



Exploring the Attitudes of Pediatric Healthcare Workers towards Animal Research

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Abstract

Introduction: The utilisation of public monies for animal research is frequently carried out, promoted, and supported by paediatric health care workers (HCW) (AR). We want to know if HCW find popular arguments (and counterarguments) in favour of AR convincing or not.

Design: All paediatricians, nurses working in paediatric intensive care units, and respiratory therapists (RTs) connected to a Canadian university received an email survey after its creation and approval. We included demographic information, reasons in favour of AR, and typical arguments (together with their counterarguments) to support the moral acceptability (or not) of AR. Results are tabulated in accordance with industry standards. Chi-square was used to compare the responses of paediatricians and nurses/RTs, with P .05 being considered significant.

Findings: The response rate for paediatricians was 53/115 (46%), and for nurses and RTs it was 73/120 (61%). Nurses and RTs endorse AR, as do paediatricians. Most people believed that “benefits arguments” were sufficient to support AR; however, most acknowledged that “benefits arguments” were significantly undermined by counterarguments that other research methods might be available or that it is unclear why the same “benefits arguments” do not apply to using humans in research. The “characteristics of non-human animals arguments,” which contend that non-human animals may not be sentient or are merely property, did not persuade the vast majority of people that AR is morally acceptable. Human exceptionalism arguments, such as the fact that people are of a unique “kind,” have better developed mental faculties, are able to form social contracts, and may encounter “lifeboat situations,” could not persuade the majority of people that AR is morally acceptable.

Conclusions: When presented with standard arguments and refutations from the literature, the majority of respondents were not persuaded of the moral acceptability of AR. HCW should give both sides of the AR issue considerable consideration.

Introduction

Animal research (AR) justification is a contentious topic. Nonetheless, there are a number of reasons why this is a crucial topic in paediatrics. Pediatric health care workers (HCW) frequently engage in (and are expected to engage in) AR, advocate for the use of public funding (from granting agencies and charitable foundations towards paediatric related AR), promote AR directly with trainees and indirectly as role models. Consequently, it would seem to reason that the reasons in favour of and against AR are conclusive. It is likely that many people are unaware of the controversy because typical ethical concerns and objections to AR are rarely explored in the medical literature. Before we examine the AR argument here, it is important to define several terms. First, AR is defined as research that is harmful [i.e. detrimental to a being's interest in maintaining life and bodily integrity, as well as avoiding pain and frustration], non-therapeutic [does not aim to restore the health of a research subject with a prior injury or disease], and non-consensual [conducted with subjects who have not voluntarily agreed to participate]. In other words, if the operations involved any non-consenting human subjects or were carried out in a setting other than a study environment, they would be deemed unethical. Second, the term “animal” in AR only applies to sentient animals, or those that are able to feel pain. Most people agree [1-4] that at the very least, this includes mammals and birds. Finally, AR is a moral concern because it causes animals to suffer during experiments, including confinement [which causes boredom, loneliness, and frustration], fear [from handling], pain [from blood collection, and diseases that are caused], and early death. Is AR, in general, morally acceptable if it entails substantially injuring animals in any way? There are several common categories of justifications for AR. The first are what we refer to as “benefits arguments”: AR considerably benefits humans, AR is

required for human benefit, or AR is the only option available for human benefit. These are the explanations pro-AR organisations most frequently offer. The second is what we refer to as “non-human animal (NHA) characteristics arguments”: that animals hurt other animals, are not sentient, or are property.

Methods using a questionnaire

These are the arguments that sparked the first growth of AR and its governmental control. Third are what we refer to as “human exceptionalism arguments”: people must sacrifice NHAs in their lifeboat in order to save other humans, or humans have more developed capacities than NHAs, or humans are a special species, or humans may enter into contracts. It's interesting to note that the first two sorts of arguments really depend on the third type; for instance, a case must be made for why people cannot be used in the same way as animals in order to justify utilising them [as necessary] for human benefits or as property. There are responses to each of these arguments

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that have been discussed in philosophical literature. However, the discussion over the validity of these justifications and refutations is rarely covered in the literature on medicine. Not only did we want to know if paediatric HCWs supported AR, but also if they found the common defences and refutations [4-7] of AR to be convincing. An electronic, secure system was used to distribute and collect the survey to all paediatricians, paediatric intensive care unit nurses, and respiratory therapists (RTs) associated with the Canadian University (REDCap, Research Electronic Data Capture). A cover letter stated that “we very much value your opinion on this important matter” and that the poll was anonymous and voluntary. Also, we provided the incentive that if the response rate reached at least 70%, we would donate \$1,000 to the PICU Social Committee or the Against Malaria Fund. For up to three further mailings, the survey was emailed to non-responders every three weeks.

Discussion

a. Questionnaire creation

The questionnaire was created in accordance with suggestions that have been published. We looked for literature on the ethics of AR in Medline from 1980 to 2012 to come up with the questionnaire’s questions. We also looked through contemporary textbooks on the subject of AR ethics and conducted a search in the Journal of Applied Philosophy. After that, the authors worked together to develop the background section and survey questions. Using a table of requirements completed by specialists comprising two professors of ethics and philosophy and two paediatricians, content and construct validation was performed. Pilot testing of the survey by non-medical, university-educated laypeople (n = 9), paediatricians (n = 2), paediatric intensive care nurses (n = 2), and an ethics professor (n = 1) was done to validate its face and content. For the purpose of ensuring the questionnaire’s clarity, realism, validity, and ease of completion, one of the writers conducted an informal semi-structured interview after each pilot test. For the expert and pilot testing, a published [7-9] clinical sensitivity assessment was also utilised. All writers gave their approval to the survey after some minor changes. We provided demographic information, three questions about support for AR, and 12 arguments along with their opposing justifications. The following were the introductions to the arguments and refutations: “A) First, we present an argument for why harmful AR is justified, and we ask you to accept that argument; b) next, we present some counterarguments, and we ask you to consider whether you believe each counterargument would make it more difficult for someone to justify harmful AR using the original argument (i.e. would make the initial argument much less convincing). The survey’s arguments and replies are all popular ones found in the AR literature. Was asked after each argument was made. A question such as “Would any of the following responses make it difficult for someone to explain AR using Argument X [i.e. make Argument X significantly less convincing]?” There was a “yes” or “no” format for responses.

Ethical endorsement

The return of a survey was considered consent to participate in the study, which was approved by our university’s health research ethics board.

a. Statistics

Our survey management software of choice was REDCap. Anonymous survey responses may be gathered and afterwards downloaded into an SPSS database for analysis using this web-based

service. The responses were examined using common tabulations. The percentage [10] of respondents who provided various replies was reported using variables that were expressed as percentages. The Chi-square statistic was used to compare the replies of the two designated groups, paediatricians and PICU nurses/RTs, with P .05 after Bonferroni correction for multiple comparisons considered significant.

Results Pediatricians’ comments

a. Demographics

53 out of 115 respondents (46%) responded. Males 24/51 (47%), aged 35 or over 5/52 (10%), 35 to 44 years old 20/52 (39%), and over 44 years old 27/52 (52%), as well as those who have done AR in the past 19/52 (37%), are now doing AR 3/52 (6%), and have never done AR, made up the demographics.

b. Benefits justifications and opposition

In Table 1, responses are displayed. Apart for the argument that “people naturally need to seek information,” the majority agreed with the benefits arguments. Although many people initially believed the argument was sufficient to support AR, many also found the counterarguments to be persuasive. The majority of people were persuaded by oppositional arguments that suggested there were other research techniques that did not include using animals, as well as suggestions that more work should be put into creating such techniques. The idea that “if huge human advantages justify using animals in medical research, this should likewise justify using humans in the same medical research” was similarly persuasive to a sizeable minority of people.

c. Arguments against human exceptionalism and responses to them

Responses are displayed. The vast majority of respondents did not believe that these justifications for AR were strong enough. Most people’s refusal to accept the original reasons was explained by the counterarguments that were made. Only 4 (9%) and 11 (26%) of the respondents thought the claims that humans have more developed capacities or are a unique type were sufficient justifications for AR, respectively. Only 2 (5%) and 9 (21%) of respondents, respectively, thought the lifeboat-ethics and contractualism arguments were strong enough to support AR.

d. General inquiries

If “research that results in harm to animals should be promoted in order to attain human advantages,” was the question we posed at the start and again at the end of the survey. Pediatricians initially gave a “yes” answer. Finally, we questioned “What makes it wrong to utilise vulnerable persons (for instance, babies, people with severe brain injury, and those with extremely advanced Alzheimer’s) in experiments?” Pediatricians gave the following responses: 5/42 (12%) We care for them; 21/42 (50%) They are still human. These vulnerable beings are able to experience things like pleasure, joy, happiness, sadness, grief, and suffering. They are vulnerable to physical and psychological injury.

e. Benefits justifications and opposition

In Table 1, responses are displayed. With the exception of the claim that “people naturally need to seek knowledge,” nearly half of respondents (45–48%) agreed with the benefits arguments. Most people, including those who at first said the argument was sufficient to support AR, found several of the counterarguments persuasive. The majority of people were persuaded by oppositional arguments that

suggested there were other research techniques that did not include using animals, as well as suggestions that more work should be put into creating such techniques. A majority (52-69%) also found the counterarguments convincing, which claim that “if enormous human advantages justify using animals in medical research, this should likewise justify employing humans in the same medical study”.

f. General inquiries

If “research that results in harm to animals should be promoted in order to attain human advantages,” was the question we posed at the start and again at the end of the survey. Nurses and RTs responded “yes” in 31/72 (43% of the time) in the beginning and 19/59 (32%) at the conclusion [$p = 0.20$]. Finally, when asked about what makes using vulnerable people in trials wrong, nurses/RTs provided the following response: These vulnerable humans are capable of feeling pleasure, joy, happiness, sadness, grief, and suffering, according to 12/59 (20%); 20/59 (34%); we care about them; and 22/59 (37%); they are nevertheless vulnerable to physical and psychological injury when used in experiments.

g. Comparing the opinions of pediatricians, nurses, and RT

In regards to how the subgroups responded to any of the three kinds of arguments and counterarguments, no statistically significant differences were discovered. Nurses/RTs were less inclined to favour AR at the start and end of the survey ($p = 0.036$ and $p = 0.009$, respectively). The answers to the final question, which asked participants to explain why it is wrong to utilise vulnerable people in research, did not differ statistically significantly.

Conclusion

The results of this poll have four primary conclusions. First, 62% of paediatricians and 43% of nurses/RTs endorse AR. Second, “benefits arguments” were typically believed to be sufficient to support AR; however, most were not as persuaded when presented with counterarguments suggesting that there may be alternative research methods available. Finally, ‘characteristics of NHAs arguments’,

such as that NHA may not be sentient or are simply property, did not convince nearly all respondents. Fourth, a significant portion of respondents did not agree with the main justifications put forth for “human exceptionalism,” i.e., those that argue the same benefits do not support human research but justify AR since they do. Examples include claims that humans have more developed mental faculties than NHAs, that people are a unique “kind,” that people can form social contracts, or that in a lifeboat scenario, human interests take precedence over those of NHAs.

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