

A good balance of the microbiome and hormones is crucial for the human body. Even their slight disruption can dramatically impact our well-being and health. While hormones are essential for our mental health, probiotics can improve their absorption by the human body, besides boosting the digestive and immune systems. Traditional drug delivery systems often fail to adequately control the release of active substances, leading to fluctuations in their concentration within the body. Additionally, many individuals struggle with swallowing tablets and capsules, which frequently results in non-compliance with their medication. With this proposal, we propose a new solution to create oral patches allowing the gradual release of probiotics and hormones. Proposed patches will be produced as electrospun plant-based protein fibers and will gradually provide the controlled release of hormones and probiotics. Electrospinning is an innovative method that allows the production of nano- and microfibers that can hold hormones and other active ingredients, like probiotics, allowing them to be released slowly and steadily. The patches developed within the project will help to manage hormones and probiotic levels in organisms, showing alternative solutions for therapeutic treatments and boosting our health.