

MEME HEALTHY LONGEVITY

*Affordable Platform for
Longer, Healthier &
Happier Life*



MEME at a Glance

» Personalized biological clock based on BOH's breath biopsy platform, ongoing monitoring on a fitness watch, BMI and blood pressure, artificial intelligence (AI) reading and rewinding clock

» AI breath-based screening platform: innovative, non-invasive, low-cost point-of care diagnostics exclusive license from BOH.

» Strong team with proven experience, particularly in analytical chemistry, AI, HW and SW and Biz Dev

» Supported by a scientific advisory board of leading experts in Israel and abroad.



2023

MEME
Founded



14

Employees

Breath Analysis Breakthrough Hybrid Platform

Core Technology:

- » Sample is turned into an aerosol.
- » Droplet suspension time of 3 min Thus increasing detection limit to all types of molecule detecting~1000 organic compounds.
- » Three minutes with a standard FTIR spectrometer and 5m optical gas cell

Core Scientific Rational:

- » Systemic and systematic Low grade inflammation: chemokines and interleukins manifested in pulmonary blood and mucus.
- » Microbiome lower diversity with biological ageing gut generating hosts of OC's specific combinations manifested in air blood and mucus.
- » Extra cellular matrix and cellular breaking manifested in blood and mucus.
- » Systematic stress metabolomics



Aerosol



Profiling Ageing Agents

- » Glucose- In adult men and women, pre-diabetes is associated with a loss of 2 years of potential life; diabetes is associated with a loss of 8 years of potential life (Rapoport M, Chetrit A, Cantrell D, et al 2021).
- » Low Grade inflammation-Ageing is characterized by an increase in the concentration of inflammatory markers in the bloodstream; Low grade inflammation (LGI) is associated with age-related decline of many functional systems; LGI is influenced by gut microbiota and by diet, with a protective role for healthy diets and foods; Slowing, controlling or reversing LGI is likely to be an important way to prevent age-related functional decline. (Philip C. Calder et al 2017).
- » Sleep- Habitual sleep duration is consistently associated with many domains of overall health and functioning. Although the amount of sleep essential for optimal functioning and health may be difficult to ascertain at the individual level, more than 50 years of converging findings have demonstrated that sleeping too little or too much is associated with increased morbidity and mortality. (Jean-Louis G 2021)

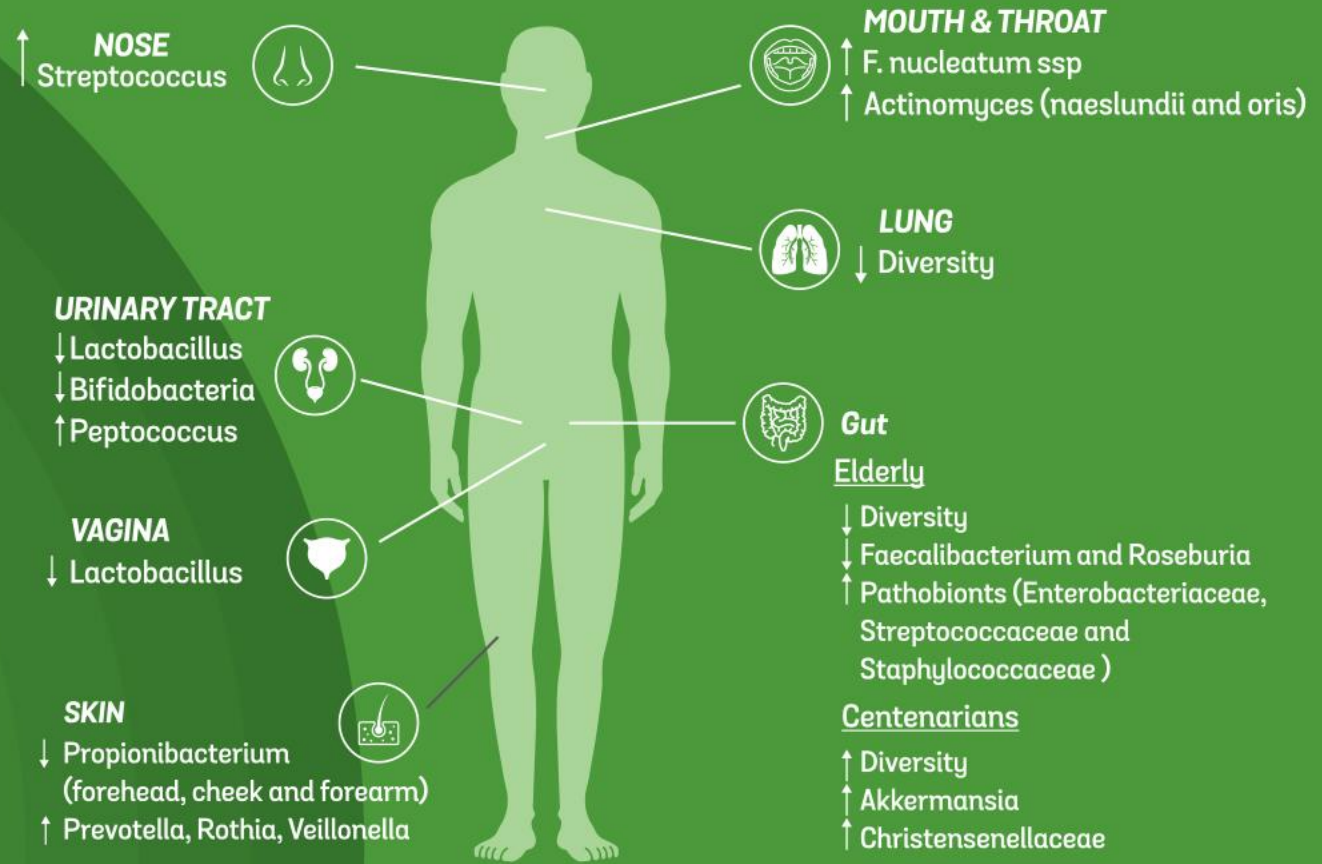
Profiling Ageing Agents Continued

- » **BMI:** In a 2018 study that included over 3.5 million people, researchers found that being underweight (BMI <18.5kg/m²) or obese (BMI >30kg/m²) was associated with a 3.5-4.5-year reduction in life expectancy. (Krishnan Bhaskaran et al 2018).
- » **Social relationships and Depression:** Associations between social relationships and well-being are widely documented across the lifespan, and overall health. (Cherkas LF et al 2006).
- » **Microbiome:** microbiota has also become a key factor in the anti-aging process. (Du Y,et al 2021)

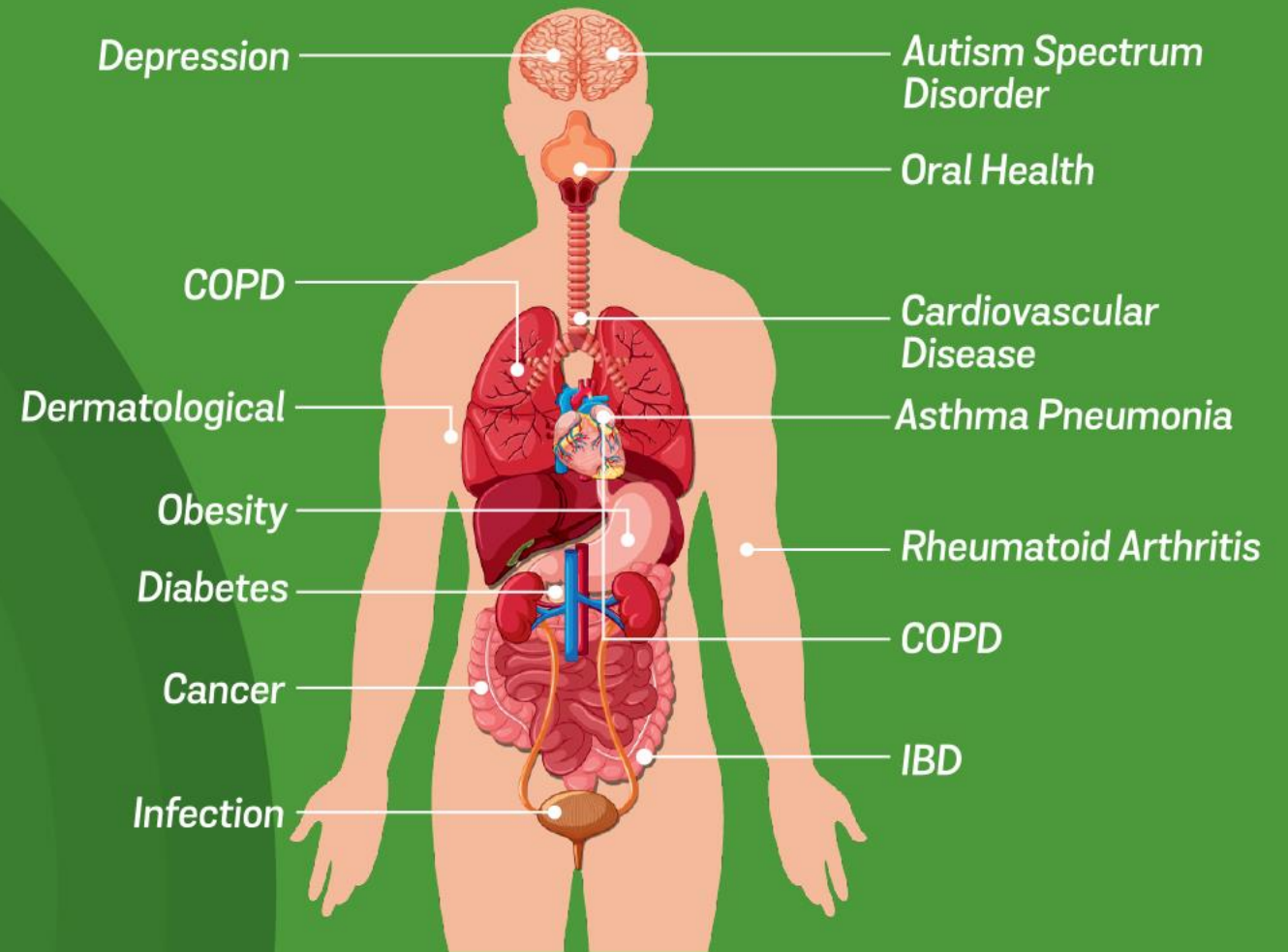
References

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- » Virinder Kaur Sarhadi and Gemma Armengol ,Molecular Biomarkers in Cancer. Biomolecules 2022, 12, 1021. <https://doi.org/10.3390/biom12081021>
- » Shelley S Sehnert 1, Long Jiang, James F Burdick, Terence H RisbyBreath biomarkers for detection of human liver diseases: preliminary study. <https://pubmed.ncbi.nlm.nih.gov/12101636/>
- » Understanding acute and chronic inflammation <https://www.health.harvard.edu/staying-healthy/understanding-acute-and-chronicinflammation>

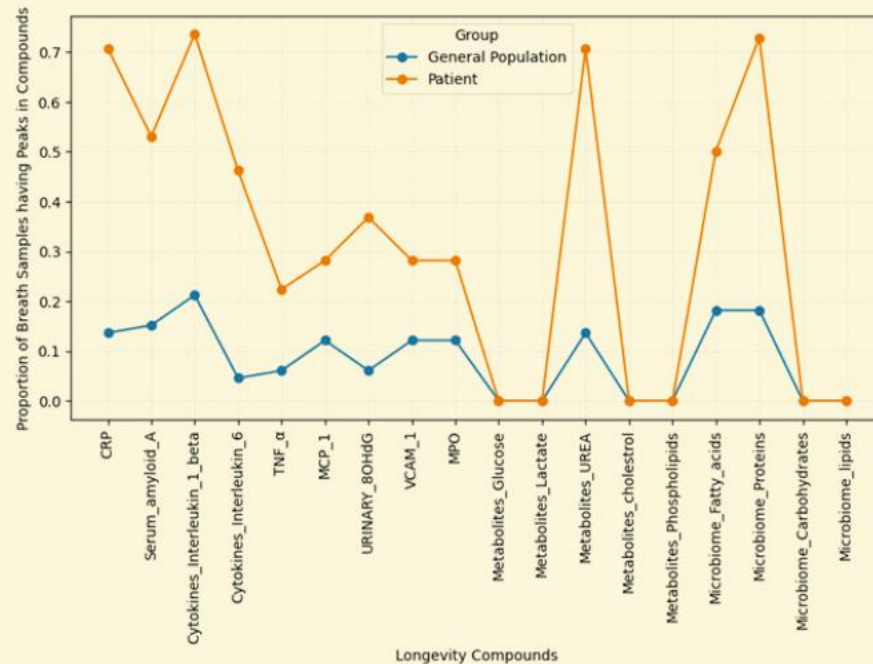
Microbiota Dysbiosis With Age



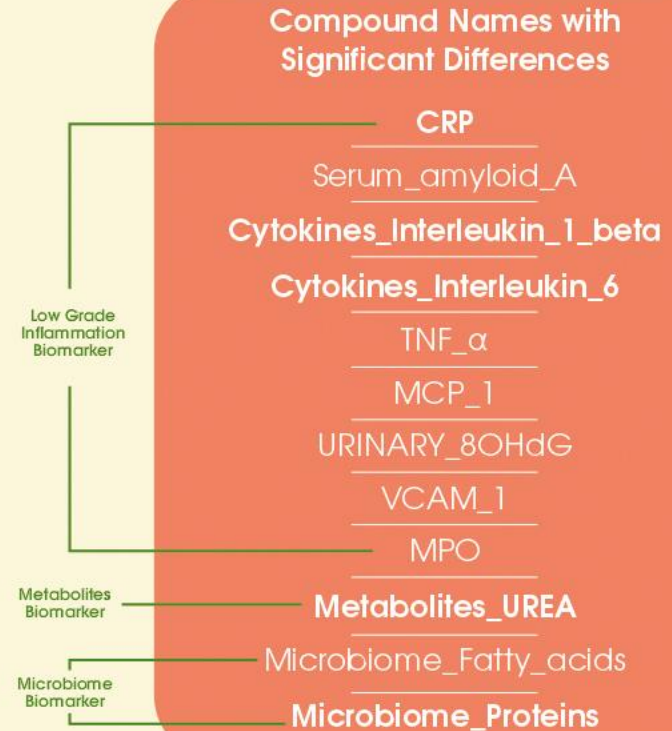
Microbiome Perturbation Associates with Disease



Comparison of Group (Healthy Group vs Patient Group) Proportion of Breath Samples Who Received Peaks



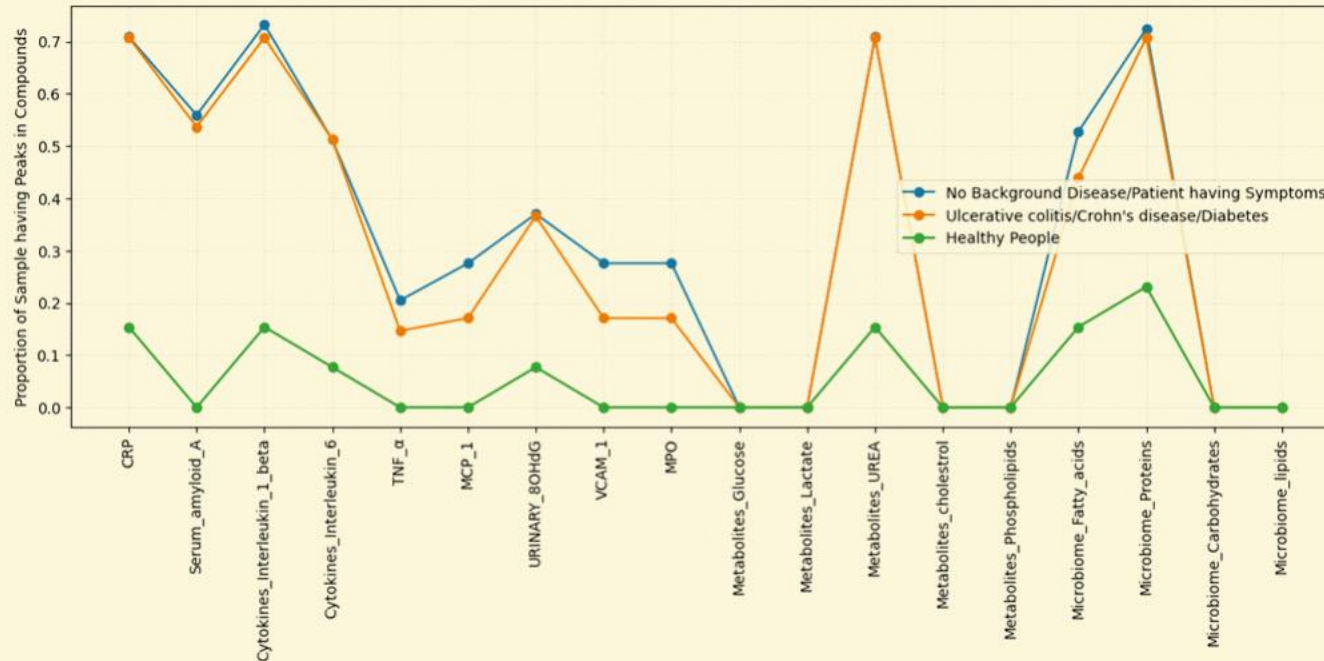
Total Sample Size: 233
 Healthy Group : n = 65
 Patient Group : n = 168



On the x-axis : Number of Samples out of all from the respective group (Healthy Group vs Patient Group) for each compounds. For example : For Compound CRP, we can observe the 70% of samples are from Patients and close to 15% In General Population.

** We are running clinical trial on six types of cancer in Israel. We have cancer patients total 168 samples and 65 healthy people breath samples which is used for above analysis.

Comparison Between Healthy, Symptomatic and Diseased people of Proportion of Samples Having Peaks in Compounds

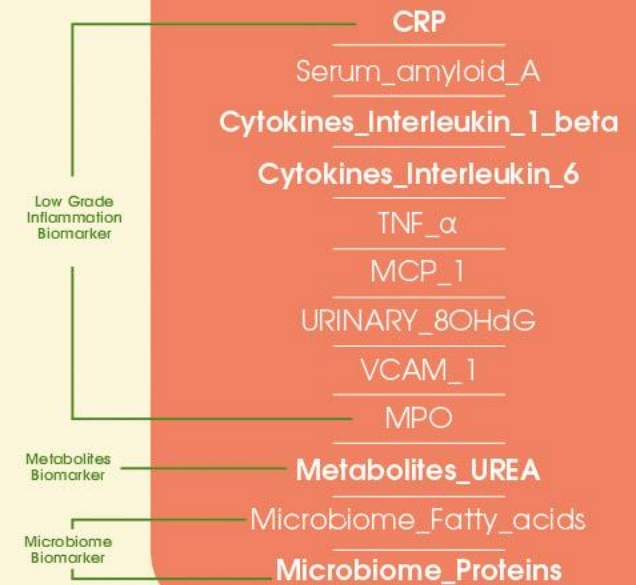


Total Sample Size: 233

Healthy Group : n = 65

Patient Group : n = 168

Compound Names with Significant Differences

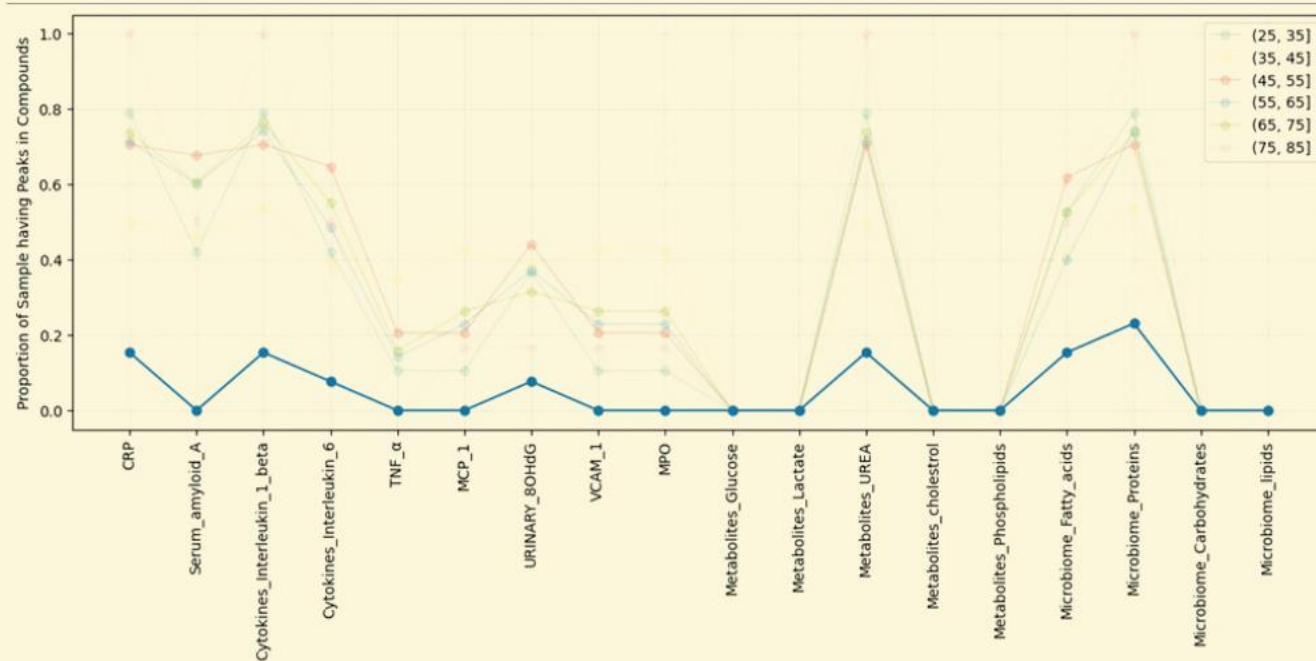


On the x-axis : Number of Samples out of all from the respective group for each compounds

For example : For Compound CRP, we can observe the 70% of samples are from Diseased and Symptomatic Group and 15% In General Population.

We can observe here Symptomatic and Diseased compound peaks are higher and overlapping from that of healthy people.

Comparison Between Different Age Groups and Healthy People of Proportion of Samples Having Peaks in Compounds



On the x-axis : Number of Samples out of all Samples from the respective group for each compounds

For example : For Compound CRP, we can observe the more than 50% of samples are from Age Group above 25 years and 15% in General Population.

In Summary, We can observe that **Low Grade Inflammation**, **Metabolites** and **Microbiome** are very Important compounds for health. There is a significant difference in proportion of healthy people and diseased/unhealthy people, as well as with the higher age.

Total Sample Size: 233

Healthy Group : n = 65

Patient Group : n = 168

Compound Names with Significant Differences

CRP

Serum_amyloid_A

Cytokines_Interleukin_1_beta

Cytokines_Interleukin_6

TNF_alpha

MCP_1

URINARY_8OHdG

VCAM_1

MPO

Metabolites_UREA

Microbiome_Fatty_acids

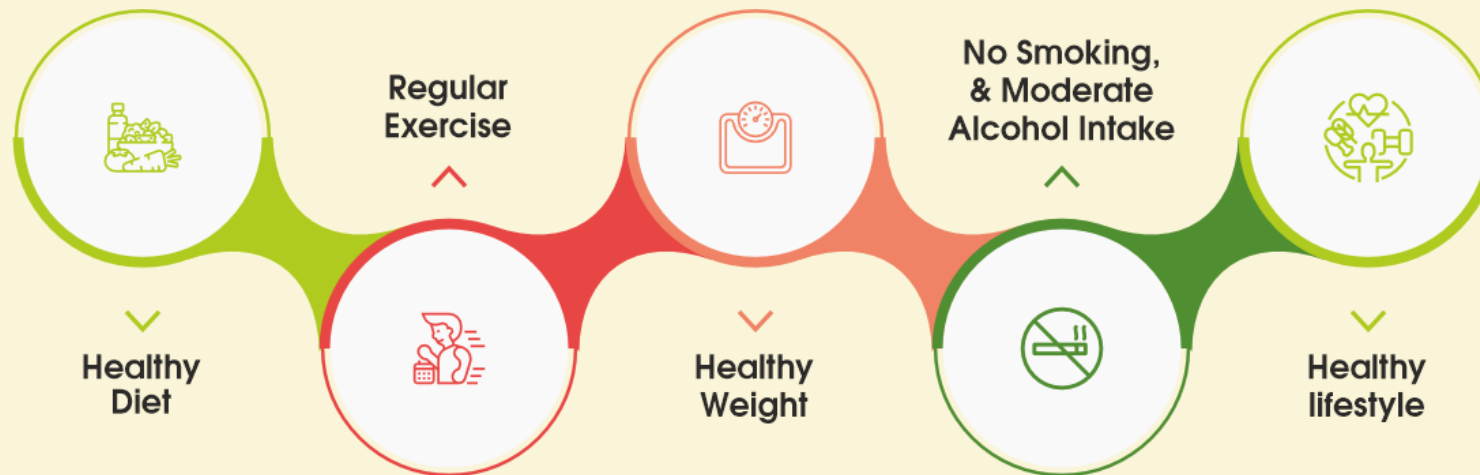
Microbiome_Proteins

Low Grade
Inflammation
Biomarker

Metabolites
Biomarker

Microbiome
Biomarker

Six Factors for a Longer & Healthier Lifespan



» Researchers from Harvard University

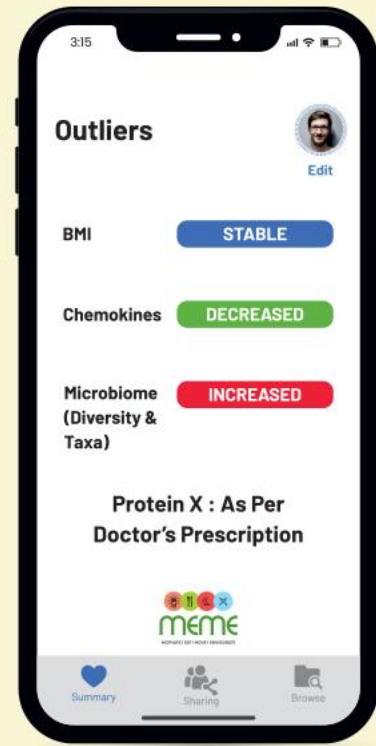
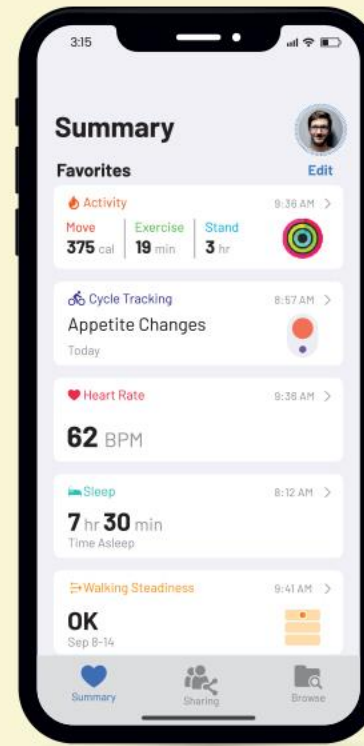
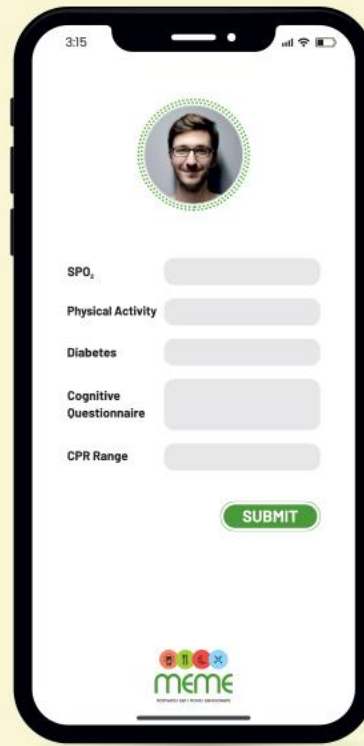
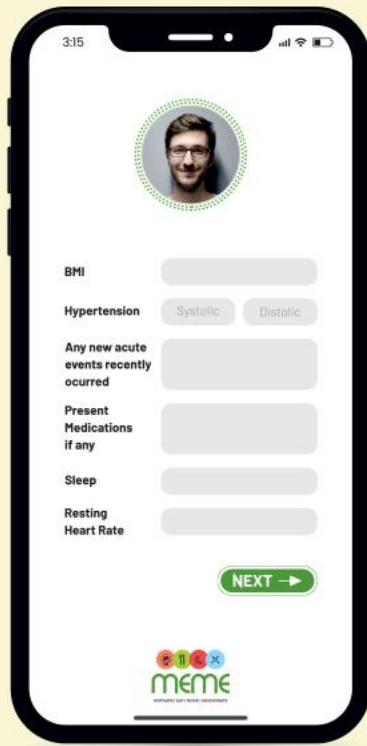
Those with
5 Factors
Lived Up to
14 Years Longer

Women Aged
**50 Practicing
5 Healthy
Habits Lived About
34 More Years
Free of Chronic
Diseases**

Men Practicing
**5 Healthy
Habits At Age
50 Lived
About
31 Years Free
of Chronic Disease**

Monitoring





Medicine Intervention

Disturbed Sleep



Increase
d
Glucose



BMI
Increas
ed
BMI



Increased
Hypertension



Increased
Low
Grade
Inflammation

Unhealth y Diet



Increase
d
Glucose



BMI
Decrease
d
BMI



Decreased
Hypertension



Increased
Low
Grade
Inflammation

Physical Activity



Improved
Glucose
Tolerance



BMI
Decreased
Body Fat
Mass

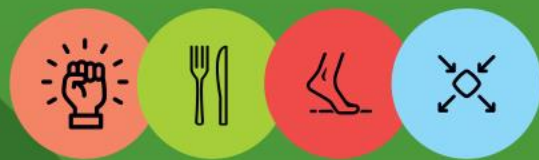


Efficient
Hypertension
Management



Decreased
Low
Grade
Inflammation





meme

MOTIVATE | EAT | MOVE | ENVIGORATE

THANK YOU

For further information, please contact



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