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Teaching a culture of care: Why it matters

Enseñar una cultura del cuidado: por qué es importante

Ensenyar una cultura de la cura: per què és important

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Abstract

The use of animal in biomedical research remains a critical compromise. Research and higher education institutions play a major role in educating on the use of animal and such training is expected to translate into the development of a culture of care practice across all staff working with animals. But nurturing a “culture of care” and impacting in professional attitudes in the field of animal research remains challenging due to its social, ethical and different institutional frameworks. From an educational perspective, current practice remains challenged by the need for better integration of inter-cultural perceptions on animal welfare, supported by more cross disciplinary integration in educational curriculum including the relevance of the 3Rs principles and promoting reflective practice strategies. Institutional support is crucial to provide a safe, and supportive framework to promote such caring ethos. Our aim is to discuss practical actions to implement and assess culture of care, highlighting its direct impact on the professional integrity of staff which is directly linked to research and education excellence. Seeking a global welfare for all the beings involved and supporting individual and team reflective practice will provide better tools to guarantee the best care of the animals.

Keywords: Laboratory animals; care; welfare; education; wellbeing; profesional responsibility.

Resumen

El uso de animales en la investigación biomédica sigue siendo un compromiso crítico. Las instituciones de investigación y educación superior desempeñan un papel importante en la enseñanza sobre el uso de animales y se espera que dicha capacitación se traduzca en el desarrollo de una cultura de prácticas de cuidado en todo el personal que trabaja con animales. Pero fomentar una “cultura del cuidado” e impactar en las actitudes profesionales en el campo de la investigación animal sigue siendo un desafío debido a las diferentes perspectivas sociales, éticas y regulatorias. Desde una perspectiva educativa, la práctica actual sigue siendo cuestionada por la necesidad de una mejor integración de las percepciones interculturales sobre el bienestar animal, respaldada por una mayor integración interdisciplinaria en el plan de estudios, incluida la relevancia de los principios de las 3R y la promoción de estrategias de práctica reflexiva. El apoyo institucional es crucial para proporcionar un marco seguro y de apoyo para promover este espíritu solidario. Nuestro objetivo es discutir acciones prácticas para implementar y evaluar la cultura de la atención, destacando su impacto directo en la integridad profesional del personal que está directamente relacionado con la excelencia en investigación y educación. Buscar un bienestar global para todos los seres involucrados y apoyar la práctica reflexiva individual y de equipo proporcionará mejores herramientas para garantizar el mejor cuidado de los animales.

Palabras clave: animales en laboratorios; cuidado; bienestar; educación; responsabilidad profesional.

Resum

L'ús d'animals en la recerca biomèdica continua sent un compromís crític. Les institucions de recerca i educació superior exerceixen un paper important en l'ensenyament sobre l'ús d'animals i s'espera que aquesta capacitat es tradueixi en el desenvolupament d'una cultura de pràctiques de cura en tot el personal que treballa amb animals. Però fomentar una “cultura de la cura” i impactar en les actituds professionals en el camp de la recerca animal continua sent un desafiament degut a les diferents perspectives socials, ètiques i reguladores. Des d'una perspectiva educativa, la pràctica actual continua sent qüestionada per la necessitat d'una millor integració de les percepcions interculturals sobre el benestar animal, recolzada per una major integració interdisciplinària en el pla d'estudis, inclosa la rellevància dels principis de les 3R i la promoció d'estratègies de pràctica reflexiva. El suport institucional és crucial per a proporcionar un marc segur i de suport per a promoure aquest esperit solidari. El nostre objectiu és discutir accions pràctiques per a implementar i avaluar la cultura de l'atenció, destacant el seu impacte directe en la integritat professional del personal que està directament relacionat amb l'excel·lència en recerca i educació. Buscar un benestar global per a tots els éssers involucrats i donar suport a la pràctica reflexiva individual i d'equip proporcionarà millors eines per a garantir la millor cura dels animals.

Paraules clau: animals en laboratoris; cura; benestar; educació; responsabilitat professional.

1. Introduction

The use of animal in biomedical research remains a critical compromise. Higher education institutions play a major role in educating on the use of animals in research and their welfare, not only to ensure compliance with existing regulations on animal research, but to promote research integrity for good experimental practice and animal welfare. Educational programs are expected to translate into the development of a culture of care praxis in future professionals working with laboratory animals. But nurturing a “culture of care” and impacting in professional attitudes in the field of animal research remains challenging due to the complex and variable ethical and cultural values associated with the transgression of pain/distress onto another’s wellbeing, the different perception on animal sentience and the anthropocentric perspective on the use of laboratory animals for biomedical research. While these challenges are critically relevant, it is also important to acknowledge that the use of animals in research remains a critical compromise in biomedical progress, despite great efforts of the research community to move towards non-animal alternatives. Thus, based on current reality that animals are used in medical research, our aim is to discuss how to best ensure that all research staff is adequately trained and informed to ensure the outmost levels of care and humane compassion, promoting and nurturing of culture of care to provide best animal welfare and, directly, best impact on the quality of the research.

But how do we ensure that such good care praxis is well thought and promoted among all staff working with laboratory animals, including researchers, animal technologists, academics, students, regulators, among others? The concept of “teaching a culture” is already complex to define (Hawkins & Bertelsen, 2019; Robinson et al., 2019), as it could wrongly be associated with indoctrination on personal moral values in detriment of more natural process of developing certain ways of working laboratory animals. The Culture of care term within animal research refers to the commitment to ensure animal care and welfare, quality science and good professionalism attitude and openness, and all well aligned to the 3Rs principles (Brown et al., 2018; Hawkins & Bertelsen, 2019) to promote replacement of animal experiments, reduction of usage and refining high standards of care, welfare, husbandry and experimental procedures. While there are guidelines (2010/63/EU, 2010; Kilkenny, Browne, Cuthill, Emerson, & Altman, 2010; NRC-US, 2011; Responsibility in Research, 2014; Smith, Clutton, Lilley, Hansen, & Brattelid, 2018) covering many of these individual aspects, education plays a key role in ensuring a strong foundation and, importantly, the long term caring and responsible ethos and professional commitment of researchers working with animals. Existing training, generally focuses on brief discussions on ethical questions, learning regulatory guidelines, general animal biology and husbandry and developing competence in practical skills, but with limited scope for reflective learning and deeper understanding on how these skills and guidelines need to be safeguarded in

an already daily busy schedule, and how this is supported by colleagues and institutional management. Furthermore, curriculums are already packed and, there is a general reluctance to further congest an existing syllabus (and sometimes also to modify existing status quo as “it works well”-rather than a critical assessment of “is it well fitted to a specific purpose?). In order to ensure contemporaneity relevance in our current training programs, including education on best animal care, research integrity and relevance of the 3Rs principles, it is crucial to integrate the multifaceted nature of the subject, addressing inter-cultural perceptions and ethical values, the value of multi-disciplinary expertise to ensure a broader support across individual professionals and between the different inter-players including researchers, animal technologist and management, while promoting a more reflective learning space (Biggs & Tang, 2007; Kolb, 1984). In fact, the EU- Expert Working Group that evolved from the EU Directive 2010/63/EU (EU-EWG Education, 2014) on the protection of animals used for scientific purposes already is focusing on improving the educational framework to promote deeper learning and critical thinking as key professional attribute to any individuals working in animal research; and such educational commitment was recently reinforced in the UK as part of a compliance revision document by the Home Office and the Research Council of their responsibility on promoting top quality animal research and the 3Rs principles (Brown Report, 2013).

2. Assessing a good culture of care

A good culture of care is recognised as being key to the welfare not only of the animals in the research facilities, but is also central to the wellbeing of the staff working directly/indirectly with the animals, and this directly impacting on the quality of the science (Boden & Hawkins, 2016). It is utmost important to consider the relevance of the animal/human and human /human interactivity in this field, as the major driver of not only physical, but importantly, emotional connectivity between species. Such animal-human nexus must be well embraced, in an empathetic, respectful and legally professionally binding attitude-and as clearly supported by the ethos of most ethical and regulatory guidelines, from an utilitarian perspective (Singer, 1975). Generally, regulators of animal research (UK-ASRU, 2017) fail to address issues of care for the staff working with laboratory animals. Yet, due to the physical and emotional strain of the work, there is a growing concern for the wellbeing and the emotional burden of those who work in the sector (Davies & Lewis, 2010; Friese & Latimer, 2019); given the emotional nature of the work and the impact that has on other being (generally associated to certain degree of harm/distress), it is important that staff feels emotionally, and physically, well supported and this will directly

impact on personal / professional attitudes towards other colleagues, and the animals that are been taken care of.

In order to successfully teach and promote attitudes associated to a Culture of Care, we need to understand how we can assess and measure their impact on animal but also on staff wellbeing. Identifying indicators such as animal welfare outcomes, supportive structures in the working place, staff treated with professionalism or embracement of cultural descriptors that maybe be possible to measure or evidenced is key. There are some advisory documents reporting on such indicators of good practice (e.g. European Commission Working Documents on Animal Welfare Bodies and National Committees (EU Commission., 2014a), inspections and enforcement (EU Commission., 2014b), and education and training (EU-WGE Education, 2014). But the challenges remain on how best to provide an integrated perspective of the culture of care, covering all the various aspects associated with the animal welfare but also the staff feelings and overall experience of work and personal wellbeing (Fig.1). Such approach must support the day-to-day practical logistics of the work along with all the physical and emotional aspects of the daily work on this human-animal nexus. The caring professional attitude must be well supported by related organisational safety systems and behaviours, staff perceptions of management, risk perceptions and teamwork and communication. Empathetic behaviour can only evolve when staff feels emotionally/physically safe and valued-as a key approach to best animal care and welfare attitude.



Figure 1: Key players in culture of care

Along these lines of discussion, Animal Welfare Bodies and National Committees should play an active role on such requirements. The current EU Directive (2010/63/EU, 2010) reinforces: a) the need for shared responsibility (without loss of individual responsibility) towards animal care, welfare and their use, b) the need for a pro-active approach towards improving standards, rather than merely reacting to problems when they arise, c) importance of effective communication throughout the establishment on animal welfare, care and use issues and the relation of these to good science, d) the importance of interpersonal elements of care; in terms of the respondents' assessment of their relationship with the organisation, managers, and the people they work with, empowering care staff and veterinarians-to ensure that are respected and listened to and their roles supported throughout the establishment; e) it is crucial that all voices and concerns are heard and dealt with positively and personnel at all levels throughout the organisation should be encouraged to raise issues of concern, and good interaction and communication between researchers and animal care staff should also be encouraged.

The implementation of “quantifiable” indicators, some of which have been previously flagged up by regulators can facilitate the assessment of good culture of care praxis (ASRU, 2015), and would be a good basis to integrate on existing teaching programs. These would be related to:

- ◆ Staff numbers appropriate to the size of the establishment, type of work, and type of animals
- ◆ Low turnover of staff
- ◆ Staff have sufficient time and resource for daily, adequate routine monitoring
- ◆ Attending veterinarian visits regularly and is sufficiently available to provide advice
- ◆ Person responsible for overseeing the welfare and care of the animals (e.g., Named Animal Care and Welfare Officer) meets regularly with users and is aware of their work
- ◆ Person responsible for ensuring that staff have access to species-specific information has adequate resource for the role
- ◆ Person responsible for ensuring compliance (e.g., Establishment Licence Holder in the UK) regularly meets with the other responsible persons and the Animal Welfare Body
- ◆ Clear audit trails of communications between scientists and animal technologists (e.g. Culture of Care network (Norecopa, 2018))
- ◆ A clear system for raising concerns that is supported by management
- ◆ Program to review and reassess competence & regular meetings with Animal Welfare Body

3. Impact of culture of care on professional integrity and responsibilities

The excellence of research and teaching produced by higher education institutions (e.g. universities, research centres) is inherently linked to the integrity and professional attitude of their staff. Institutions have a collective responsibility in developing and implementing a research and educational environment which supports such professional integrity, thereby maintaining and strengthening confidence in their staff work (Universities-UK, 2019). Undoubtedly, this also translates to all the staff working with laboratory animals, reinforcing the institutional responsibility to establish a culture of care through appropriate educational platforms as an instrumental part of the research and professional integrity of all their staff.

In such skilled and multidisciplinary environment, it is important that staff across all different professional categories with different responsibilities are provided with the necessary training and skills to be able to conduct their duties with integrity. Therefore, training should embrace such broad and multidisciplinary perspective, providing guidance and support across all career levels from junior animal technologist staff to senior staff / researchers and also covering key related personal such administrative, librarian, financial supporting staff to be fully inclusive. It is important that leadership is actively participant in the training, to ensure openness and communications. In this broader scheme, it is important to integrate all the different personal cultural and moral perspectives, allowing for a tolerant and respectful learning environment. Given the international nature of most of these institutions, it is important that local, national and international differences in the perception of professional attitudes and integrity are openly addressed and common standards are developed jointly. To support these institutions, need to ensure that drafting of supportive training and working guidelines and that support structures are put in place to support such educational schemes. Likewise, the implementation of national and international networks would be essential to harmonize such educational and research integrity policies (ALLEA, 2017).

It is particularly relevant that in such a socially and emotionally embedded area, institutions are transparent and accountable about their culture of care programs, to promote better engagement with the public and to establish further opportunities for greater awareness and constructive public scrutiny of their education /research outcomes (Concordant-UAR, 2014). It is particularly important to make staff –at all level- fully participant and aware of these public commitments, to reinforce their professional, and surely personal, engagement and commitment to provide the best culture or care in their institutions. Empowering their empathy and care of the animals they work with, will strengthen their professional responsibilities but also their

commitment and pride to the best care and attention to the animals. It is utmost important that general public is made aware of such commitments on caring and compassionate integrity.

Cultural diversity remains also a major strength in promoting culture of care and when designing teaching approaches. Institutions must foster a research integrity culture, as a global culture across education /research institutions. Embracing ethical differences would allow for more reflective discussions, allowing for constructive development beyond some static perception of doing things because this is how “normally” we used to do them- it is important to provide argumentation and discussions beyond the “permanent costume / way of working” e.g. despite having lots of experience on animal work, one should always continue refining protocols as welfare /care programs and understanding also evolves) (Mill, 2000). To promote such inclusive educational environment, it may be useful to provide incentives for implementing new ideas and challenges (e.g. supportive extra funding for 3Rs approaches, training in education and personal developmental and institutional professional accreditation schemes) or facilitating novel ways to monitor and support staff to develop excellence on professional integrity.

Some areas that could be used to support such training could be looking at areas such as: a) facilitate cooperation between staff, promoting multidisciplinary discussion and embracing different perspectives; b) provide space for expressing failure and/or reflect on challenging circumstances, with a positive constructive approach and avoiding any negative consideration; c) ensure a working environment that continuously stimulate the mindset and proactive participation (e.g. as simple as regular discussion with other researchers and/or staff working in different projects).

The implementation of such culture of care education programs needs to have institutional support, ideally through compulsory training programs but ensuring openness and space for reflective discussion. Indeed, the ethical regulatory bodies such as the AWB (Animal Welfare Body in the EU), AWERB (Animal Welfare Ethical Review Body in the UK) or the IACUC (Institutional Animal Care and Use Committee in the US) play an important role on promoting culture of care but their important overseeing and advisory function may not always directly materialized on broader institutional statutory educational and personal development changes. Therefore, reinforcement needs to ensure personal initiative and engagement of the staff. Changing attitudes is an ongoing process that needs to be done in a constructive and participative manner, that needs to be evolving from personal initiative- and as such, any implementation must be supportive and enriching, rather than becoming a set of guidelines (e.g. important to avoid the ticking box approach as an attitude need to evolve beyond a statutory requirements) (Fig. 2). On this approach, the institutions can put in place some supportive structures and mentorship to facilitate the individual embracing of this culture of care training, implementations such as: a) provide

physical time and space for discussion / reflective training, inputted within the normal working hours and valued as a key aspect of any professional post; b) support mentorship schemes to train and support advisory/ counselling staff; c) foster better interaction between staff, and all across discipline and ranks; d) promote incentives on positive attitudes (e.g. further discussion with research leads); e) promote refinement initiative to benefit best animal care but also to ensure staff physical and /or emotional burden); f) promoting transparent and collaborative interactions between staff (particularly between animal technologist and research staff); g) promoting sharing of resources between research staff and h) importantly promoting respect for colleagues, research participants, society, ecosystems, cultural heritage and the environment and empower accountability on the work (always from a positive perspective) (LERU, 2020).

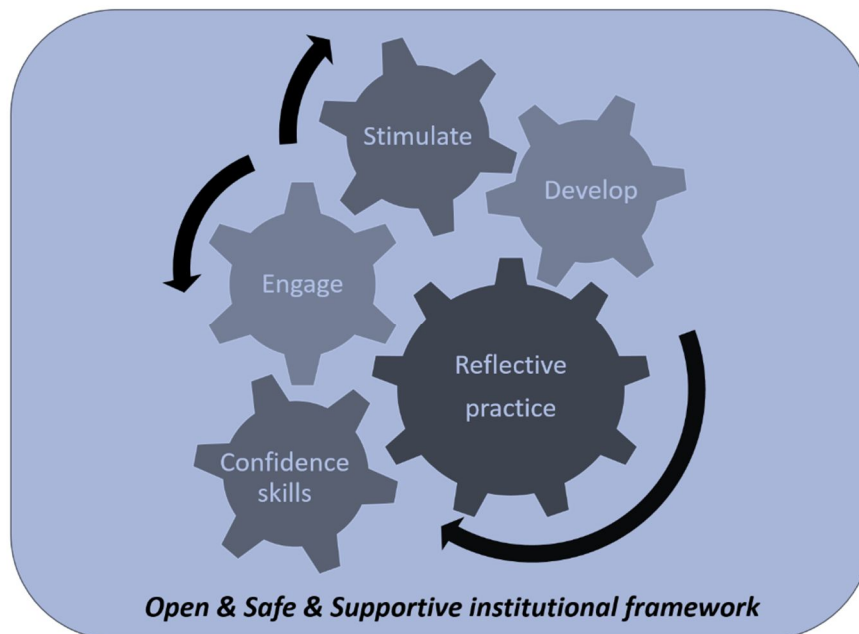


Figure 2: Translating knowledge into behaviour

Possibly some of the training frameworks would cover some key elements of elements of integrity' (ethics, data protection, research data management, open access) and then importantly target personal skills and communication of staff (e.g. listening skills, discussion networks, presentation skills). It is also very important that in this training staff is made well aware of the logistics and structural functioning pattern of the institution, to ensure appropriate routes of communication, conflict resolution, health and/or emotional issues and supportive counselling /advisory routes.

4. How can we best support culture of care teaching programs? Promoting a reflective approach

A major challenge when addressing any training aiming to change habits and professional attitudes is the mode of communication, how to convey ideas and concepts to enhance personal reflection rather than forcing an statutory imposition; it is crucial to facilitate and engage through the staff personal experiences, as most likely such “caring attitude” is already fully embedded their heads! In fact, most staff is likely to be already fully competent in executing many technical skills, but the challenge is to see how through the use of these skills there are opportunity to reflect in all the other non-technical skills that are also key attributes of our daily jobs. Supporting for a reflective practice will require an overall perspective to all the broader different aspects of the professional duties, with the intention of gaining further insight and then through such the experience assess where things can be improved. As documented in the reflective practice guidance for health practitioners (AMRC, 2018): reflecting helps an individual to challenge assumptions and consider opportunities for improvement; developing such capacity to reflect should be reinforced as the key focus is on the reflective process itself (Gibbs, 1988) and how to use it productively rather than just providing standard guidance teaching notes. Engagement in reflection is crucial, and training needs to move beyond the “automatic” execution of technical skills and reflect on all the other non-technical skills that are instrumental to the overall personal experience of delivering a good job. Providing a safe space where the staff can reflect on individual experiences, and they are provided support for their emotional and/or physical challenges is important. Capturing any personal experiences at work, individually or in group, and analyzing them and learn from that experience will have a direct impact on our actions; therefore, learning towards an attitude of care is directly embedded in our acting behaviour in response to such reflective practices. Our individual or grouped experiences (e.g. including any monitoring, husbandry or clinical duties with the animals, or reading a research article, or managing some order suppliers, or attending a staff meeting, or debrief with your manager) are key part of these reflective practice and any training platform must reach out to all the different scope of the work. Likewise, team exploration and interactive reflection on their work together is crucial to improve care across the institution, as individuals with different responsibilities will identify different issues and effects on their behaviour. Group reflection activities should be encouraged in the training schemes, as an integral a part of team development as it is of individual development and potentially more powerful as a mechanism to effect changes and attitudes of care delivery. Protecting physical pace and time for this, and support further between all the staff categories, including senior management is also equally important.

These reflective discussions should embrace the global entity of the research community, accounting for different cultures, backgrounds, gender...Diversity is to be celebrated along with individual contributions to the teams bringing further insight to benefit the team reflection. It is important to remember that in this animal/human interactive environment, the team performance is utmost important to the overall contribution to the better care and welfare monitoring systems implemented, as the impact is assessed to the overall institutional culture of care.

Communication across all staff, from animal technologist to senior researchers, is also crucial. Transparent and engaging communication, across different levels of expertise is important to facilitate a broader perspective analysis, e.g. understanding the best husbandry practice is as relevant as publishing a scientific paper, one could not be achieved without the other! (Reardon, 2016); hence the learning platforms must facilitate cross disciplinary communication and exchange of expert information, and professional standards of care are to be the same of everyone.

5. Seeking for best educators

It is important to ensure the provision of best facilitators/educators to promote this culture of care learning space. The British Medical Journal based on a consultation from the Royal College of Physicians defined the 'Es' of an excellent university teacher in education, experience, enthusiasm, ease and eccentricity (Gibson, 2009). Their knowledge should be broad in the subject, thus not only based on their own subject, they should be familiarised with pedagogic and learning theories and innovative approaches and how to use them, and also to be creative and facilitate communication and interaction. How is this translated into the field of animal experimentation? The role of trainers is laid out in the regulatory guidelines (European Directive 2010/63/EU (Article 23.2a-d and 24; 2010/63/EU, 2010) and the ASPA (2C.5)(ASPA, 1986), to ensure that anyone working with animals is adequately educated, trained and supervised to developed competence and also that continues to develop further training. Yet, while it is the responsibility of the institution to assign this post, there is very limited information on the specifics for this crucial educator role. Similarly, EU-Education Working Group (Education, 2014) specifies that educators should be competent in training, supervision, assessment and continued professional development, but there is little detail on delivery or assessment of training or competence. It is also stated that these responsibilities could/should be delegated to "experienced practitioners", and that functions for person(s) responsible for education and competence of staff in Article 24(1) should not require any specific educational qualifications. Such statements are puzzling

particularly when the use of animal in biomedical research represents such an instrumental role in the broader scope of research integrity in higher education institutions. Furthermore, these roles are clearly embedded within the teaching excellence within higher education institutions (HE-UK, 2016) including monitoring of training, assessment of expectations, identifying appropriate modules and delivery tools, training staff, training records, working with colleagues locally and further afield to develop harmonization across programs. These guidelines also support that individuals responsible for designing procedures and projects should hold an academic degree or equivalent in an appropriate scientific discipline, highlighting the important role of the trainer in any educational program. Indeed, there are some discrepancies on how these training program may be delivered and the role and training of the educators, so their implementation will be highly dependent on the institution's commitment to their culture of care program for their animal research program.

In order to further support this, professional associations such as the Federation of Laboratory Animal Science Associations (FELASA) (Gyger et al., 2019) has developed comprehensive accreditation schemes for training and educational programs and set up a working group to address harmonization on training and education (FELASA-EFAT-WG, 2020); the Laboratory Animal Society Association (LASA) in the UK has also developed some guiding principles for supervision and assessment of competence for those working with laboratory animals (LASA, 2016). These guidelines highlight the importance of well delivered and accredited training as a crucial contribution to the maintenance of the establishment's culture of care. Yet is clear that, as already previously discussed, how best to ensure an objective assessment of an 'attitude' within a framework of professional expected 'norms' and how we can objectively define the best educator remains challenging. Nevertheless, the implementation of such supportive training schemes and accreditation guidelines are undoubtedly a great step forward.

Within the UK, the teaching excellence framework (HE-UK, 2016) set up by the Government Department for Business, Innovation and Skills will be monitoring and assessing the quality of teaching in higher education institutions. The idea is to set up clear outcome-focused criteria and metrics to ensure that all students will receive an excellent education, while building up a culture of outstanding quality academic teaching. Such recognition of teaching excellence will have clear financial and reputational incentives to maintain and continue improving teaching programs. Such implementation is already having a clear impact with many institutions implementing new approaches to ensure leadership positions in the future teaching rankings. Let's hope that education programs for animal experimentation will also benefit from such teaching excellence strategies.

6. Why educating on culture of care should matter. Summary and outlook

The use of animals in biomedical research represents a major bioethical challenge, and while there are a large number of regulatory guidelines and best practice recommendations, the fact that procedures may cause pain, suffering, distress or lasting harm in animals poses important moral considerations. Despite the excellent work from many laboratory animal associations and welfare groups, the discussion remains critically anthropocentric. This is generally reflected by the large amount of detailed methodological and skilled driven guidelines and regulatory frameworks already established to protect the welfare of the animals used in these experimental procedures. However, within this article we wanted to reflect on how best to support a broader culture of care ethos taking in consideration the animal to human and human to human, as being to being interaction taking place in the laboratory animal working setting. Undoubtedly discussing about a professional behaviour and/or personal attitude towards other beings is enormously complex and should always be taken from a tolerant and constructive perspective. Thus, our target here focused on providing a better working environment and professional framework, creating awareness of the importance of supporting the welfare of the animals but also the staff well-being, been fully supported by the establishment. Many of the proposals suggested in here may be perceived as trivial and already fully implemented in many institutions, however, the lack of survey or any other forms of feedback performance-based assessments make it complex to have an overall objective perception of current reality. Nevertheless, promoting revision and discussion on existing institutional framework on culture of care should be taken as a positive, constructive and fully reflective practice. Our pitch on education was taken from the instrumental role that training and professional development takes in our professional and personal lives, and as such the provision of personal achievements remains a key approach to change attitudes. Therefore, promoting educational tools for better caring of animals and staff welfare remains at the core of best institutional culture of care, and must be reinforced and protected.

Bringing this discussion closer to a bioethical argumentation, surely most of us would agree that following an utilitarian perception (Singer, 1975) in our work would be best attitude, but this should also be implemented across all our being -to-being interactions, including also all the working relationships with our staff colleagues and other staff across our working institutions. The global dynamics of this complex relationship may be seen as completely unreachable and unchangeable by many of the staff working in our animal units; therefore it is utmost important that the culture of care is considered as linear, non-hierarchical practice- everybody is key and everybody's voice matters, to ensure the best care and support for the animals. The utilitarian concepts of well-being and happiness that so importantly must be protected as defended by

Bentham (Bentham, 1789) also defends the validity of the individual perception of these principles, and aims to achieve to the maximum number of beings reaching such stated of wellbeing. Thus, such utilitarian guidelines that currently remains the key ethos of all legislation on use of animals in research, needs to be broadly implemented beyond purely technical and /or skilled actions. Seeking a global wellbeing for all the beings involved would guarantee a better culture of care, and by supporting better educational frameworks promoting individual and team reflective practice will guarantee better tools to ascertain why caring impacts on our professional lives, the lives of all the beings around us and hopefully, may allow for a less anthropocentric perception of our duty to genuinely provide the best care of the animals.

Conflict of interest

The authors claimed no conflict of interest in the production of this manuscript.

Bibliography

- ◆ 2010/63/EU (2010). Directive 2010/63/EU of the European Parliament and of the Council of 22 September 2010 on the protection of animals used for scientific purposes Text with EEA relevance. *Off. J. Eur. Union*, 276 33-79.
- ◆ ALLEA. (2017). All European Academies. *The European Code of Conduct for Research Integrity*. Retrieved from: <https://allea.org/code-of-conduct/>
- ◆ AMRC. (2018). Academy of Medical Royal Colleges, the UK Conference of Postgraduate Medical Deans, the General Medical Council, and the Medical Schools Council. *The reflective practitioner. Guidance for doctors and medical students*. Retrieved from: https://www.ficm.ac.uk/sites/default/files/reflective_practitioner_guidance.pdf
- ◆ ASPA. (1986). Animals (Scientific Procedures) Act 1986. *Consolidated version of the Animals (Scientific Procedures) Act 1986 with amendment Regulations 2012 to include the changes that were effected by those Regulations on 1 January 2013*. Retrieved from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/619140/ConsolidatedASPA1Jan2013.pdf.
- ◆ ASRU. (2015). Animals in Science Regulation Unit. *Identification and management of patterns of low-level concerns at licensed establishments*. Retrieved from:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/512098/Patterns_low-level_concerns.pdf

- ◆ Bentham, J. (1789). *An Introduction to the Principles of Morals and Legislation*. (Oxford: Clarendon Press, 1907). Retrieved from: <https://oll.libertyfund.org/titles/278>.
- ◆ Biggs, J. B., & Tang, C. (2007). *Teaching for quality learning at university*. (J. B. Chatherine Tang Ed. 4th ed.): Open University Press/Mc Graw-Hill Education.
- ◆ Boden, T., & Hawkins, P. (2016). Communicating the Culture of Care – how to win friends and influence people. *Animals Technology and Welfare*, 151-156.
- ◆ Brown, M. J., Symonowicz, C., Medina, L. V., Bratcher, N. A., Buckmaster, C. A., Klein, H., & Anderson, L. C. (2018). Culture of Care: Organizational Responsibilities. In: R. H. Weichbrod, G. A. H. Thompson & J. N. Norton (Eds.), *Management of Animal Care and Use Programs in Research, Education, and Testing* (pp. 11-26). Boca Raton (FL): CRC Press/Taylor & Francis (c) 2018
- ◆ Brown Report. (2013). *The Brown Report: "Independent Investigation into Animal Research at Imperial College London"*. Retrieved from: <http://brownreport.info/wp-content/uploads/2014/02/The-Brown-Report.pdf>
- ◆ EU Commission. (2014a). *Caring for animals aiming for better science*. A Working Document on Animal Welfare Bodies and National Committees to fulfil the Requirements under the Directive; European Commission: Brussels, Belgium, 2014. Retrieved from : https://ec.europa.eu/environment/chemicals/lab_animals/pdf/guidance/animal_welfare_bodies/en.pdf
- ◆ EU Commission. (2014b). *Caring for animals aiming for better science*. A Working Document on Inspections and Enforcement to fulfil the Requirements under the Directive; European Commission: Brussels, Belgium, 2014. Retrieved from: https://ec.europa.eu/environment/chemicals/lab_animals/pdf/guidance/inspections/en.pdf
- ◆ Concordant-UAR. (2014). *Concordant on openness on animal research in the UK*. Retrieved from: <http://concordatopenness.org.uk/>. from <http://concordatopenness.org.uk/>
- ◆ Davies, K., & Lewis, D. (2010). Can caring for laboratory animals be classified as Emotional Labour? *Anim Technol Welfare*, 9, 1-6.
- ◆ EU-EWG Education. (2014). A working document on the development of a common education and training framework to fulfil the requirements under the Directive. Retrieved from: https://ec.europa.eu/environment/chemicals/lab_animals/pdf/Endorsed_E-T.pdf

- ◆ FELASA-EFAT-WG. (2020). *Harmonisation of education, training and CPD for laboratory animal caretakers and technicians* - FELASA-EFAT WG. Retrieved from: <http://www.felasa.eu/working-groups/working-groups-present/felasa-efat-wg-on-harmonisation-of-education-training-and-cpd-for-laboratory-animal-caretakers-and-technicians>
- ◆ Friese, C., & Latimer, J. (2019). Entanglements in Health and Well-being: Working with Model Organisms in Biomedicine and Bioscience. *Med Anthropol Q*, 33(1), 120-137. doi: 10.1111/maq.12489
- ◆ Gibbs, G. (1988). *Learning by doing. A guide to teaching and learning methods*. Oxford Polytechnic: Oxford., from Oxford Polytechnic: Oxford.
- ◆ Gibson, J. (2009). The five 'Es' of an excellent teacher. *The Clinical Teacher* *The Clinical Teacher*, 6(1), 3-5. doi: <https://doi.org/10.1111/j.1743-498X.2008.00239.x>
- ◆ Gyger, M., Berdoy, M., Dontas, I., Kolf-Clauw, M., Santos, A. I., & Sjoquist, M. (2019). FELASA accreditation of education and training courses in laboratory animal science according to the Directive 2010/63/EU. *Lab Anim*, 53(2), 137-147. doi: 10.1177/0023677218788105
- ◆ Hawkins, P., & Bertelsen, T. (2019). 3Rs-Related and Objective Indicators to Help Assess the Culture of Care. *Animals (Basel)*, 9(11). doi: 10.3390/ani9110969
- ◆ Kilkenny, C., Browne, W. J., Cuthill, I. C., Emerson, M., & Altman, D. G. (2010). Improving bioscience research reporting: the ARRIVE guidelines for reporting animal research. *PLoS Biol*, 8(6), e1000412. doi: 10.1371/journal.pbio.1000412
- ◆ Kolb, D. (1984). *Experiential Learning* *Experiential Learning*: Englewood Cliffs, NJ, Prentice Hall.
- ◆ LASA. (2016). *Guiding Principles for Supervision and Assessment of Competence as required under EU and UK legislation 2nd Edition*. A report by the LASA Education, Training and Ethics Section.(M. Jennings and M. Berdoy eds.). Retrieved from : https://www.lasa.co.uk/wp-content/uploads/2016/09/LASA_supervision_and_competence_2016.pdf
- ◆ Mill, J. S. (2000). *"On Liberty"*. In: *On Liberty and Other Essays*. Ed. Stefan Collini. Cambridge: Cambridge University Press, 2000. : Cambridge University Press.
- ◆ Norecopa. (2018). *Culture of Care Network. Communication and the Culture of Care*. Norecopa. Retrieved from: <https://norecopa.no/media/8159/communication-and-the-culture-of-care-from-the-culture-of-care-network.pdf>

- ◆ NRC-US. (2011). National Research Council (US). Committee for the Update of the Guide for the Care and Use of Laboratory Animals. Guide for the Care and Use of Laboratory Animals. 8th edition. Washington (DC): National Academies Press (US); 2011. (8th). doi: doi: 10.17226/12910
- ◆ Reardon, S. (2016). A mouse's house may ruin experiments. *Nature*, 530 (7590), 1. doi: 10.1038/nature.2016.19335
- ◆ Responsibility Research. (2014). *Responsibility in the use of animals in bioscience research: Expectations of the major research council and charitable funding bodies*. Retrieved from:
◆ <https://www.nc3rs.org.uk/sites/default/files/Responsibility%20in%20the%20use%20of%20animals%20in%20bioscience%20research%20-%20July%202015.pdf>
- ◆ Robinson, S., Sparrow, S., Williams, B., Decelle, T., Bertelsen, T., Reid, K., & Chlebus, M. (2019). The European Federation of the Pharmaceutical Industry and Associations' Research and Animal Welfare Group: Assessing and benchmarking 'Culture of Care' in the context of using animals for scientific purpose. *Lab Anim*, 23677219887998. doi: 10.1177/0023677219887998
- ◆ Singer, P. (1975). *Animal Liberation*. New York Avon Books.
- ◆ Smith, A. J., Clutton, R. E., Lilley, E., Hansen, K. E. A., & Brattelid, T. (2018). Improving animal research: PREPARE before you ARRIVE. *Bmj*, 360, k760. doi: 10.1136/bmj.k760
- ◆ UK-ASRU. (2017). Animals in Science Regulation Unit Compliance Policy. Retrieved from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/670174/ASRU_Compliance_Policy_December_Final.pdf
- ◆ HE. UK (2016). Higher education: teaching excellence, social mobility and student choice; Fulfilling our Potential: Teaching Excellence, Social Mobility and Student Choice. Retrieved from:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/474227/BIS-15-623-fulfilling-our-potential-teaching-excellence-social-mobility-and-student-choice.pdf
- ◆ Universities-UK. (2019). The Concordat to Support Research Integrity. Retrieved from <https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2019/the-concordat-to-support-research-integrity.pdf> <https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2019/the-concordat-to-support-research-integrity.pdf>

- ◆ LERU (2020). League of European Research Universities. *Towards a Research Integrity Culture at Universities: From Recommendations to Implementation University*. LERU publications. Retrieved from: <https://www.leru.org/files/Towards-a-Research-Integrity-Culture-at-Universities-full-paper.pdf>. <https://www.leru.org/files/Towards-a-Research-Integrity-Culture-at-Universities-full-paper.pdf>.

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