

Detecting Antioxidant Behavior for Phenolic Content of Some Beauty Care Creams in Syrian Market

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Abstract: This work planned to assess the antioxidant prevention agent movement and phenolic content of 41 business restorative creams accessible on the homegrown market. The phenol still up in the air by the Folin-Ciocalteu strategy involving gallic corrosive as a norm. The cell reinforcement action of restorative creams was estimated utilizing the FRAP strategy (feric antioxidant prevention agent limit). 22.5% of the corrective creams inspected contained phenolic compounds between 2.89 - 1.15 and 2.98-1.91 mg GAE/g cream. 57% of the corrective creams analyzed had antioxidant prevention agent action in this range 53 to 359 μ M Iron^{II}.

Keywords: Beauty care, Antioxidant prevention, Phenolic contents.

I. INTRODUCTION

There are a number of commercially available corrective agents containing various types of significant bioactive mixtures from normal or artificial sources. They vary in cost and quality. There has been a significant increase in interest in cellular enhancers used in beauty care products since they forestall the movement of free radicals and other responsive species that can harm cells and cell intersections in the skin. The importance of cellular reinforcements led to the nature of beauty care products being tested for their antioxidant effects. The skin has different defensive parts to manage free radicals and other defenseless species. These contain non-enzymatic and enzymatic molecules [1-9]. Constant UV exposure can trigger oxidative pressure and harm, leading to certain skin conditions. These can be small things (e.g. kinks, skin infections) or difficult issues like cancer [3-18]. The effective effects of antioxidants have been exploited in superficial detail. Antioxidants prevention agents can be regular or manufactured. Buyers' interest in regular fasteners in superficial items is increasing. Under normal cellular reinforcements, polyphenols structure an enormous and complex group of compounds [16,17-22]. Phenolic compounds are phytochemicals.

They can be used in the treatment of a number of skin conditions because of their cell reinforcing, anti-inflammatory and antimicrobial properties [23-35]. Their antioxidant effects are due to their capacity to retain reactive oxygen species (ROS) and reduce chelated metal particles [36-44]. They also disrupt the course of free extreme reactions during lipid peroxidation and protect different mixtures [45-57]. Our work planned to decide the phenol compounds content and antioxidant prevention agent movement of a few business's corrective creams accessible in the local market.

II. MATERIALS AND METHODS

1.1. Products sources:

Anhydrous Iron^{II} dichloro, ferrous sulfate, Folin-Denis reagent and 2,4,6-tris(2-pyridyl)-s-triazine were bought from Fluka (Sigma-Aldrich). Gallic corrosive was bought from Biotech LTD. Sodium acetat derivation and non-aquas sodium carbonate were purchased from BDH, united kingdom.

Mechanical assembly

Several instruments were utilized including: spectrophotometer (DLAB Scientific Inc) and aquas shower. samples

Restorative creams were commercially available in local Syrian Arab republic marckt. The samples was made in various nations (France republic, Germany, united kingdom, and united stat of America, Syrian Arab republic).

1.2. Preparation of samples

Every sample of corrective creams, an aggregate of 2 grams was prepared in series recepticle and added portionwise to 0.2 L of newly bubbled water and left at room temperature for three minutes. The examples were then cooled, separated and weakened to the right fixation preceding examination.

1.3. Planning of standard galic acid and Iron sulfate solutions

A standard stock arrangement containing galic corrosive was ready in 20 g H₂O. L⁻¹. The standard arrangements of 0.2 to 1.4 g.L⁻¹ in H₂O were ready by sequential weakening of the stock arrangement.

A standard stock arrangement containing ferrous sulfate was ready in H₂O (2 μ M). The standard arrangements from 200 to 600 μ M were made by a sequential weakening of stock arrangement.

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1.4. Determination of complete phenol intensifies content

The complete phenol content of the extraction was estimated by method F.C (Folin-Ciocalteu). 4 ml aquas sodium carbonate solution 4% (w/v) was blended in with 0.2 ml of the diluted sample and afterward left for 6 minutes. Then a diluted F-D reagent (Folin-Denis reagent) 1:1 (0.1 ml) was added. After hatching at temperature ambient for 35 min, the absorbance at 750 nm was estimated. The absorbance of a blank solution in similar way as tests utilizing 0.1 ml of refined water rather than the sample was estimated. The complete phenol content was communicated as mg. of galic acid counterparts per grams (GAE)/g of cream. All estimations were finished in copy.

2.7. Iron inhibition of antioxidant capacity

Iron^{II} Reducing Antioxidant Power (FRAP) was estimated by using spectrophotometer. The FRAP reagent readiness

was ready by blending 300mM acetic acid derivation cushion (pH 3.61), 20mM 2,4,6-tripyridyl-s-triazine (TPTZ) arrangement in 80mM HCl and 40mM iron dichloro arrangement arranged in a proportion of 20:2:2 volume. 2 mL of FRAP reactivs was added to 200 L of test. The mixture was hatching at temperature ambient for 4 minutes, the absorbance at 593 nm was estimated. The antioxidant prevention agent action was communicated as mM Fe²⁺ as per an alignment bend got utilizing iron soulfate. All estimations were completed in duplicate.

III. RESULTS AND DISCUSSION

In this review, the phenol content and the cell reinforcement not entirely set in stone in 40 restorative creams. These incorporate saturating (40%), supporting (37%) and sunscreens (23%) (Figure 1)

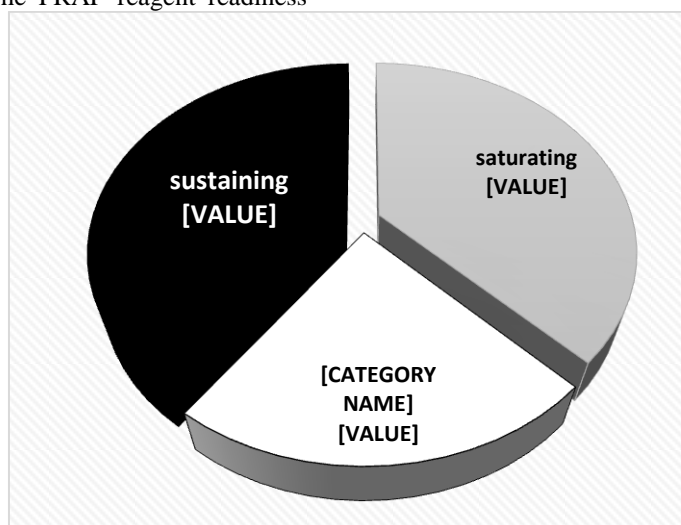


Figure 1: Types of Beauty care creams studied.

1.5. Complete phenol compounds content

Various natural herbal are utilized in the healthy skin world for their belongings. Among them, polyphenols natural antioxidants that are plentiful in therapeutic plants, natural products, medicinal plants, fruits, and vegetables. They can be utilized to treat skin diseases and to extend the shelf life of Beauty care products. In this study, the complete phenol compound content in the creams examined was determined using the method of F.C (Folin-Ciocalteu). As shown in Figure 2, out of 40 creams, 9 creams only contained phenol compounds, accounting for 23.5% of all Beauty care creams examined. The announced rundown of fixings demonstrates the presence of plant removes in these cream (9).

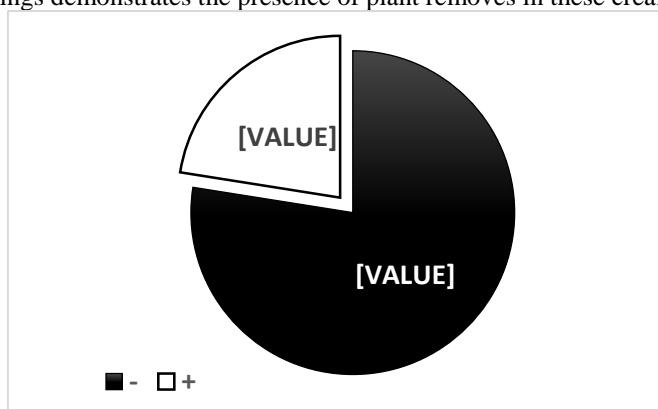


Figure 2: Phenol content of analyzed restorative creams.

The total phenol content was expressed as mg GAE/g cream (Figure 3). It varied from 2.9±1.15 to 29.8±1.91 mg GAE/g cream.

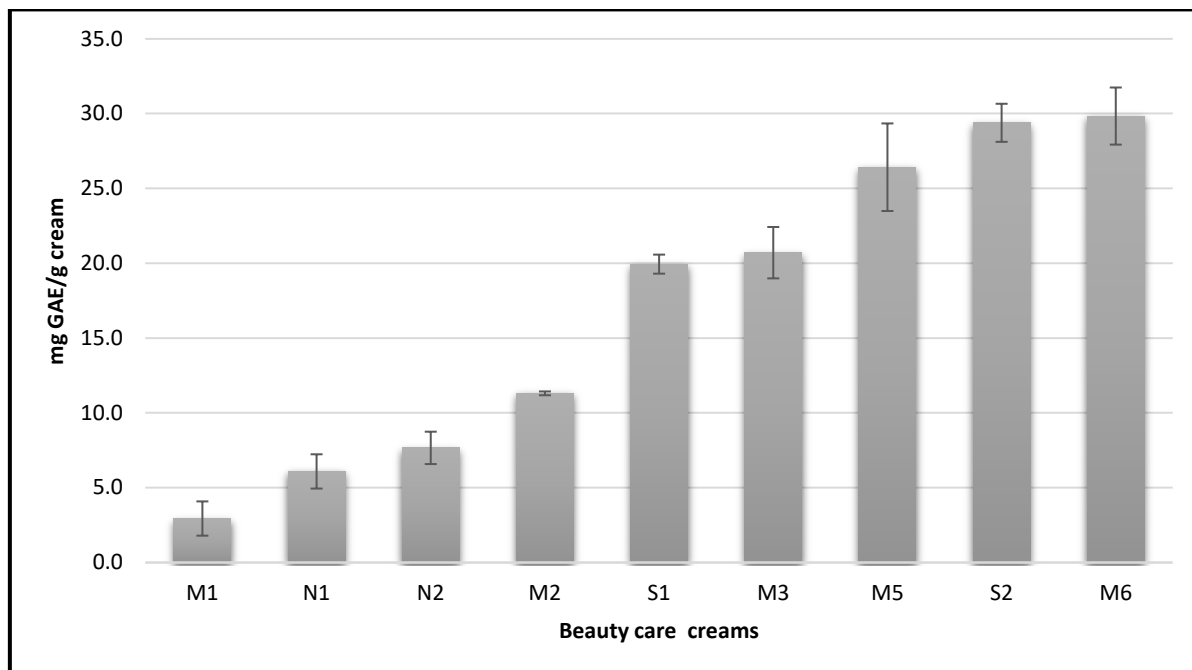


Figure 3: Phenol content of various types of Beauty care creams determined by the F-C technique (Folin-Ciocalteu method) and communicated as mg GAE/g cream. (Moisturizing, nourishing or sun protection) M, N, S Abbreviation.

3.2. Antioxidant Activity

Antioxidants are synthetic or natural substances added to Beauty care creams to increase their stability against deterioration from exposure to oxygen. In addition, they are able to shield the skin cell from the destructive impacts of oxidation. The list of ingredients indicates that some creams studied contain synthetic antioxidants, mainly tocopherol, some contain synthetic antioxidants in addition to plant extracts, different creams contain just plant remove without antioxidants. The antioxidative action of the analyzed creams still up in the air by the FRAP technique. As displayed in Figure 4, out of 40 creams, only 22 creams have cell reinforcement movement, accounting for 57% of all skin creams analyzed.

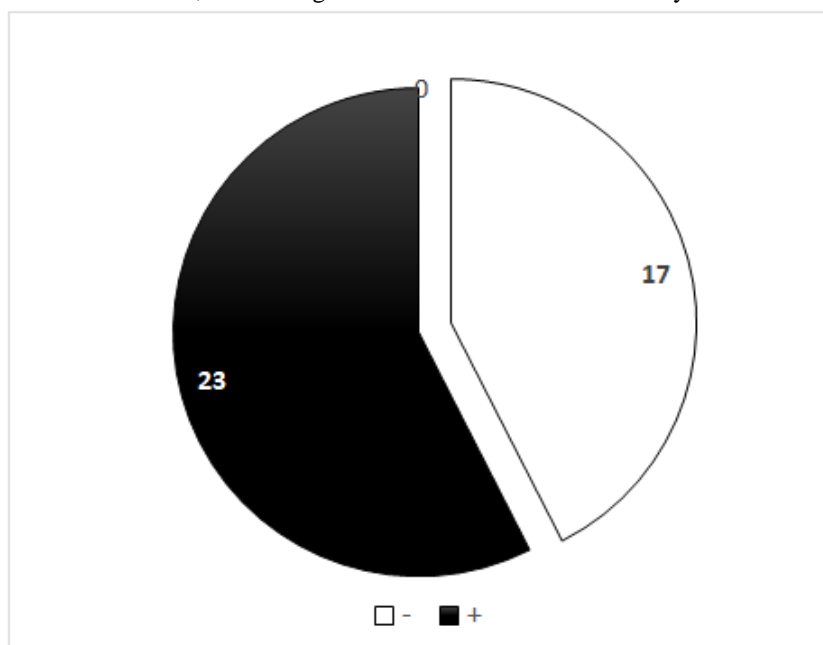


Figure 4: Antioxidant activity of 40 Beauty care creams examined

The total antioxidant activity of different types of Beauty care creams is expressed as M Fe+2 (Figure 5). It ranged from 54 to 360 M Fe+2. The mentioned antioxidant activity of some examined Beauty care can be attributed to natural antioxidants (phenolic content) (N1, M1, N2, M2, N3, N4, N5, M8, N7, S4), synthetic antioxidants (M3, M5, M7, M9, S2, S3, M7, S6) or natural and synthetic antioxidants (M4, N6, N8, S5). It was so difficult to establish a relationship between the phenol content and the antioxidant activity of Beauty care creams because different types of plant extracts were added to these creams.

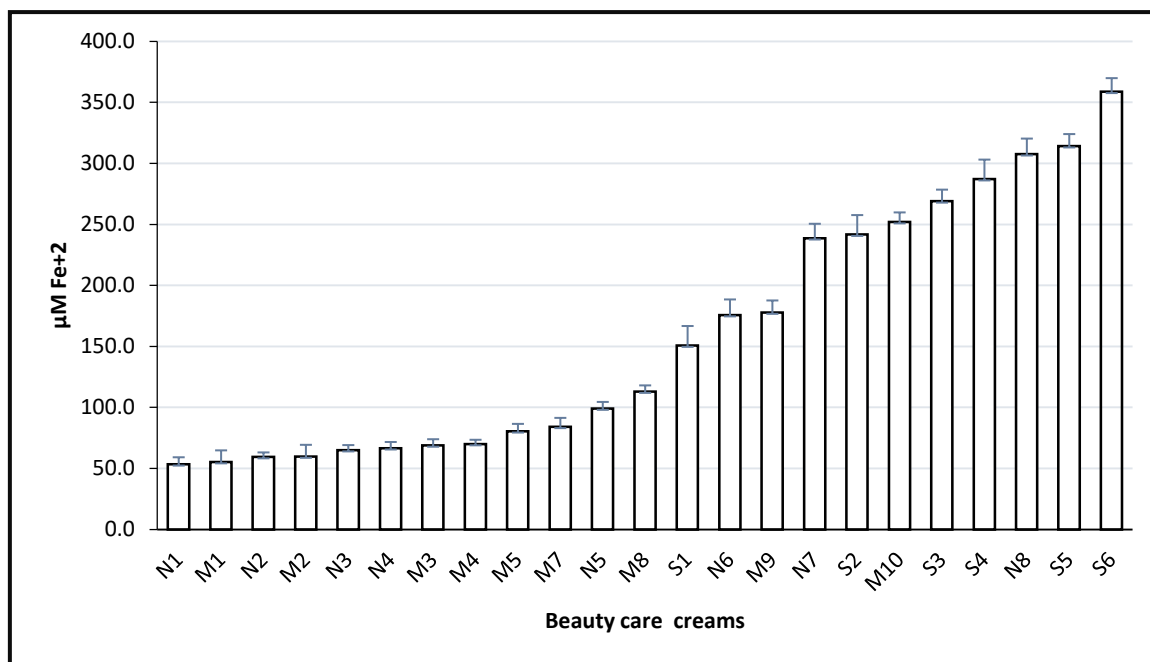


Figure 5: Total antioxidant action of various kinds of Beauty care creams determined by the FRAP way (M. N, S condensing for: saturating, sustaining and sun insurance separately).

IV. CONCLUSION

Our study focused on deciding the all-out antioxidant activity and phenol compound content in some Beauty care creams commercially accessible on the Syrian arab republic market. The consequences of our study show that a quarter of the Beauty care creams studied contained phenol compounds and that about half of the Beauty care creams studied exhibited antioxidant action.

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