Customized Dengue treatment

What is the issue?

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- There has been an outbreak of Dengue in Kerala and Tamilnadu this year.
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- Indian drug approval processes are ill equipped to deal with new Dengue medicines.
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What is dengue?

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- Dengue afflicts close to 400 million people a year.
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- It is spread through the bite of an infected female Aedes Aegyptus mosquito.
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- Dengue Haemorrhagic Fever (DHF) can lead to lethal complications.
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- DHF in its severe form causes Dengue Shock Syndrome (DSS.
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- DSS is associated with very high mortality rate as the blood pressure drops down drastically and organs start to collapse
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- There are no vaccines for the disease.
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What are recent inventions in dengue treatment?

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- Australians discovered, when the Aedes mosquito is infected with the Wolbachia bacterium it is unable to carry the dengue virus.

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- If Wolbachia could be made to infect the mosquito population that might offer a cure for dengue.
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- Age old technique of faecal micro biota transplant is founded to treat dengue.
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- Synthetic biology, modifying bacteria to perform specific functions is new support in dengue cure.
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- Recently researches in Mumbai, used biomarkers for treatment of dengue.
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- Lot of new custom made treatment are emerging in dengue treatment.
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What are the issues with Indian medicine approval system?

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- India is ill-equipped to regulate new medicines according to the needs.
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- Indian drug approval processes are designed to assess medicines that are intended to be used by vast swathes of the population.
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- Research and development are mooted in a high rate, but the success rate of the quality drugs are less.
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Quick facts

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Micro biome

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- It is a collective environment of microorganisms
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- It is found in and on all multicellular organisms studied to date from

plants to animals.
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- A micro biota includes bacteria, fungi and viruses.
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- Micro biota have been found to be crucial for immunologic, hormonal and metabolic homeostasis of their host.
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FMT

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- Faecal Micro biota Transplant (FMT) is a procedure in which faecal matter, or stool, is collected from a tested donor.
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- It is mixed with a saline or other solution, strained, and placed in a patient, by endoscopy, or enema etc.
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- The purpose of faecal transplant is to replace good bacteria that has been killed or suppressed, usually by the use of antibiotics, causing bad bacteria, specifically Clostridium difficile.
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Biomarkers

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- Biomarkers are indicators that help in determining the presence or severity of a disease.
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- It is used to have a knowledge of the disease progression in different individuals suffering from the disease.
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Source: Live mint

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