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English for Academic Purposes IV

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Academic Article Review

Essay topic: _Why we itch and how to relief it_

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Why we itch and how to relief it

Itch is an annoying symptom of allergic and inflammatory skin disease. An estimated one in five adults will experience itch lasting more than six weeks in their lifetime. So, it would be a necessary to figure out why itch occurs and how to relief itchiness as well as its potential clinical role.

When a mosquito bites one, the body reacts,and this is the best-known form of itch erupts. Itch is like a sentinel that warns one of the presence of insects, dangerous plants, or something like that.

For a while scientists thought that itching and pain were detected by the same nerve cells, and then interpreted as different sensations in the brain.

However that’s not actually the case.

Granted there is a class of nerve cells called C-Fibers that can detect pain, itch and heat, but that class has a specialized group that can cause itchiness. Essentially when a stimulus like histamine activates one of these nerve cells, a signal is sent to the spinal cord and up to the brain.Here the signal is processed in the somatosensory cortex and one experience an itchy feeling[1].

It’s thought that scratching stops the itch, because you’re now stimulating touch and pain receptors in the same area. The key word there is pain. The pain due to the scratching will help to relief itch temporary, but our body will release serotonin in response. Itching, scratching, paining and serotonin releasing, we jump into an endless loop. The protective outer layers of the epidermis(skin) could damage because

too much scratch[2]

The endless loop.of itching brings a really interesting question about how one relief itchiness. Scientist Christoph Helmchen, Department of Neurology, University of Luebeck in Germany, discovering that if one have an itch on one side of their body, they can relieve it by looking into a mirror and scratching on the right side of the body[3]. This research was awarded the medicine prize of 2016 Ig Nobel Prize.

Scientists designed some experiments to figure out how mirror scratching relief itchiness.

Healthy participants were asked to assess the intensity of an experientally induced itch at their right forearm while they observed externally guided scratch movements either at their right (itching) or left (non-itching) forearm which were either mirrored or not mirrored. In the first experiment, a mirror placed between the participant's forearms was used to create the visual illusion that the participant's itching (right) forearm was being scratched while in fact the non-itching (left) forearm was scratched. To control visibility of the left (non-mirrored) forearm, a second experiment was performed in which unflipped and flipped real-time video displays of the participant's forearms were used to create experimental conditions in which the participant visually perceived scratching either on one forearm only, on both forearms, or no scratching at all.

It is suggest that the scratching sensation in the mirror experiment is probably transferred to the visually perceived itching limb (although the non-affected limb was physically scratched) and contributed to itch relief[4,5].

All in all, this experiment suggest that itch relief by mirror scratching may result from “inappropriate integration and weighing of simultaneous, spatially coded, multisensory (visual, tactile, pruriceptive) signals leading to a transient intersensory perceptual congruency of visual, tactile and pruriceptive signals[6,7]”. These effects lead to a question on whether the particular neural algorithms underlying these misperceptions is distinctly different. Thus, exploring the neural mechanisms that underlie this weighing will be a challenging task for future studies.

“Mirror scratching” might have considerable clinical impact as it could help to reduce itch perception in focal skin diseases with unbearable pruritus[8,9,10]. This can help patients who suffer chronic for a long time but can not to scratch them.

Moreover, exploring the neural mechanisms that underlie this weighing will be a challenging task for future studies.

A specialized group of nerve cells that can cause itchiness. When itching occurs, one can relief itchiness by mirror scratching, this can help patients who suffer chronic for a long time but can not to scratch them. Also it would be important to find out the molecular mechanism of this simple sensation continue to yield new puzzles.