# **Biomedicine and Nursing**

Websites: http://www.nbmedicine.org http://www.sciencepub.net/nurse

editor@sciencepub.net nbmeditor@gmail.com



### The research status of cosmetics and the establishment of biological beautiology

Li Zhao, Huaijie Zhu\*

Jacksun Easy Biotech Inc. New York, USA. <u>jkl06060929@163.com</u>
\*Corresponding author E-mail: <u>jacksun689@qq.com</u>. The Department of Pathology, Columbia University, New York, The 2<sup>nd</sup> Affiliated Hospital of Zhengzhou University

Abstract: Reviewing the history of cosmetics, the discovery of glycerin and its absorption of water in the 1720s promoted the development of synthetic cosmetics. After the second world war, the development of world economy brought the production of synthetic cosmetics, and the prosperity of synthetic cosmetics reached in the 1970s. However, due to the name of functionality, a variety of additives in cosmetics increasingly increased, entered a dangerous cosmetic period. Due to the appearance of synthetic cosmetics to environmental pollution and human toxicity, the world started the "return to nature" and entered the period of natural cosmetics. But, because there is no research evidence to explain, the theory basis that the skin has absorb nutrition to go realizing hairdressing goes as a result of skin itself physiology structure cannot absorb functional characteristic, accordingly, still cannot achieve the goal that protects skin. A survey of 366 women using cosmetics in three Chinese cities by Jacksun Easy Biotech Inc; 1) the damage of synthetic cosmetics to human face is manifested in facial chloasma, and the incidence of senile plaque and skin allergy is increased; 2) the younger the age, the higher the incidence of various spots. Based on this investigation and the above review of the history of cosmetics, it is concluded that currently cosmetics on the market only damage and harm to human skin. Dr. Zhu Huaijie, CEO of the company, proposed a new concept of cosmetic skin care, biological cosmetology, Namely without violating normal metabolism of skin cells, choose has confirmed that is harmless to the human body, and have certain effect to the cells of our bodies function of physical and/or chemical substances, by regulating the biological cells growth and metabolic changes, realize skin keratinization anomaly correction at the same time, to realize the process of skin beauty, called biological cosmetology.

[Li Zhao, Huaijie Zhu. The research status of cosmetics and the establishment of biological beautiology. *Biomedicine and Nursing* 2020;6(1):11-17]. ISSN 2379-8211 (print); ISSN 2379-8203 (online). http://www.nbmedicine.org. 2. doi:10.7537/marsbnj060120.02.

**Keywords:** cosmetic, Biological Beautiology, biology, cosmetics harm, Skin care, synthesis of cosmetics, Acne care, skin disease, Acne treatment.

#### 1. Introduction:

As we all know, following history, cosmetics have been around for almost as long as humanity. The continuation of the ancient daub of animal fat, to the rise of good synthetic cosmetics after the second world war, what era is a hot topic in life. However, many years of people's life yearning to pursue the hope to become beautiful products, it is increasingly damaging thousands of people's faces. The development of science and the event of cosmetic history, make people thinking cosmetics not only cannot beauty, but also can bring so many injuries to people. In this paper, the history of cosmetics, development changes, as well as Jacksun Easy Biotech Inc. CEO Zhu, Huaijie according to the three major cities, 366 women after application of cosmetic facial skin damage survey data, determine the current cosmetic damage to the skin of the investigation and study result, founded the biological cosmetology, and in the biology of biological beauty, the new age of biological beauty

was created by the product of the biological beauty series.

#### 2. The earliest record of the history of cosmetics:

Cosmetics appeared and were used for a long time. The first recorded use of cosmetics came from Egypt, around 3750 BC. The technology of cosmetics has not changed much over the centuries, but the ingredients used to make them have. The women of ancient Egypt mainly painted their eyes with square aluminum and stone blue, their necks with red ochre, and their faces, necks, and arms with creamy-colored butter. In addition, eyebrow should pull out, draw on long false eyebrow again.

#### 3. Archaeological discoveries of cosmetics:

Archaeologists have found beautiful beads made of small stones, shells, or animal teeth used for decoration on the remains of primitive humans. Beauty



and makeup traces were also found on the cave paintings.

#### 4. Origin history of cosmetics:

The origin of cosmetics: before the 14th century, in primitive societies, some tribes would daub animal fat on their skin during sacrificial activities to make their skin look healthy and shiny, which was the earliest act of skin care. Thus, the history of cosmetics can almost be traced back to the beginning of human existence During the 5th century BC to the 7th century, all over the world there are many legends about production and use of cosmetics and records, such as the ancient Egyptians use clay to make curly hair, the ancient Egyptian queen skin care is to use green map make the eyes look big, bright eye, with the donkey milk bath maintenance of skin, the ancient Greek beauty Andrea's together with isinglass conceal wrinkles, and so on, also appeared a lot of make-up appliances. Ancient China also likes to use rouge to wipe gills, moisten hair with head oil, foil the beauty of appearance and glamour.

#### 5. The development of cosmetics:

In the 14th century (no exact date is available), Italian shoemakers had a hard time dealing with wrinkled leather surfaces. What works so well on animal skin? What happens on human skin? This bold assumption, opened a new course of cosmetics development.

#### 6. The synthesis of cosmetics was born, development and harm:

In the 1820s, we had synthesis of glycerin; After the second world war in the 20th century, the world economy recovered slowly. With the rapid development of petrochemical industry, in order to meet people's pursuit and desire for beauty, synthetic cosmetics with mineral oil as the main ingredient and other chemical additives such as spices and pigments were born. The leading research and discovery concept of synthetic cosmetics is to use glycerin containing three hydroxyl groups (-oh) to absorb water, the purpose of which is to smear glycerin containing cosmetics onto the face. The absorption of glycerin ensures that facial skin has water, which can achieve the purpose of facial beauty. As a result, almost all synthetic cosmetics to this day are primarily glycerin. In other words, glycerin is the main ingredient in synthetic cosmetics. As a result of the composition of synthetic cosmetics and the characteristics of the manufacturing process, its emergence has brought potential harm to human beings, but the limit of scientific development, to today, people suffer from the harm of synthetic cosmetics, but people are still in the pursuit of the application of makeup and hope to

make the face better long-held wish; Its harm mainly has the following two aspects:

#### 6.1. Advantages and disadvantages of glycerin in synthetic cosmetics for skin:

Cosmetics mainly with the purpose to make to maintain facial epidermal cells with plenty of water, but the inventor is neglected the glycerin in the absorption of water in the air at the same time, attach on the surface of facial skin cells for a long time, absorb the facial epidermal cells of water, therefore, apply cosmetics every day, also make the generation of dehydrated skin stratum corneum cells. The dehydration of skin epidermis cell, make the cell membrane fold - skin luster, elasticity reduced, pigmentation, early aging spot;

### 6.2. Advantages and disadvantages of matrix excipients in synthetic cosmetics on the skin:

The main dosage forms of synthetic cosmetics are cream or emulsion, and the main components of the main matrix of the two dosage forms are sugar, lipid and protein; As the three main components of macromolecules of sugar, lipids and proteins, the stability of the paste and emulsion forms of synthetic cosmetics is determined. But the stability of daub on face, realized to the stability of facial skin pore jams. with complete and incomplete block the pores of the skin, promotes the pigment spots, but also affect facial epidermal keratin layer of cells fall off in time, in the face of keratinocytes fall off slowly, make the skin gradually thickening, age spots and aging appears in

### 6.3. Advantages and disadvantages of lipids in synthetic cosmetics to the skin:

In the manufacture of synthetic cosmetics, the application of the matrix contains relatively rich oils. With the development of science, the discovery of a variety of vegetable oils, commonly known as essential oils, especially for some generation of the unique taste of pungent vegetable oils, as a color of cosmetics. As a result of different oil kind increased the block to the skin, blocked the skin to breathe, bring about pore bulky, can cause sebaceous gland function disorder, produce whelk:

Soothed increase of oils in cosmetics, including the named essential oils, promoted the possibility of increased sitting sores after the application of synthetic cosmetics in all age groups.

#### 7. Synthetic cosmetics flourished in the 1970s:

Because synthetic cosmetics can be produced in large quantities, the price is relatively low, and can ensure a stable supply, in the society quickly spread. Synthetic cosmetics are based on the oil and water emulsification technology, which locks the moisture in the cuticle with mineral oil to keep the skin moist and



resist external stimulation. The most prosperous development of cosmetics in the world is rapid expansion, and large cosmetics groups keep emerging. The 1970s became a cosmetics boom; With the development of cosmetics in the 1970s, the number of people in need of cosmetics increased gradually. Social business use of people's demand for cosmetics and yearning, to the pursuit of functional, add some illegal manufacturer of all kinds of additives in the cosmetics blindly pursue economic interest, utilizing the fast and the effect point of view, add hormones in cosmetics and other special ingredients, made "whitening" three days "spot" for seven days and other effective products. For example, the addition of estrogen can make the skin white and red, and the use of heavy metal mercury to whiten and remove spots, resulting in lead and mercury poisoning on the user's skin and severe skin diseases such as hormonedependent dermatitis:

### 7.1. Harmful additives in synthetic cosmetics harm to human body:

Oil, resulting in large pores, sebaceous gland dysfunction; Emulsifier, damage to the skin tissue structure, resulting in decreased immune capacity, make the skin sensitive, with a strong carcinogenicity; Pigment, causing pigmentation, causing spots; Spices, strong carcinogenicity, cause allergic reactions; Fungicide, kill harmful bacteria while killing beneficial bacteria, reduce the skin's own protective function; Preservatives, produce 100% reactive oxygen species, one of the major culprits of skin aging. carcinogenic; Formaldehyde, a toxic substance, strongly irritates the nervous system.

# 7.2. Tragic events and training in beauty history during the period of dangerous cosmetics:

#### 7.2.1. The case of "facial blackness";

Face black disease, also known as "facial melanosis," women's facial melanosis also called pigmentary Cosmetic Dermatitis (Pigmented Cosmetic Dermatitis). The disease occurred in Japan, by scholars, Zhongshan show Japanese (Nakayama) on the basis of pigment, cosmetic dermatitis in recent years, China's women use cosmetics increased year by year, also increased incidence ofcosmetic dermatitis. manifestations of the female characteristics of the zygomatic and temporal, cheek, forehead of diffuse plaque or light brown, beige to puce pigmentation, the person that weigh is expanded to the entire face, accompanied by itching.

After studies have shown that large amount of added ingredients in cosmetics for normal skin absorption, can only aggravate the burden of skin, the Japanese have three every 10 women suffer from "facial melisma by use of cosmetics, and broke out in

1977 shocked Japanese cosmetics case by the referee and eventually to cosmetics maker, losing to end.

#### 7.2.2. 200,000 faces destroyed in ten years:

According to the statistical data of concerned branch of the country shows, the hairdressing industry of our country develops quickly, the hairdressing organization of the whole country already more than a million, the huge that personnel already amounts to millions. Beauty the good and bad are intermingled, irresponsible cosmetics everywhere, all over the country media emerge in endlessly "cosmetics claims": a national "mercury poisoning in Guangxi" events, "Guangzhou daily" sheet "10 years destroyed 200000 face", "Zhejiang metropolis daily reports of" a woman's skin is more and more thin, etc.

The great harm of dangerous cosmetics to human skin is that cosmetics can cause skin thinning, atrophy, telangiectasia (red blood), local hairiness, and prone to acne, sensitivity and other hormone-dependent skin inflammation.

### 7.2.3. The natural cosmetics period:

After entering the 1970s, due to the environmental pollution and human toxicity caused by synthetic cosmetics in the production and consumption process, people have aroused great concern, a trend of thought of "returning to nature" has been set off around the world. Natural cosmetics use natural oil instead of the past mineral oil, but due to the physiological characteristics of the skin itself, nutrients extracted from nature can only reach the cuticle, unable to go deep into the skin to solve the problem. And some so-called natural cosmetics in the natural material is not much, the vast majority is still chemical raw materials.

After entering the 1970s, due to the environmental pollution and human toxicity caused by synthetic cosmetics in the production and consumption process, people have aroused great concern, a trend of thought of "returning to nature" has been set off around the world. Natural cosmetics use natural oil instead of the past mineral oil, but due to the physiological characteristics of the skin itself, nutrients extracted from nature can only reach the cuticle, unable to go deep into the skin to solve the problem. And some so-called natural cosmetics in the natural material is not much, the vast majority is still chemical raw materials.

### 8. Understanding and evolution of the concept of cosmetics on human body makeup:

### 8.1. The first generation USES natural animal and vegetable oils for pure physical protection of skin;

Any of various oils and fats derived directly from animal or mineral sources and not chemically treated. The ancient Egyptians used animal and plant oils, mineral oils, and plant flowers in religious rituals, for

mummification, and for the skin care and beauty treatments of the royal nobility more than 4,000 years ago. In addition to skin, hair, nails, lips, the ancient Romans have become the center of the fragrance industry, used for pleasant fragrance, but also in the closet to prevent moth. The earliest fragrances are camphor, musk, sandalwood, lavender and clove oil from the 7th century to the 12th century, Arab countries made important achievements in the production of cosmetics, which was represented by the invention of the distillation process for processing plant flowers, which greatly increased the output and quality of essential oils. At the same time, Chinese cosmetics also have a long history of development, in the ancient book of the Han dynasty, there are records of thrushes, dot lips.

The fragrance powder of cloves is introduced in qi min yao shu. Han yan zhi of song dynasty of China wrote "dry scribe" is one of the earliest special works on fragrance in the world.

# 8.2. The second generation is cosmetics based on oil and water emulsification technology:

After the industrial revolution in Europe in the 19th century, chemistry, physics, biology and medicine got ahead of the development of many new raw material, equipment and technique were applied to cosmetics production, more due to the later surface chemistry, colloid chemistry, crystal chemistry, and the theory of rheology and emulsification of the principle of development, the introduction of the development of the dielectric surface active agent, the key to solve the correct selection of emulsifying agent problem.

Guided by these scientific theories and followed by a large number of people's practices, cosmetics production has undergone great changes, from the original primary small family production in the past, and gradually developed into a new professional science and technology. It is on this basis that China's cosmetics industry has become the most rapidly developed and popular industry among China's light \ the famous Food and Drug Administration is considering changing its name to FDCA.

# 8.3. The third generation is cosmetics added with various animal and plant extracts:

Natural plants such as from Chinese honey locust fruit, acidity, papaya or extracted from animal skin and internal organs of deep sea fish protein (Ainera) and hormonal (Hormones) essence to join to the cosmetics. The more advanced extraction method is supercritical C02 extraction method, which improves the yield of effective substances, extraction purity and salt chemistry. Lingpin has been popular in foreign countries for 40 or 50 years, making it possible to whiten skin, remove acne, remove spots, remove wrinkles, etc. that people always pursue. Functional

Cosmetics, also known as Medicated Cosmetics or simply Cosmeceuticals, are sometimes referred to as scopes, meaning something between Cosmetics and Drugs.

#### **8.4.** The fourth generation is bionic cosmetics:

That is, biotechnology is used to produce biological essences similar to the structure of the human body with high affinity, which are mixed into cosmetics to supplement, repair and adjust cytokines to achieve anti-aging, repair damaged skin and other effects. Such cosmetics represent the 21st century. These cosmetics are represented by the involvement of bioengineering agents such as Ceramides and genetic engineering agents such as DNA and epidermal growth factor (EGF). In order to cause breast augmentation, slimming, the skin to some extent to restore youth is possible.

### 9. The promoting role of scientific technological development in cosmetic science:

Since the 21st century, the inherent defects of traditional cosmetics need to be overcome through a variety of new science and technology: Nanotechnology is being used to solve the problem of inactivation of active substances and osmosis of the skin. Although at present cosmetic popularity adds little or without essence, and advocate natural meeting reduces stimulation, however, still have to add antiseptic, because from the circulation link of production to consumption and in the process that consumer USES later, the invasion of unavoidable bacterium and reproduction, must add all sorts of chemical antiseptic so. Preservatives kill harmful bacteria at the same time, but also hurt the effective active ingredients in cosmetics, so that a large number of active ingredients attenuation deactivation, and a variety of preservatives on the skin have big or small irritant. People are try various methods to solve this problem, some companies have adopted advanced polymer emulsifier at room temperature and nanometer technology in combination with ultra-micro emulsifying process, operating under strict aseptic production environment, product does not add any chemical preservatives, and using the plant in the sales and storage  $(0 \sim 10 \, ^{\circ}\text{C})$ , to ensure high bioactive ingredients from the environment temperature, humidity and the destruction of the preservatives, provide a high energy strong permeability of skin care products. In addition, Japan has introduced external magnetic technology on packaging to replace refrigeration and preservation technology to achieve more convenient purposes; The United States is to cosmetic itself to magnetization technology processing, the effect is more perfect.

In addition, all the known to be caused by, skincare products mainly by incompatible oil (phase) and

water (phase) by emulsifier, treated with homogeneous formation, but is the compound emulsifier in traditional cosmetics, including all kinds of surfactant are chemical synthesis, it does not comply with the return to Nature (Backto Nature) psychological convergence, also do not conform to the requirements of environmental protection, and stimulation to the skin . In recent years, lecithin and tea saponin extracted from soybean oil and seeds of camellia sinensis have been used as emulsifiers to make cosmetics, which are known as natural surfactants. More effective natural surfactants can also be extracted from animal tissues. A few years ago, the United States adopted a professor at Telaviv university to create the world's first commercial cosmetics without chemical emulsifiers. The Particle Size Distribution is fine and uniform. By adjusting different formulations and using different operating processes, different viscosity, stable cream and emulsion can be produced. the effect is very ideal.

### 10. Sodium rice technology in potential use with future cosmetic manufacturing processes:

Sodium m technology application in cosmetic science research began in the 90 s, with the continuous improvement of technology, the nikkei figured out many ways to improve and increase the effect of active additives, cosmetics maintain its stability and fresh, and make it smooth layer of penetration into the skin, deep nourish cells, so as to get twice the result with half the effort to develop skin and cure the skin effect. For example, in the research and production of cosmetic raw materials, due to the use of nanotechnology, active substances can also be wrapped in ultra-fine particles with a diameter of only a few dozen nanometers (Liposome Capsulized Technology) so that the active substances can be effectively protected, but also can effectively control the release rate, to extend the release time, this Technology, the world's leading Germany and Switzerland. Vitamin E Nano cosmetics freckle effect, according to the relevant departments of the clinical trials show that the general containing hydroquinone compounds passive freckle effect faster and obvious, and has a safe and stable, non-toxic side effects of the advantages.

# 11. Change of cosmetics and skincare products and naming of laws:

The application form of primitive ancient to cosmetic is daub, it is at that time worthy of the name make up, namely daub thinks to be good-looking article is on the face, it is better to look at, 2 it is cover the place with bad face. With the development of science, and do not resist the symptoms of skin aging,

the pursuit and possible exploration, by adding some material ingredients in cosmetics, through the daub, an attempt to achieve can change the aging of human face skin, thus, the concept of skin care and try.

In fact, the beginning of synthetic cosmetics, are in the pursuit of skin care; And the product that really has cosmetic adornment effect is in make up the part that the station is less only; However, as the concept and concept of skin care are all derived from cosmetics. it has become a common understanding and concept of American FDA and governments around the world in the management of cosmetics, positioning in the approval process of skin care and cosmetics, commonly known as cosmetics. Therefore, cosmetics and skin care products are included in the name of cosmetics in the government documents of all countries in the world.

### 12. The difference and application of cosmetics and skin care products;

As mentioned above, skin care products are derivatives of cosmetics, makeup is due to the beauty is not good-looking, in order to look good cosmetics, and in order not to use cosmetics, just have skin care products. In fact, although cosmetics represent skin care products, but in practical application, the real cosmetics and skin care products have the following differences:

#### 12.1. Cosmetic effect:

The purpose is to highlight the favorite color applied on the face, so as to increase the beauty of facial modification. The effect is temporary, with no fundamental changes in facial skin;

### 12.2. Functions of skin care products:

The purpose is to use synthetic skin care products to fundamentally change facial skin and achieve youth.

### 13. The function of cosmetics falls far behind people's real wishes:

Realize the concept of cosmetic skin care is still staying in the concept of the primitive cosmetics period; Apply different colors to maintain a short period of beauty. However, the real pursuit of people, rather than a temporary modification of the United States, is the hope that cosmetic skin real qualitative change; People expect the desire of beauty far beyond the role and concept of current cosmetics.

# 14. Wearing cosmetics today causes premature Aging, not beauty:

Today's skin care concept still stays in the daub on the idea of absorption, for example, a lot of cosmetics are wantonly preach in product advertising, contains polypeptide, amino acid, collagen protein such as composition, as well as essential oil, all kinds of fruit and lipid and certain polysaccharides, such as

cooking oil, and preach the skin can absorb these material, can nourish skin. But, in fact, despite advances in modern science, especially medicine and biology, there is no evidence that the skin can absorb many nutrients . However, such a ridiculous advertising, can also bring so much money circulation;

However, due to the commercial promotion, the development of the science popularization, ignorant people, but also because there is no substitute products, people spent a lot of money, buy the socalled famous brand cosmetics, the purpose is to want to make the skin better, as a result, not only is not good, and cosmetics in sugar, fat and protein class material apply to the face, the pore jams caused skin lacks water, sitting sores, various spots, age spots and wrinkles, not beauty, makes the appearance of aging. Social needs, people need new cosmetic ideas and new products appear;

### 15. Cosmetics today and tomorrow -the creation of **Biological Beautiology:**

On the whole, today's skin care is still staying in the hope of skin absorption through the traditional skin care concept, and the current medical biological science has not been any research to prove that the skin has the function of absorbing what substances and mechanism.

Investigation and research on 366 women using cosmetics in three Chinese cities by Jacksun Easy Biotech Inc.1) the damage of synthetic cosmetics to human face is mainly manifested in facial chloasma. which has a high incidence of age spots and skin allergy, and causes age spots to appear early. (investigation and evidence of skin damage in 366 women using cosmetics, waiting for publish). According to this investigation and research, the results and conclusions that the current synthetic cosmetics are harmful to women's facial skin, as well as the above mentioned researches on the creation and application history of cosmetics come to the conclusion that at present, all cosmetics on the world market only damage and harm human skin; Therefore the company CEO Zhu, Huaijie doctor put forward the makeup of the new concept of skin care, biological cosmetology, its concept is not against the skin cell physiology metabolism condition, the choice has been proved harmless to the human body. However, the physical or/and chemical substances that have certain functions on human cells, through regulating the changes in the growth and metabolism of biological somatic cells, can realize the correction of abnormal skin keratinization and the process of skin cosmetology, which is called biological cosmetology;

The corresponding products are called biological beauty products. Moreover, the company has applied for filing with the FDA for the output of graduate students, and has also obtained the filing approval for products entering the domestic market in China. (痘宁 安膏) Acne Care Cream, at present, the most effective acne treatment product in the world, and Youth Skin Cream, which can be applied to facial Skin, can achieve a moisture retention rate of more than 50% with a Skin tester, and can last for more than 12 hours. These biological beauty is leading people to a new era of biological beauty.

It is believed that Biological Beautiology as a new cosmetic field will enter the new era of human beauty life, and it is also hoped that Biological Beautiology will lead human to truly open up a new era of skin care and beauty.

#### 16. Conclusion:

After the second world war, the establishment of the development of the synthetic cosmetics has on the world cosmetics stage ruled for nearly a century. hundreds of thousands of women suffer from the harm of synthetic cosmetics face an instance of the synthetic cosmetics has laid the arrival of the era, biological beauty not only must replace synthetic cosmetics, and will let people over the years, the pursuit of beauty, lock age young, anti-aging wish as soon as possible.

#### References:

- H. Barratt F. Hamilton J. Car C. Lyons A. Layton A. Majeed: Outcome measures in acne vulgaris: systematic review, British Journal Dermatology, https://doi.org/10.1111/j.1365-2133. 2008. 08819. x.
- Dhaliwal S1, Nguyen M, Vaughn AR1, Notay M, Chambers C, Sivamani RK; Effects of Zinc Supplementation on Inflammatory Skin Diseases: A Systematic Review of the Clinical Evidence. Am J Clin Dermatol. 2019 Nov 19. doi: 10. 1007/s40257-019-00484-0.
- Harper JC, Baldwin H, Stein Gold L, Guenin E. Efficacy and Tolerability of a Novel Tretinoin 0. 05% Lotion for the Once-Daily Treatment of Moderate or Severe Acne Vulgaris in Adult Females, J Drugs Dermatol. 2019 Nov 1; 18(11): 1147-1154.
- Knight JM. Combined 400-600nm and 800-1200nm Intense Pulsed Phototherapy of Facial Acne Vulgaris, J Drugs Dermatol. 2019 Nov 1: 18(11): 1116-1122.
- Misitzis A, Cunha PR, Kroumpouzos G: Skin disease related to metabolic syndrome in women. Int J Womens Dermatol. 2019 Jul 4; 5(4): 205-
- Ashton R, Weinstein M: Acne Vulgaris in the Pediatric Patient. Pediatr Rev. 2019 Nov; 40(11): 577-589.



- Oge' LK, Broussard A, Marshall MD: Acne Vulgaris: Diagnosis and Treatment. Am Fam Physician. 2019 Oct 15; 100(8): 475-484.
- Gallitano S1, Berson DS: How Acne Bumps Cause the Blues: The Influence of Acne Vulgaris on Self-Esteem. Int J Womens Dermatol. 2017 Dec. 6; 4(1): 12-17.
- Hayashi N, Akamatsu H, K Kawashima M: Japanese Dermatological Association Guidelines: Guidelines for the treatment of acne vulgaris 2017. J Dermatol. 2018 Aug; 45(8): 898-935.
- 10. Ryskina KL, Goldberg E, Lott B, Hermann D, Barbieri JS, Lipoff JB: The Role of the Physician in Patient Perceptions of Barriers JAMA Dermatol. 2018 Apr 1; 154(4): 456-459. doi: 10. 1001/jamadermatol. 2017. 6144.
- 11. Rocha M, Sanudo A, Bagatin E: The effect on acne quality of life of topical azelaic acid 15% gel versus a combined oral contraceptive in adult female acne: Α randomized trial. Dermatoendocrinol. 2017 Oct 13; 9(1): e1361572. doi: 10. 1080/19381980. 2017. 1361572. eCollection 2017.
- 12. Sun KL, Chang JM: Special types of folliculitis which should be differentiated from acne. Dermatoendocrinol. 2017 Sep 27; 9(1): e1356519. doi: 10. 1080/19381980. 2017. 1356519. eCollection 2017.
- 13. Stringer T, Nagler A, Orlow SJ1 Oza VS: Clinical evidence for washing and cleansers in acne vulgaris: a systematic review. J Dermatolog Treat. 2018 Nov; 29(7): 688-693. doi: 10. 1080/09546634. 2018. 1442552. Epub 2018 Feb 25.

- 14. Gebauer K: Acne in adolescents. Aust Fam Physician. 2017 Dec; 46(12): 892-895.
- 15. Connolly D, Vu HL, Mariwalla K1, Saedi N1, Acne Scarring-Pathogenesis, Evaluation, and Treatment Options. J Clin Aesthet Dermatol. 2017 Sep; 10(9): 12-23.
- 16. Skaggs RL, Hix E, Huang KE, Feldman SR: Characterization of Patients' Quality of Life and Experience in the Course of Acne Treatment. Skinmed. 2017 Dec 1; 15(6): 431-435.
- 17. Toyoda M. · Morohashi M. An Overview of Topical Antibiotics for Acne Treatment, Dermatology 1998; 196: 130-134.
- Mohamed L Elsaie: Hormonal treatment of acne vulgaris: an update, Clin Cosmet Investig Dermatol. 2016; 9: 2, 241-248. Published online 2016 Sep doi: 10. 2147/CCID. S114830.
- Zander E, Weisman S, Treatment of acne vulgaris with salicylic acid pads. (PMID: 1535287), Clinical Therapeutics [01 Mar 1992, 14(2): 247-
- 20. Thiboutot D, Gollnick H, Bettoli V, et al. New insights into the management of acne: an update from the Global Alliance to Improve Outcomes in Acne group, J Am Acad Dermatol, 2009 May: 60(5 Suppl): S1-50.
- 21. MS Fahim US Patent 4, 372, 296, Feb. 8<sup>th</sup>. 1983 - Google Patents.
- Nakase K, Hayashi N, Akiyama Y, Aoki S, Noguchi N. Antimicrobial susceptibility and phylogenetic analysis of Propionibacterium acnes isolated from acne patients in Japan between 2013 and 2015. J Dermatol. 2017 Nov; 44(11): 1248-1254.

1/22/2020