</td>
<td>-</td>
</tr>
<tr>
<td>Multifaceted approaches</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Opinion leaders</td>
<td>+</td>
<td>+</td>
<td>+/−</td>
</tr>
<tr>
<td>Patient mediated strategies</td>
<td>?</td>
<td>−</td>
<td>+/−</td>
</tr>
<tr>
<td>Audit and feedback</td>
<td>+</td>
<td>+</td>
<td>−</td>
</tr>
<tr>
<td>Educational materials</td>
<td>+</td>
<td>−</td>
<td>+</td>
</tr>
<tr>
<td>Didactic conferences</td>
<td>+</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>Local consensus process</td>
<td>+</td>
<td>+</td>
<td>+/−</td>
</tr>
</tbody>
</table>

*Adapted from Davis and Thomson: 6 + = improvement based on evidence from randomised controlled trials; ? = evidence is unclear or unavailable; − = no improvement based on evidence from randomised controlled trials.

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33 Kirkhoff KI, Beck SL. Using the journal club as a component of the research utilization process. Heart Lung 1995;24:249–50.
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