

New method to apprehend cognitive impact of cosmetics: Application of an increased efficacy of an anti-ageing cream combined with Chinese Herbal Medicine

Francis Vial(1), Arnaud Aubert(1), Alexandra Lan(2), Bin Chen(2), Keesuh Lee(2), Nan Lu(2), Dongfang Kang(2), Karl Lintner(3)

1 : EMOSPIN/SPINCONTROL, France

2 : Shanghai Pechoin Daily Chemical Corporation, Shanghai, China.

3 : KAL'IDÉES France



In recent years the trend in cosmetic communication has been increasingly to stress the idea of "ageing well" rather than to pretend to "slow or stop" the skin ageing process. Quantitative measurements of Quality-of-Life parameters and Well-Being concepts have emerged as new methods and claims addressed to consumers..

Thus, this study was conceived in a holistic perspective, we addressed psychological parameters (i.e. mood, emotion and self-perception) in addition to conventional skin parameters, thanks to use a new method "Mirror Test"™, in order to enlarge the scope of the potential benefits of care products.

Objectives

- Determine the ability of TCM (Traditional Chinese herbal Medicine) to enhance anti-ageing effects of an efficient peptide with experimentally demonstrated cosmetic properties
- Determine the possible enhancement in a holistic perspective
 - Skin properties
 - Psychological and emotional benefits



Methods

Experimental groups

- Group A: vehicle cream (negative control)
- Group B: EBC cream (positive control - peptide)
- Group C: EBC+TCM cream (Traditional Chinese herbal Medicine)

Measures

Skin properties

- Clinical evaluation of skin complexion
- Mechanical properties of the skin (cutometry)
- In vivo 3D topography of wrinkles

Psychological and emotional benefits

- Psychometric analysis of self-conception
- Emotional responses during the Mirror Test™



The Mirror Test™

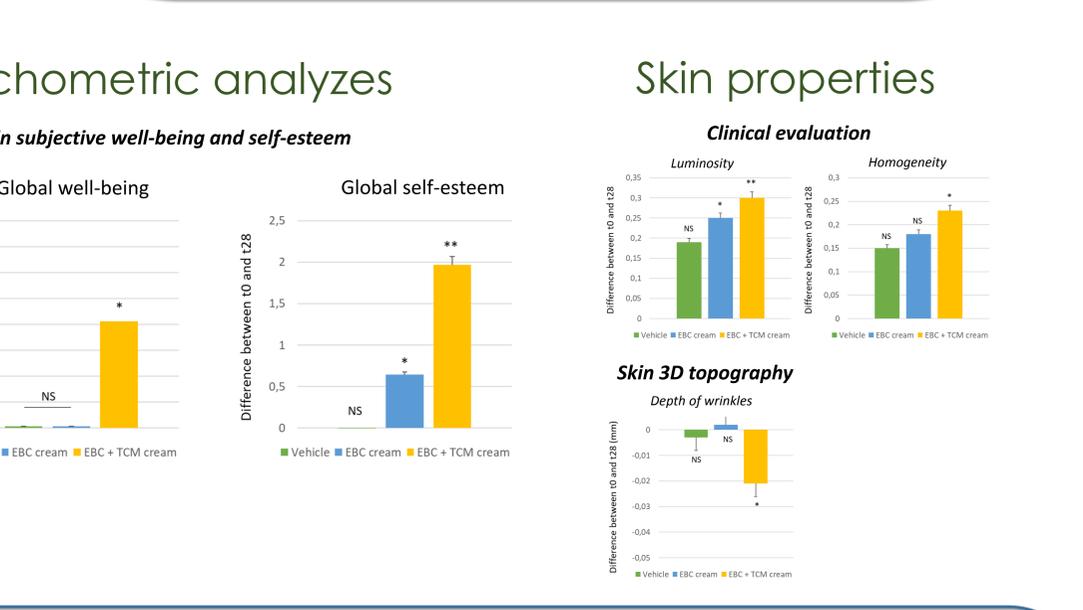
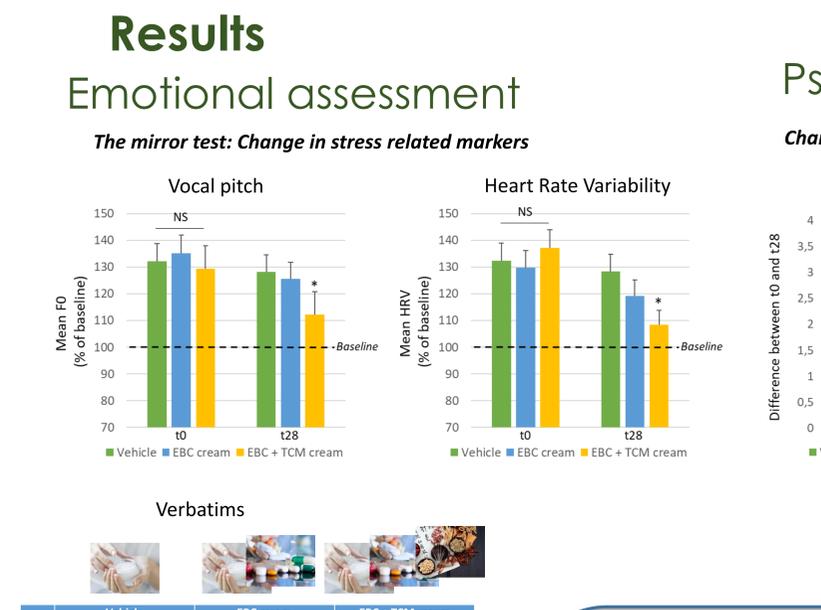
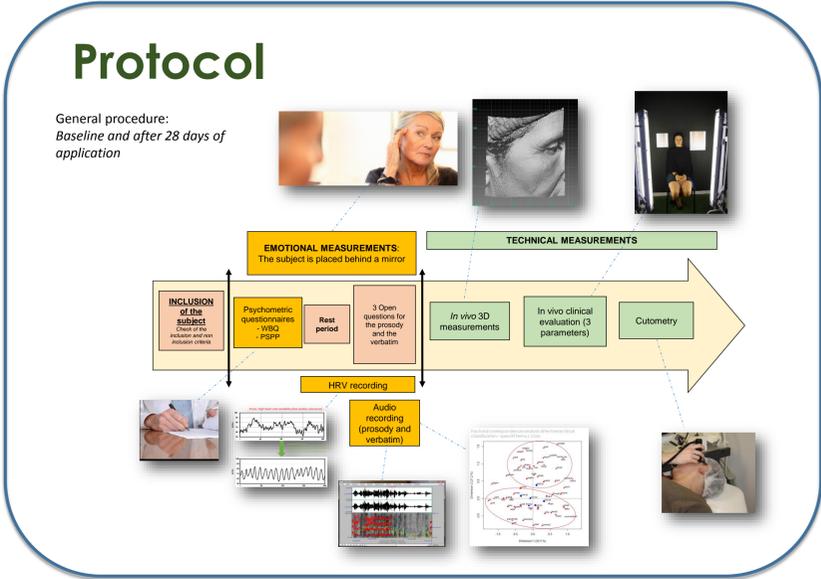
The fundamental rationale of the Mirror Test™ is to confront a subject to its own reflection. This confrontation is ecologically relevant for cosmetic studies as it corresponds to a natural daily situation for subjects. Moreover, such a confrontation is a potent psychological trigger endowed with a significant emotional load as it activates actual psychological problematic regarding self-conception and physical self-acceptance. As such, this confrontation acts as a mild stressor, allowing the measure of various parameters related to stress response

Emotional analysis: In order to quantify the emotional response during the test, we selected two main variables :

Prosody: Prosody corresponds to the emotional content in the voice and can be assessed through the study of the vocal spectrum revealing the variations in several parameters,

Heart Rate Variability: the HRV (Heart Rate Variability) is the cardiac measure of the interaction between the sympathetic and parasympathetic branches of the Autonomic Nervous System (ANS). HRV therefore provides a measure to express the activity of the ANS, and consequently provides a valid psychological stress indicator.

Semantic analysis (Verbatim): During the test, subjects were asked to answer two questions, Therefore, beside quantification of the emotional response in subjects, verbal responses (i.e. verbatim) of subject to these questions were analyzed. Such analyses correspond to a statistic approach of verbal production. This type of approach is traditional in social and human sciences.



Perceived impression	Vehicle		EBC cream		EBC + TCM cream	
	Terms	p	Terms	P	Terms	p
Wrinkles	Disappointing	0.014	Sympathetic	0.011		0.013
Smile	Dynamic	0.031	Nice	0.013		0.019
(Not) preserved	Nice	0.043	Pleasant	0.021		0.028
	Bad		Good (shape)	0.029		0.037

Increase in positiveness of statistically significant specific terms

Conclusion

Psychological and emotional benefits

Statistically significant changes between t0 and t28	Vehicle	Vehicle + EBC	Vehicle + EBC + TCM
Cutometry			↗
3D skin topography			↗
Luminosity		↗	↗
Homogeneity		↗	↗
Radiance	↗	↗	↗
Subjective well-being		↗	↗
Global self-esteem		↗	↗
Physical self-perception			↗
Vocal stress-markers			↘
Cardiac stress-markers			↘
Lexical repertoire in self-description		↗	↗

- Mirror test is a relevant method to measure psychological and emotional benefits
- Experimental demonstration of multiple effects/benefits of this synergy
 - Body: skin features
 - Mind: emotion and well-being
- Extend the reasoned use of TCM in order to enhance efficiency of EBC compounds
- Pay more attention to emotional benefits in cosmetics
- Further research needed to better understand involved mechanisms
 - Biochemical (chemical to chemical)
 - Psychobiological (emotion to brain to chemical)

