Medicines Evidence Commentary

commentary on important new evidence from Medicines Awareness Weekly

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Cardiovascular primary prevention: trading off the inconvenience of taking medicines against the expected benefits

Two studies conducted in the UK and the US have found a wide range of attitudes among people as to the amount of benefit a fictional preventative daily tablet would have to produce to offset the inconvenience of taking it. More than a quarter of people in the UK sample required a greater increase in lifespan than a statin is likely to produce to justify daily medication. As recommended in NICE guidance, health professionals should explain carefully the risks and benefits of proposed treatments (using high quality decision aids if these are available and appropriate), and should accept that an informed person has the right to decide not to have a treatment, even if the health professional disagrees with their decision.

Overview and current advice

In its guideline on patient experience in adult NHS services, NICE recommends giving people information, and the support they need to make use of it, to promote their active participation in care and self-management. This includes discussing the risks, benefits and consequences of the investigation or treatment options, clarifying what the person hopes these will achieve and discussing any misconceptions with them. Similarly, in its guidance on supporting medicines adherence, NICE recommends involving and supporting people in decisions about medicines. Both of these guidelines emphasise that healthcare professionals should accept that a person has the right to decide not to have a treatment, even if the health professional disagrees with their decision, as long as they have the capacity to make an informed decision and have been given and understand the information needed to do this.

Although information about the likely clinical benefits and possible adverse effects of a medicine are important, they are not the only considerations when making a decision about whether or not to start or continue taking it. People also have to take account of the inconvenience associated with taking the medicine. In health economic terms, this is known as the medication disutility. There are several health economic methods for quantifying utility or disutility. One method is known as time trade-off. In the way this is usually used, people are asked to consider the relative amounts of time they would be willing to give up to avoid a certain poorer health state. For example, faced with a scenario of 10 years with frequent migraines, a person may say that they would prefer to live for only 7 years if those were 7 years without frequent migraines.
New evidence

A cross sectional study has used a time trade-off approach to assess the range of medication disutility in a random sample of 360 members of the general public in north-west London. An equal number of men and women were interviewed, 1% of participants had a history of cardiovascular disease and about a fifth (22%) were currently taking regular medication of some kind. Their mean age was 38 years (standard deviation 17 years). Nearly all the people approached (379) agreed to participate.

Participants were asked to imagine an ‘ideal’ tablet that had no side-effects, was available at a negligible cost, needed no prescription or medical supervision and could be started or stopped at any point without problem other than potentially not receiving the full preventative benefits. Using a structured interview technique, the authors ascertained the minimum benefit, in terms of increase in lifespan, which people felt they would have to see to offset the inconvenience of taking such a tablet every day.

There was a wide variation in results. The median increase in lifespan required was 6 months (interquartile range 1 to 36 months), but although about 1 in 3 (34%) participants would take the medicine if it would increase their lifespan by less than 1 month, about 1 in 8 people (12%) would take the medicine only if it would increase their lifespan by 10 years or more. Similar results were obtained when the results were stratified by participants’ age (18–25 years, 26–50 years, 50–75 years) or sex.

To set these results in context, the study authors also calculated expected average lifespan gains from starting statin therapy for different age groups, sex and cardiovascular risk profiles in the general population. The calculated lifespan gain with statin therapy ranged from 5.5 months to 24.3 months in men and 3.6 to 18.2 months in women depending on the cardiovascular risk profile.

The authors highlighted a number of potential limitations to this study. The study participants were asked to imagine an ‘ideal’ tablet, so the results may underestimate the disutility of actual medicines. Individualised risk factor data was not collected; therefore it is not possible to compare advantages and disadvantages of treatment for the surveyed population. The population represents a primary prevention cohort because only 1% of people had a history of cardiovascular disease. In addition, the study participants’ were approached in public places; it is possible that responses may have been different if the survey was conducted in a healthcare setting.

A similar study of 1000 people (59% female, mean age 50 years) was conducted using an online questionnaire survey in the USA. Participants were again asked to imagine a daily ‘pill’ with no side effects and no cost, specifically for cardiovascular prevention. No information is reported on participants’ current health state, although 21% were taking no daily ‘pills’ and 54% were taking 3 or more. Unlike the UK study, in which 66% of people would take a daily tablet only if it increased their lifespan by more than one month, approximately 70% of US respondents said they would not give up any of their lifespan to avoid taking a daily tablet. The other respondents gave a wide range of answers, and 1 in 12 people (8.2%) were willing to trade 2 years of their time (the maximum offered).

Commentary

Commentary provided by Neal Maskrey, professor of evidence informed decision-making, Keele University, and consultant clinical adviser, NICE Medicines and Prescribing Centre

This study highlights an aspect of decision-making about medicines that is often overlooked – what has been called ‘the work of being a patient’. At the very least this involves remembering to take the medicine at the right time(s) of day, obtaining a prescription, having it dispensed and collecting or arranging delivery of the medicine, arranging follow-up appointments, monitoring tests and so on; to say nothing of the psychological and social changes associated with becoming a patient. In both the
studies discussed in this commentary, the authors attempted to strip back the causes of disutility to the minimum, yet still there was a substantial range of views expressed.

There is an interesting difference in results between the 2 studies, which may reflect different cultural perspectives or the way the question is posed – or possibly both. In the US study 70% of people said they would not give up any of their lifespan to avoid taking a daily tablet whereas in the UK study about 1 in 8 people (12%) would take the daily tablet only if it would increase their lifespan by 10 years or more. Logically, this is the same as saying that they were prepared to give up 10 years of life if it meant they did not have to take an ‘ideal’ tablet every day. However, we need to be cautious in making this interpretation as people may respond differently depending on the way the same question is framed, and people are generally loss averse.

The actual detail of the results is less important than the wide range observed: in the UK study nearly half of the population had a disutility greater than double the median or less than half the median. A similar range of responses has been observed with regard to the acceptable trade-off of clinical risks and benefits. For example, as discussed in a previous medicines evidence commentary, a Spanish study found that the acceptable increase in the number of major bleeds per 100 people over 2 years arising from anticoagulant medication to reduce the risk of stroke from 8 per 100 to 5 per 100 people over 2 years varied from 0 to 100 among patients and from 0 to 50 among physicians.

It should no longer be assumed within health economic models that medication disutility is universally negligible. Further research is required to determine the range of disutility for common decisions in common conditions, and in diverse populations – including in people actually making a decision - as opposed to the theoretical scenarios used in this research.

And in clinical practice, although patients and clinicians require supporting information as a basic requirement for shared decision making, there is good evidence that patients often overestimate the likely benefits of treatments and underestimate harms, and some evidence that doctors may do so as well. High quality decision aids can be extremely helpful in correcting misunderstandings and eliciting patients’ preferences and values when used as tools to support a shared decision-making consultation.

We are increasingly becoming aware that linguistics also counts for a lot – small changes in the language we use in consultations may have large and unexpected consequences. The availability of decision aids does not replace the need for consultation plus decision making skills to enable effective shared decision making conversations to take place.

References

About this Medicines Evidence Commentary

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