Making the most of research 3: putting research into practice

The first two articles of this series provided guidance on how to define a specific clinical question, find relevant research, and evaluate whether the evidence presented is reliable and trustworthy. In practice, analysis of the scientific literature and application of research findings in first opinion clinical cases may be constrained by real-world factors, which are limiting to the veterinary staff, the client, or both. This third article offers some guidance for using research evidence in practice.

Keeping up to date with developments in veterinary medicine is essential to the practice of evidence-based medicine. However, putting research into practice is not always a straightforward process. The evidence must be reviewed in the unique and specific context of every individual case and there may be barriers to implementation for both the practitioner and the client

Challenges for the practitioner

Challenges for practitioners typically arise in three main areas:

- difficulty accessing research;
- a lack of relevant research; and
- constraints on providing the treatments.

Difficulty accessing research

While we might prefer to spend time analysing papers in depth, in the pressure of a busy clinic there will rarely be more than 30 mins for a cursory review of whatever literature can be found with our smartphone or a free practice computer. Journal access

This article is the third in a three-part series. See **Making the most of research 1: is the research relevant?** *Feline Focus* 2022; 8(2): 25–28 and **Making the most of research 2: is it good quality research?** *Feline Focus* 2022; 8(3): 39–42.

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may be restricted to specific journals to which the organisation subscribes; open access papers; or abstracts-only. There is a big push in the scientific community to increase the availability of published research to help facilitate the provision of evidence-based medicine, so we can look forward to increasing numbers of open access papers hitting our screens in the future. In the mean-time:

- In addition to checking open access papers (eg, those published in the *Journal of Feline Medicine and Surgery*), check for full papers in any journals to which you have organisational access such as the *Veterinary Nursing Journal* through the British Veterinary Nursing Association, and *Companion* through the British Small Animal Veterinary Association.
- When only the abstract is accessible, if time allows, email the author and ask if they can send you a full copy.
- If pushed for reading time, focus attention on the methods section to check it is sound (see checklist in **Making the most of research 2: is it good quality research?** *Feline Focus* 2022; 8[3]: 39–42).
- Consider the quick checks provided in the box below.

Quick quality checks for research

- Is the research published in a reputable, peer-reviewed journal?
- Is it current? Check the citations list (if available) for more recent studies on the same topic.
- Does funding, sponsorship, or any conflict of interest declared by the author reveal any potential source of bias?
- Are the results clear? If obscure or overly complex, they may warrant more detailed investigation.
- Do the conclusions transparently reflect the results and not go beyond?
- Is the study well-referenced, using peer-reviewed, published research?

A lack of relevant, published research

Sometimes we may be faced with a lack of published studies. When this happens, we need to make clinical decisions based on the evidence available and the case in front of us, which will include:

- any published research you can find;
- requesting help or advice from specialists, many of whom will be happy to provide telephone advice on specific cases; and
- considering the risk to the patient of not acting vs the relatively unknown risk of treatment.

Although research may be available on the relevant patient definition and problem, direct relevance to the first opinion patient should be carefully examined. By way of illustration, a recent oncology study found that 87% of owners whose cats were undergoing treatment with a COP protocol for feline alimentary lymphoma would treat another cat with the same condition.[1] The study was based on a referral centre caseload, therefore, the owners surveyed may have differed in significant ways from a client presenting at first opinion. In this example, important considerations, in addition to the research findings, would include:

- comorbidities and general condition of the patient in front of us;
- client finances;
- the cat's tolerance of car travel (welfare would be compromised during treatment for a cat who was extremely stressed by car travel);
- the cat's temperament in a hospital setting and tolerance of intravenous line placement for drug administration;
- the owner's ability to travel to and from the clinic;

- the owner's state of mind and views on quality vs length of life; and
- other owner factors; for example, immunosuppression or pregnancy, which may influence chemotherapy decisions.

Constraints on providing the treatments supported by evidence-based medicine.
Finally, even when research clearly points to an ideal evidence-based treatment plan, it is possible that the practice cannot access the drug or does not have the manpower or equipment to provide the treatment indicated. Mindful of the considerations raised above, referral may be an option here.

Challenges from the client

In clinical practice, client concordance with any recommended treatment is a major consideration affecting prognosis for the cat. A recent shift in focus towards shared decision-making recognises the importance of empathy and understanding on the part of the clinician and respect for the client's concerns, expectations, beliefs and preferences (Figure 1).[2,3] This may be especially important where the client's attitudes towards a treatment may be the primary barrier, despite best evidence. For example, it is not uncommon to encounter reservations about long-term psychoactive medications to support a behavioural modification plan for an anxious cat; or reluctance to acknowledge pain associated with osteoarthritis, when the client feels the clinical signs are a normal part of ageing.[4] A recent study[5] estimated that as many as 40% of cats may suffer from arthritis, but owners infrequently recognise the signs, and as few as 13% go on to be diagnosed.[6] Providing objective information at a level the client can understand, in an empathetic manner, about what is and what is not known from the evidence, may go some way to overcome perceptual barriers and help reach concordance.[3]

Figure 1: Both caregiver and patient factors will influence clinical decision-making

Purely practical barriers must also be considered in any final decision-making. These might include:

- **formulation and palatability:** owners may find it challenging to give a pill to their cat if the cat becomes stressed, which itself can cause additional problems. Hiding unpalatable medicine in food may also result in a cat that refuses to eat. In this case, alternative medications to those best evidenced may be indicated if they are likely to be more efficacious by virtue of the fact that they are more acceptable to the cat;
- **frequency of dosage:** if the client's memory may be unreliable, or if they will struggle with the practicalities of drug administration, it may be more effective to prescribe a medication that requires less

frequent dosing by the owner (eg, once daily rather than twice daily) or even a monthly injection at the clinic of a different class of drug indicated for the same problem. For example, for an elderly owner who would struggle to medicate their cat with a carer visiting once daily we may choose to use Vidalta rather than Thyronorm for treatment of hyperthyroidism (assuming radioactive iodine is cost prohibitive or otherwise contraindicated). Equally, a monthly injection of Depomedrone may be more successful than daily administration of oral prednisolone for many owners of cats suffering from inflammatory bowel disease or other steroid responsive disease;

- **financial:** the cost of providing the gold standard treatment in, for example, the case of a blocked bladder[7] rapidly escalates: biochemistry and haematology; urine analysis, microscopy and culture; possible electrocardiogram; intravenous fluid therapy; sedation and anaesthesia; catheterisation with a closed urinary system; possible radiography and/or ultrasonography; hospitalisation and injectable medication in clinic, such as initial methadone followed by 8 hourly buprenorphine; and oral medication in clinic and on discharge, such as prazosin and dantrolene. We may sometimes have to offer the best treatment we can within the client's budget rather than what the evidence states is gold standard.

Conclusions

As veterinary professionals we all have an obligation to undertake continuing professional development to ensure that we keep up with the latest research in the ever-developing field of veterinary medicine. This in turns ensures that we can provide the best evidence-based medicine to each patient that we treat. While some of us may favour webinars or conferences for ease, reading the original paper gives practitioners the chance to truly analyse the evidence and assess its strength. When we have the skills in our armoury to read and interpret research papers without fear, reading these articles becomes more enjoyable. Furthermore, the ability to interpret a research paper is crucial when time is of the essence and we need to find the best treatment for the specific patient in front of us.

While we need to be mindful of and work with, the many real-world factors that may challenge our ability to offer the best-evidenced treatment, feeling positive about our analysis of the literature means that we can advise clients on their options with confidence, and help them to make informed concordant decisions together.

References

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