and vice versa, which causes failures in animal testing that can be serious. This is stated by Aysha Akhtar, neurologist, member of the Oxford Centre for Animal Ethics:

failure rate in drug development across all disease categories is based, at least in part, on the inability to adequately model human diseases in animals and the poor predictability of animal models. As she states in this article, the high clinical failure rates are due to the fact that animals are not models similar to humans. This greatly affects the development of a drug, as errors in the models can lead to serious effects in the human testing stages. In addition, in cases where the drugs work in humans but not in animals, it delays the development process. For example, Akhtar states in her article: *PharmaInformatic* released a report describing how several blockbuster drugs, including aripiprazole (Abilify) and esomeprazole (Nexium), showed low oral bioavailability in animals. They would likely not be available on the market today if animal tests were solely relied on. Therefore, if only animal testing had been relied upon, the development of these medications would not have been possible. This shows us that animal testing is unreliable and can hinder the development process of medications or medical treatments.

Due to animal testing being unreliable, the money and time invested in a product could be wasted, but without testing on animals these drugs may have worked. Researchers do not usually talk about the experiments that fail, so they always highlight the ones that work, and this gives a false sense that the experiments always work. On the other hand, in most experiments the aim is to see the effects, so researchers deliberately provoke these side effects, which leads to animal suffering or death. It is mentioned in *The Guardian* newspaper article:

can exaggerate the effects of candidate drugs, and lead to trials that end up being a colossal waste of time and money, as well as suffering Sample). The fact that the side effects of drugs are sought after causes the impacts of the drugs to be exaggerated and results in animals constantly

have been determined to feel pain should not be used for testing, and those that are known not to feel pain or are not yet proven to feel pain should be used in case it is necessary.

Much of the scientific community supports animal testing for health or science-related purposes. The main argument is that by being previously tested on animals, the effectiveness of a drug or treatment can be determined before being tested on humans and thus avoid serious effects on people. It is also argued that the animals used can simulate the effect that a drug might have on humans due to their genetic similarity. Stanford University has a section on the *Stanford Medicine* page where they justify the use of animals in scientific research, and they state that:

Animals are biologically very similar to humans. In fact, mice share more than 98% DNA with us! Animals are susceptible to many of the same health problems as humans cancer, diabetes, heart disease, etc. With a shorter life cycle than humans, animal models can be studied throughout their whole life span and across several generations these arguments we can determine that even scientists from a very well-known institution are in favor of animal testing and use the above-mentioned arguments to support it. Although these are very solid arguments from a recognized institution, we cannot justify the use of animals to test new drugs, treatments, or even makeup, because they make animals suffer. Despite the similarit of1901n3.( )]TJ12 0 612 79

In conclusion, animal testing should be reduced or ended altogether since using species

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