Debate & Analysis

NNTs and NNHs:

essential for rational prescribing

'If all you have is a hammer everything looks like a nail.' (Abraham Maslow)

Prescribing should be like using a box of specialist tools where each tool has a specific purpose and is only used when it's both wanted and needed.

The essentials for rational care are that the clinician has a competent knowledge of recommended tests and therapies, an understanding of the frequency of their benefits and harms, and shares this knowledge and understanding with the patient.

Most clinicians usually do have a good working knowledge of everyday tests and therapies. The bottlenecks that limit rational prescribing are the availability of information on benefits and risks like the number needed to treat (NNT) and number needed to harm (NNH),[1] the clinician's capacity to use that information, and the patient's ability to understand it.

These gaps in knowledge and understanding are warnings of irrational prescribing. The old and paternalistic 'I know what's best for you' approach has evolved into the hammer-like 'This is what I usually do and I hope it's right for you.'[2] This was understandable when there was little new evidence about, and less choice in treatments. However, in an age of person-centred care[3,4] and ever-changing research findings and knowledge, clinicians should be regularly re-examining what and how they advise patients. They should be person centred and concerned with 'What really matters to you?' type questions rather than only symptom-centred 'What's the matter with you?' type questions.

The different ways and decision aids for explaining benefits and risks to patients usually relate to the NNT, and the NNH. Clinicians will use the same information and manage risk differently.[5] Patients also use the same information and manage their risk differently.

Assuming a treatment is safe and used for 5 years, half the patients would take a drug if the chance of them benefiting was 20% (NNT 5). Less than one-third would take a drug if they thought that they had a 5% chance or less of benefiting (NNT 20). If the benefit was 5% or less, then the number of patients willing to take a preventive drug was doubled if their clinician recommended the treatment.[6] Most interventions are not that good (http://www.thennt.com/).

Patients usually overestimate the benefit of treatments and underestimate harm,[8] and might not want many tests or treatments if they knew the limited benefits or the extent of the risks.[9]

Successful adherence to a prescription is the result of a complicated personal formula, related to the patient's preferences, their understanding of the treatment's relevance, its perceived effectiveness, any adverse side effects they experience, and the effort required to adhere to treatment. These are all prone to misinformation and misunderstanding.

The 2015 landmark decision (Montgomery v Lanarkshire Health Board) of the Supreme Court confirmed a patient's right to self-determination in treatment decisions[10] and consigned medical paternalism to the history books. Patients must be properly advised about their treatment choices and the risks associated with each choice so that they can make informed decisions when giving or withholding consents. The expectation is that principles of shared decision making must be followed. The Bolam test, which asks whether a clinician's conduct would be supported by a responsible body of medical opinion, no longer applies to the issue of consent.

Life will never be ideal and, with limited time, knowledge, and other resources, clinicians have to compromise. They need to make the best judgements they can and give the best advice possible in the circumstances. Clinicians need to be more open and share these limitations with patients.

What currently limits prudent prescribing and what needs to be done to make consent more informed and prescribing more rational?

Researchers do not always provide relevant NNT and NNH information. Publishers need to make treatment benefits and risks like NNT and NNH explicit and easy to understand when they communicate research findings.

Clinicians have their own limitations accessing and using information and understanding and tolerating risk. They need to know and make these limits clear when they make recommendations to patients.

Patients usually do not know about the NNT and NNH relevant to their care. They should ask the five key 'Choosing Wisely' questions:[9]

1. Do I really need this test, treatment, or procedure?
2. What are the risks or downsides?
3. What are the possible side effects?
4. Are there simpler, safer options?
5. What will happen if I do nothing?

If patients can make sense of the benefits and risks they will make more informed, personal, and rational choices about their care.

ADDRESS FOR CORRESPONDENCE

Terry Kemple
RCGP, 30 Euston Square, London NW1 2FB, UK.
E-mail: terry.kemple@rcgp.org.uk

Terry Kemple,
President, Royal College of General Practitioners, London.

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