Nowadays the excessive use of antibiotics and the extremely aggressive sanitizing treatments has results in the apparition of a biofilm resistant phenotypes. Due to that the scientific community has begun to research for alternatives to traditional biofilm removal techniques.

**Involvement**

Biofilms generate longevous colonies of sessile microorganisms in reaction to physical, chemical or biological agents. They adhere irreversibly to a substrate and enclose themselves in a self-produced polymeric matrix. This matrix contains polysaccharides, proteins and extracellular microbial DNA. Biofilms become a resistance strategy, for example, against host immunological system and antimicrobial agents. The resultant matrix cannot be phagocytized and they avoid complement system. They become thousands of times more resistant to antibiotics in this state. This mechanism represents an prokaryote originated strategy and moreover under the right environmental conditions, the vast majority of microorganisms could exist inside a biofilm.

**Structural bio-corrosion paradigm:** Unwanted microbial formations or undesired deposit based on their byproduct activities.

**Control strategies:**
1. Regular Sanitization
2. Development of bio-materials with anti-adherent properties

**Clinical involvement:**
Biofilms generate up to 80% of microbial infections. They develop on body tissues (i.e. skin, mucosities or teeth) and medical care tools (i.e. catheters).

**Control Strategies:**
1. Bactericidal and bacteriostatic → anti-microbials compounds (prophylactics).
2. Anti-bactericide compound → avoids phenotype-resistant microbiology

**Food processing industry:**
Biofilm-bacteria have a higher resistance to disinfectant. Pathogens containing biofilms play a key role in the development of foodborne illness.

**Opposite effects:**
- 15.62 μg/mL -15%
- 62.50 μg/mL -50%
- 1 mg/mL -22%
- 1mg/mL + 1%SDS 48%

**Future strategies:**
Mixed solutions represent a powerful research topic.
- Nanoparticles + biopolymers + Essential oils

**Traditional Medicine:**
Compounds used worldwide which might have synergic properties, further study on this topic is required. Based on their natural source, they represent a powerful alternative to the classical antibiotic based remedies.

**Biofilms**

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**Table 1 — Opposite effect of Terminalia catappa**

**Table 2 —Collection of research articles of worldwide traditional medicine**

**Conclusions:**
- On the long term, the available solutions are not efficient enough.
- Worldwide traditional medicine seems to have found some more efficient compounds on their own.
- Mixed compounds showed some evidence to have a higher efficiency on inhibiting the biofilm creation.
- The study of the synergy between mixing current solutions and traditional medicine holds the key of the future of biofilm fight.