



# Updates in Bovine Mastitis

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Unit : Bovine Mastitis  
Lesson : 1

# Epidemiology of Bovine Mastitis

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# Epidemiology of Mastitis

Introduction

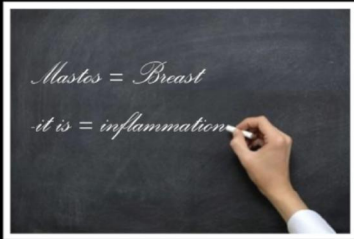
Economic And Social Impact

Prevalence And Incidence

Risk Factors, Pathogens

# Introduction

- **The term mastitis originate from the Greek**



# Introduction

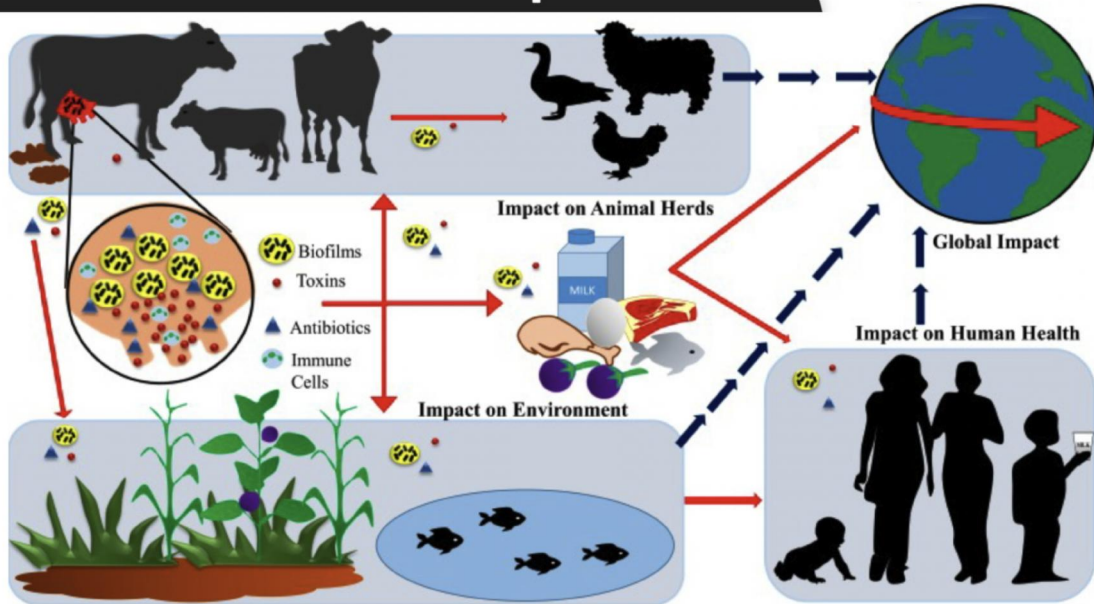


**Cows have been milked since at least 8300 years and it is likely that bovine mastitis has been recorded since that time (Pamela, 2017).**

# Economic and Social importance



# Economic and Social importance



## Annual economic loss

**INDIA**

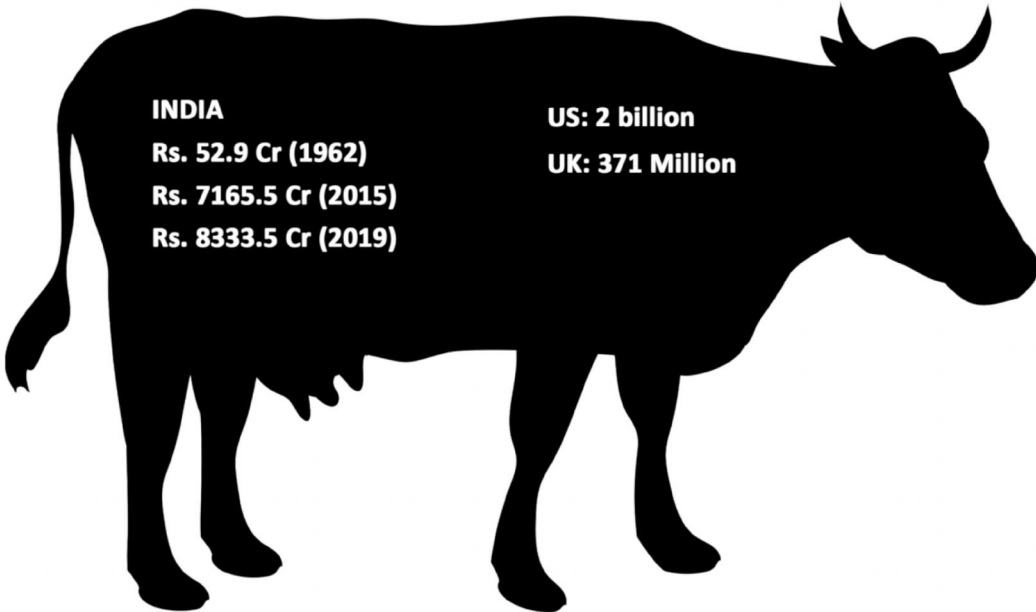
**Rs. 52.9 Cr (1962)**

**Rs. 7165.5 Cr (2015)**

**Rs. 8333.5 Cr (2019)**

**US: 2 billion**

**UK: 371 Million**



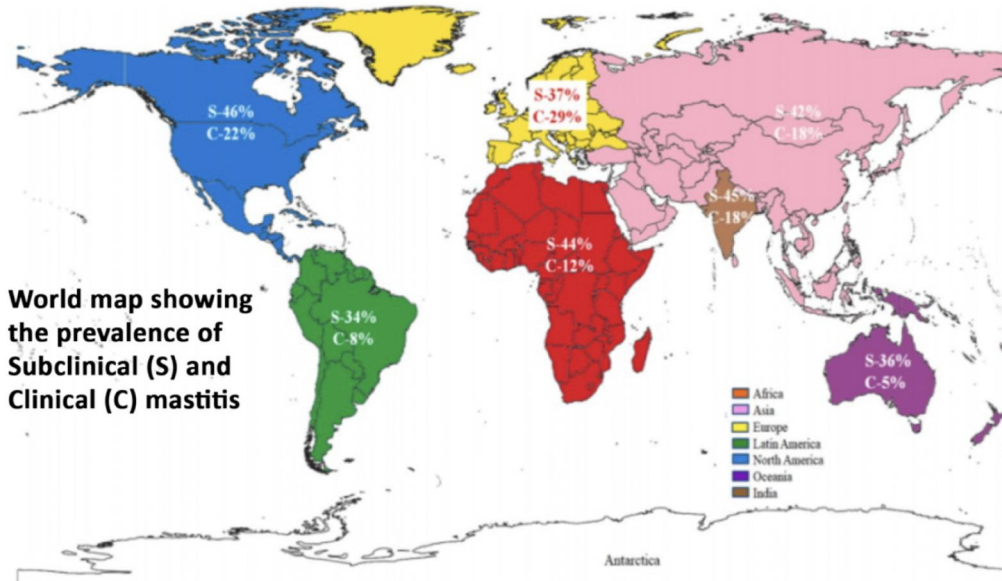




# Annual economic loss

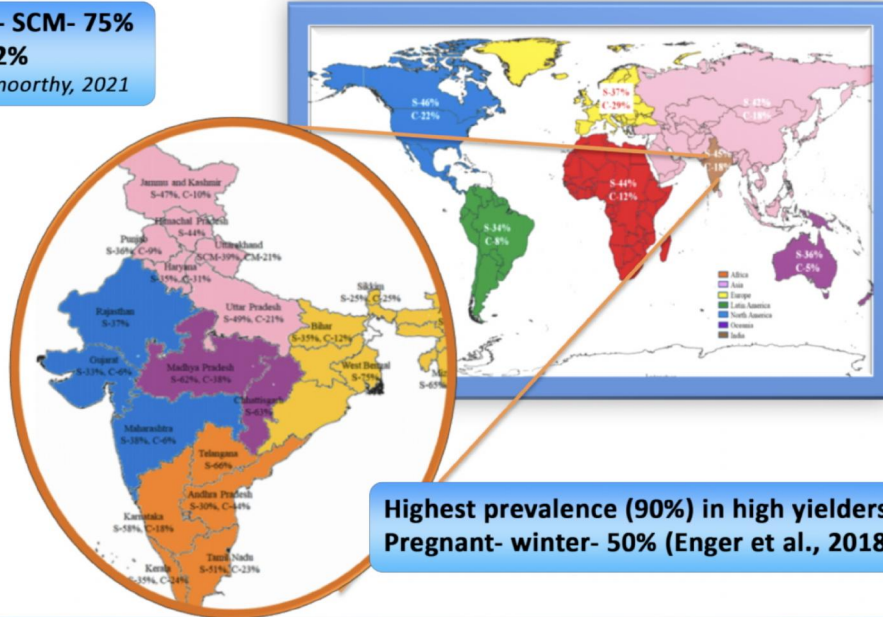
P. Krishnamoorthy et al.

Research in Veterinary Science 136 (2021) 561-586



# Prevalence and Incidence

**West Bengal- SCM- 75%**  
**Andaman- 12%**  
*-Krishnamoorthy, 2021*



**Highest prevalence (90%) in high yielders  
 Pregnant- winter- 50% (Enger et al., 2018)**

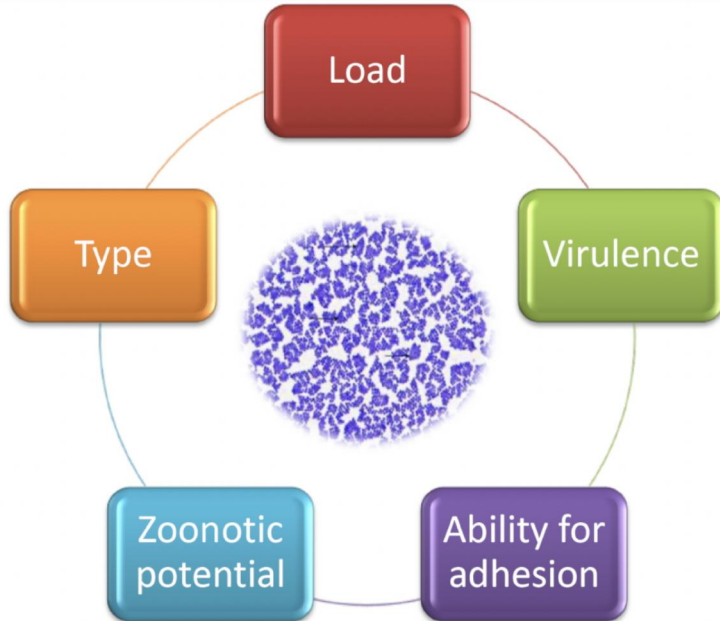
# Host factors



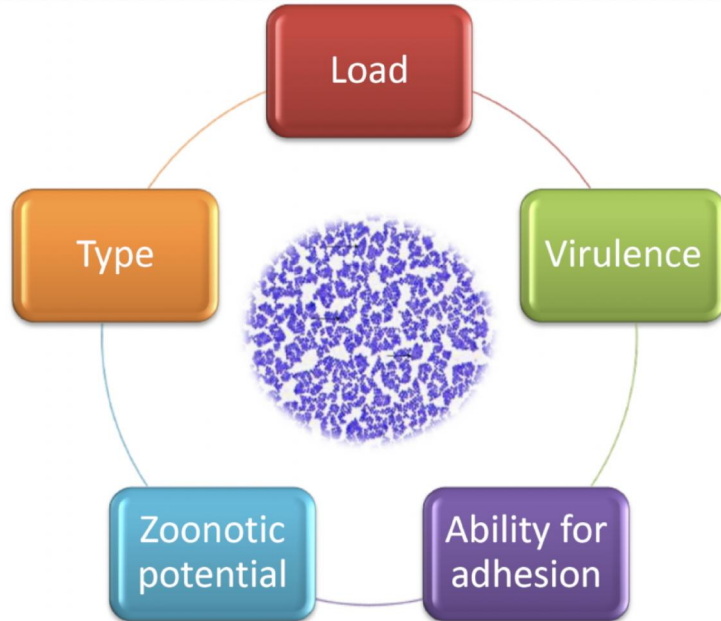
# Host factors



# Pathogen factors



# Pathogen factors



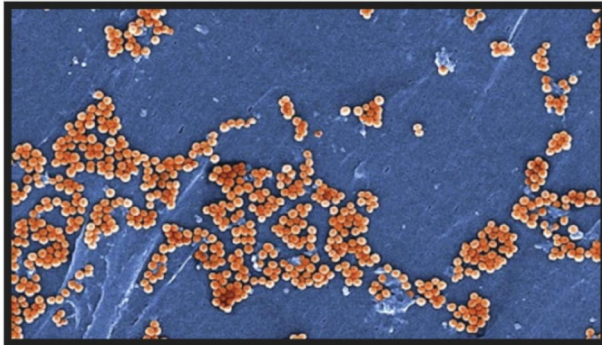


# Environmental factors

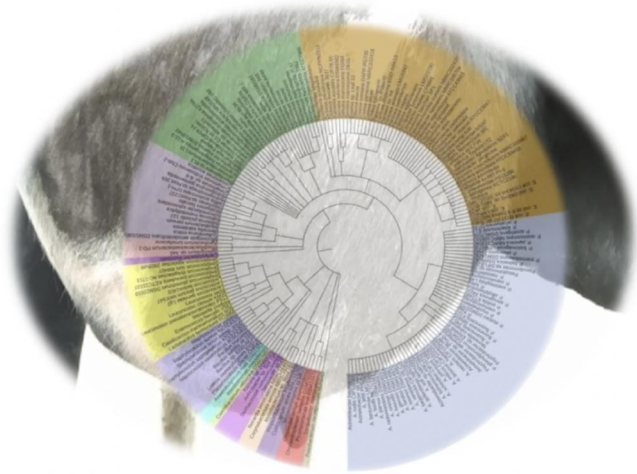


# Economic losses associated with mastitis

- **Bacterial**
- **Viral**
- **Other causatives**
  - **Edema**
  - **Trauma**
  - **Fungal**







Tree scale: 1 ⇐⇐

**Colored ranges**

- Bacillales
- Lactobacillales
- Pseudomonadales
- Enterobacteriales
- Gammaproteobacteria
- Betaproteobacteria
- Alphaproteobacteria
- Campylobacteriales
- Clostridiales
- Erysipelotrichales
- Micrococcales
- Fusobacteriales
- Bacteroidales
- Actinomycetales
- Corynebacteriales

The strain-level taxonomic profile of microbiota associated with bovine clinical mastitis – Hoque et al., 2020

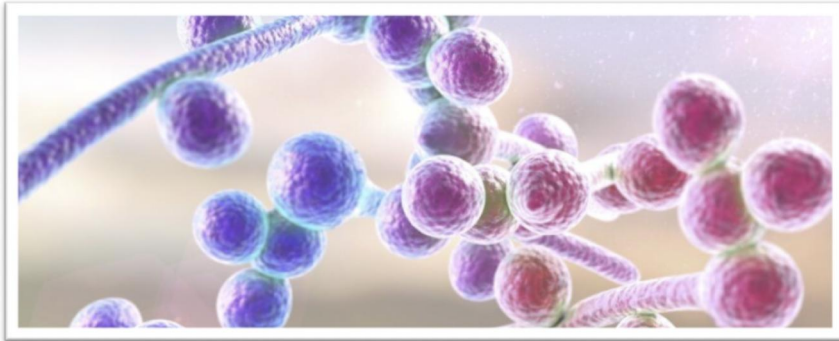
# Viral causes

- Herpes virus
- FMD
- Enzootic bovine leukosis
- Bovine mammilitis
- Cow pox, pseudo cow pox
- Bovine papilloma virus
- Bovine enterovirus
- LSD
- Bovine immunodeficiency virus



# Fungal / Yeast causes

- **Candida spp., Aspergillus spp., Trichosporon spp., Cryptococcus spp., Penicillium spp., etc.,**



*Candida albicans*. Source: *hygiene-in-practice*

# Clinical importance of Fungal mastitis

- **Blind administration of antibiotics may aggravate the fungal mastitis as *Candida* spp utilises Penicillins and Tetracyclines as source of **nitrogen!!!****





*Thank you*