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Wildlife nursing - part one: an introduction and literature review

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ABSTRACT: Nursing of British wildlife species are not included in the curricula for most veterinary nursing training programmes. Yet, when presented with wildlife casualties in practice, veterinary nurses (VNs) are expected to fulfil their professional, legal and ethical responsibilities towards them. Part one of this article will discuss these responsibilities along with the triage procedures, expenses, risks and admission procedures of wildlife presented in veterinary practice.

Keywords: wildlife; veterinary nursing; challenges; attitudes; education

Introduction

Wildlife presented in veterinary practice can be challenging as veterinary professionals have legal, professional and ethical responsibilities to strike a balance between intervention and unnecessary suffering, whether it be euthanasia, treatment or immediate release (Mullineaux, 2017). Part one of this article will cover the background of this subject as well as gain an insight into the relevant literature. Part two will focus on a research project aimed to identify the current challenges of wildlife nursing.

should not result in unnecessary suffering. A person commits an offence if they do not take reasonable steps to ensure that the needs of an animal for which they are responsible for, are met to the extent required by good practice. There is no legislation which states veterinary professionals must euthanase species considered as 'pests' as they are subject to the same veterinary and welfare considerations as other sick or injured wild animals (Kerr, 2010). This appears as a little known fact, as conservation status and popularity of the wildlife casualty are likely to influence the attitudes to intervene (Kirkwood & Sainsbury, 1996).

Literature review

Legal responsibilities

The Animal Welfare Act (AWA) 2006 permanently or temporarily protects wild animals that are no longer in a wild state and are under control of man (Animal Welfare Act, 2006, s2). Section 9 of the AWA 2006 state these include the need for a suitable environment, a suitable diet, to be able to exhibit normal behaviour patterns, to be housed with, or apart from, other animals and to be protected from pain, suffering, injury and disease (Animal Welfare Act, 2006, s9). The five needs listed are the basis for welfare of all captive species where injury and confinement during treatment and rehabilitation may affect welfare but

Rehabilitation and release are also factors influenced by legislation. Section 10 of The Wildlife and Countryside's Act (WCA) 1981 permits the taking of sick or injured animals from the wild for the purpose to tend to them until no longer disabled (Wildlife and Countryside Act 1981, s10). This allows veterinary practices to house wildlife casualties as long as they are not kept in a manner that inhibits its capacity to be released. Mullineaux (2017) stated a 'suitable' casualty is one that can be returned to the wild in a physical condition that allows it to survive in an equivalent way to any other member of its species. Returning an unfit casualty

constitutes as ‘abandonment’ which is regarded as an offence under legislation. This does not necessarily mean that the animal should be in perfect physical condition at the time of release but that it should be of appropriate health to carry out normal daily activities such as finding food and shelter (Fletcher & Lea, 2012). Regarding non-indigenous animals of the UK, animals listed under Schedule 9 of the WCA 1981 can only be kept in captivity for rehabilitation with an appropriate licence but immediate veterinary care is permitted as outlined in Section 14 (Wildlife and Countryside Act 1981, s9, s14). These species cannot be deliberately released for the most part but some can in certain areas with a licence.

Professional responsibilities

According to the Code of Professional Conduct for Veterinary Nurses by the Royal College of Veterinary Surgeons (RCVS), animal welfare must be the overriding consideration at all times (RCVS 2012a). All patients, of whatever species, must be treated with respect and provided with suitable nursing care. The Code of Professional Conduct for Veterinary Surgeons states that a Veterinary Surgeon cannot unreasonably refuse to provide first aid and pain relief to any animal of a species treated by the practice during normal working hours (RCVS 2012b). They must provide the same level of care for all other species until a more appropriate centre can accept responsibility.

Ethical responsibilities

From an ethical viewpoint, treating wildlife often counteracts the human actions as the impact species demographics and individual animal welfare (road traffic

accidents, poisonings, pet injuries and large man-made catastrophes like oil spills) (Mullineaux, 2014). Erritzoe et al. (2003) reviewed data from European studies on bird mortality on roads. They estimated the annual mortality for some countries to be 350 thousand to 27 million casualties. However, Slater (2002) concluded that simple counts of wildlife corpses found on roads represent a severe underestimate of actual road casualty rates and could be 12-16 times higher than originally thought. Therefore, treating wildlife could help to offset the number of wildlife lost through human interactions. As a potential benefit those who are willing and able to treat wildlife regularly could attract good publicity for their practices via media contributions (Cooper & Cooper, 2006) and provision of veterinary services to members of the public finding wildlife casualties can generate a “feel good factor” for those involved (Mullineaux, 2014). Benefits could be obtained for the individual professional where knowledge of and experience in husbandry of more unusual species (Figure 1) could be gained (Bullen, 2013).

Triage and decision-making

Mullineaux (2017) defined ‘triage’ as the process of determining the priority of patients’ treatments based on the severity of their condition and when resources are insufficient for all to be treated immediately. For wildlife, it is common to differentiate between casualties requiring immediate euthanasia with those that would have a good chance of release. True triage is required when there are large numbers of wildlife casualties such as during stranding events, mass pollution or wild fires. Triage decisions should ideally be made within 1-2 hours of admission in order to prevent

unnecessary suffering in captivity (Mullineaux, 2014) when nursing care is most important, as often veterinary practices are only suitable for short-term care of wildlife whilst rehabilitation facilities are sought (Mullineaux, 2017).

The importance of the decision-making process and triage is supported by primary research where Grogan and Kelly (2013) reviewed research into wildlife rehabilitation from the Royal Society for the Prevention of Cruelty to Animals (RSPCA). They obtained annual estimate figures from 23 rehabilitators and combined these with those admitted within RSPCA centres to create a value of 71,000 wild animals admitted to wildlife establishments in 2011. However, the fate of most rehabilitated wild animals remains unknown (Cooper & Cooper, 2006). Molony et al. (2007) proposed that if factors associated with survival within rehabilitation centres could be determined, they might be used to focus efforts on individuals with high chances of successful recovery, and hence improve welfare by devoting resources to those animals that are more likely to benefit. The researchers analysed medical records of eight species from a range of taxonomic groups commonly admitted to four RSPCA wildlife rehabilitation centres between 2000-2004 to determine those factors that affected the chance of survival in care until release (Molony et al., 2007). The most important predictive factor found across all species was the severity of the symptoms of injury or illness. For example, individuals with deep tissue wounds spent up to 18 (± 33 days) in care before dying, and up to 23 (± 48 days) for those with a fractured pelvis. Age, sex, mass (weight) on admission and length of time in care did not affect survival significantly. This research highlighted that although the ethos of many rehabilitation centres and veterinary practices is to attempt the treatment of all wildlife casualties, the attempted treatment of those with severe injuries might adversely affect welfare by prolonging suffering during hospitalisation.

Expense of treatment

Initial and ongoing costs of professional time, drugs and consumables must be considered. If finances are not available to care for the wildlife casualty properly, then euthanasia should be the preferred option rather than poor care (Mullineaux, 2017). Barnes and Farnworth (2017) found 85.6% of 169 RCVS accredited practices agreed that the public expect veterinary practices to treat injured wildlife free of charge but



Figure 1. Wildlife casualties presented to a hospital over the years.

there are no UK organisations that accept sole responsibility for wildlife health. The RSPCA offer reimbursement for initial emergency treatment for animals over 1 kg which excludes many species presented in practice and only applies if the rescuer contacts the charity initially. There is, however, a memorandum of agreement between the British Veterinary Association and the RSPCA to provide emergency care and euthanasia without charge for small mammals and wild birds brought into practice during normal hours (Mullineaux, 2016). The extent of treatment given depends on the individual practice (Fletcher & Lea, 2012) where Barnes and Farnworth (2017) found 84% of 169 respondents agreed they were willing to perform treatment beyond stabilisation to include prescription medication, <72-hour rehabilitation and release. Overall, cost of intervention and ability to release must be justified (Grogan & Kelly, 2013).

Admission procedures

Williams (2010) advised the following should be recorded to help assist in possible releases:

- Name, address and phone number of rescuer
- The reasons why the animal was rescued
- Any first aid already administered
- Any food and water offered
- The exact location where the animal was found.

This is particularly important, as the wildlife casualty would have an established territory and be familiar with food sources, so if released in an unknown environment, the animal would be vulnerable whilst finding new resources (Ryan, 2017). Section 10 of the WCA 1981 requires ownership and responsibility to be clearly identified and transferred from the rescuer to the practice in order for treatment to be permitted (Wildlife and Countryside Act 1981, s10). Whether this occurs in practice is questionable as once wildlife is in possession of the rescuer; it becomes their property (Ryan, 2017). This could cause problems if the rescuer is dissatisfied with the treatment given, particularly if euthanasia is elected (Harris & Jefferies, 1991).

Risks of treating wildlife casualties

Most wildlife perceives humans as a threat and therefore may react aggressively, so caution must be maintained especially during

breeding seasons (Minshell, 2012). Another consideration is that wildlife can also act as reservoirs of zoonotic diseases, such as the following, (Simpson, 2008):

- Avian influenza
- Borelia burdorferi
- Campylobacter
- Chlamydia
- Cowpox
- Leptospirosis
- Lyssaviruses
- Ringworm
- Salmonellosis
- Toxoplasma gondii
- Tuberculosis.

It is therefore essential that practices encourage and provide the use of personal protective equipment when dealing with wildlife casualties (McClure, 2011) especially as the risk of disease transmission can extend to domestic species within the practice (Mullineaux, 2014).

Veterinary practices and wildlife casualties

From current literature searches, it is evidenced that veterinary attitudes towards provision of care towards wildlife in practice and major challenges faced remain largely unexplored in peer-reviewed work. This is apparent in Barnes and Farnworth (2017) study where half of their reference material is over a decade old; however, their research shed light on current perceptions and paved way for further study. They conducted a cross sectional, semi quantitative survey design with a sample of 169 RVCS accredited practices. Differences in opinions between VNs and Veterinary Surgeons could potentially exist as practices in general were sampled, but research into this is limited. A statistically significant relationship between facilities for holding wildlife casualties temporarily and number of casualties treated was identified (Kruskall-Wallis; $p=0.001$) indicating correct resources support the demands wildlife require. It was estimated that around 8081 wild animals were being treated per annum and in extrapolating this data, the authors suggested that the UK annual wildlife workload was estimated to be 131,609 patients. The researchers found the following were the most common species presented to veterinary practices in order of prevalence:

1. Garden birds
2. Hedgehogs
3. Birds of prey
4. Wild rabbits
5. Seabirds

6. Waterfowl
7. Game birds
8. Grey squirrels
9. Bats
10. Foxes
11. Deer
12. Badgers
13. Wild snakes
14. Otters
15. Seals
16. Red squirrels.

Benefits of treating wildlife were identified such as experience, knowledge, personal satisfaction, increased team morale and better public relations. However, resource diversion of staff, time and money were listed as disadvantages. Common restrictions faced when treating wildlife were also identified as listed in order of most limiting:

1. Knowledge/skills
2. Facilities/equipment
3. Money/expense
4. Time
5. Uncertainty about British wildlife law/policies
6. Comfort levels with restraint
7. Interest
8. No enquires/cases
9. Practice owner permission.

Veterinary nurses and wildlife

Registered Veterinary Nurses (RVNs) are in the most ideal position to inform, support and guide others regarding wildlife care (Fraser & Girling, 2016). For instance, Orpet and Welsh (2011) described the nursing process is a problem-solving approach of care for an individual patient, which includes the cyclic process of assessment, nursing diagnosis, planning, implementation and evaluation. This only outlines the stages involved and does not detail 'what' and 'how' each is carried out, yet various frameworks provide this further detail. The Ability model by Orpet and Jeffery is a model specifically designed for VNs to assess what is normal so the care provided can restore the patient back to the original state (Figure 2) (Orpet & Welsh, 2011). This model relies on communication with the domestic animal's owner to identify normal routines and considers owner compliance, financial and cultural factors that may affect the care provided. Many wildlife casualties arrive in practice with an unknown history (Williams, 2010) where normal routine is difficult to determine, meaning this model may not be suitable for these types of patients. Therefore, where nursing care could be significant in the treatment and outcomes of wildlife it requires specific guidance for these specific species.

Orpet & Jeffery Ability Model 2007

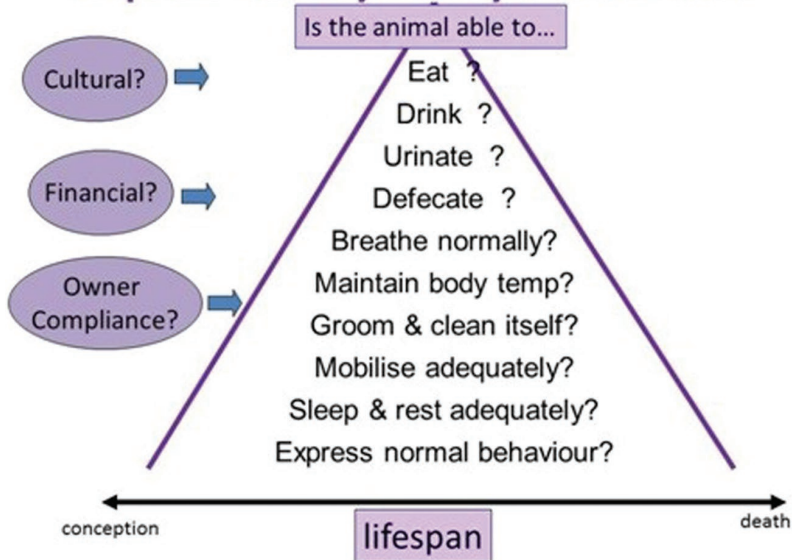


Figure 2. The Ability Model by Orpet and Jeffery (Orpet & Welsh, 2011).

Veterinary nursing research

Research into the nursing of UK wildlife species is important, as this subject is not included in the curricula of most training courses (Mullineaux, 2016). This is an issue as Veterinary Surgeons directing treatment must be satisfied that the RVN is qualified to carry out said tasks as outlined under Schedule 3 of the Veterinary Surgeons Act 1966 meaning competence should not be presumed (Veterinary Surgeons Act 1966, c36, sch 3 s6). Along with the issue of limited peer reviewed literature into specific veterinary interventions (Barnes and Farnworth, 2017), inadequate interest and knowledge of wildlife could result in inappropriate care (Mullineaux, 2016) as specific knowledge of the ecology, biology and common problems encountered is necessary for adequate treatment (Mullineaux, 2014). Research into wildlife nursing also promotes clinical governance, where the continued process of reflection, analysis and improvement in professional practice could benefit the standards of wildlife nursing and influence continued professional development (RCVS, 2012). Further research also promotes evidence-based practice within veterinary nursing where the use of current best evidence is utilised to make clinical decisions instead of relying on traditional approaches (Banks, 2011).

Conclusion

RVNs hold many responsibilities and face various considerations when treating the wildlife casualty. Ultimately, further research into the subject of wildlife nursing could counteract the lack of training in VN education. Part two of this article will discuss the research project conducted to

investigate the challenges of wildlife nursing faced by RVNs and how they can help to improve standards of care.

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