

THE MIRACULOUS FUNCTIONS OF THE HUMAN SKIN BASED ON THE QURANIC EDUCATION

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Abstract

Human's skin is one of the miraculous gift that Allah has given to human, which consists a lot of beneficial functions. The skin is the largest organ of human's body, covering 1.6 m² of surface area and accounting for approximately 16% of an adult's body weight. It is very important to learn the structure and functions of normal human skin to understand cutaneous biology and skin diseases. Therefore, the objective of this research is to explain about the layer of the human skin based on the punishment that Allah mentioned for the betrayers in Surah An-Nisa' verse 56 as well as explained about the functions of human skin. The researcher used qualitative method by using library research in this study. The data and information were collected from theses, journal, *tafsir* book and website to complete this research. After successfully completing the study, the results of the study have been found that there are three stages of skin which are epidermis, dermis, and subcutaneous tissue while the functions of the skin is as a barrier, homeostasis, sensory, endocrine, exocrine, and appearance.

Keywords: Human skin, Quran, science.

1 INTRODUCTION

Al-Quran contains impressive scientific facts which are being discovered and found in this century. Some verses in the Quran shows the detailed and accurateness to modern sciences. In addition, there are historical and scientific facts found in the Quran which were unknown to the people back at the time, and only have been discovered by contemporary science.

Albert Einstein, the famous physicist and Nobel Prize winner said that "science without religion is lame, religion without science is blind" (Uršič, 2006). Apart from that, scientists or doctors have studied the human skin for a long time and they found that the human skin includes three layers. In addition, there are Quranic verses that mention about the human skin which is explained about the cycle of changing skin during Allah's punishment towards the betrayers. Allah SWT mentioned in Surah An-Nisa' verse 56:

"Indeed those who defy Our signs, We shall soon make them enter a Fire: as often as their skins become scorched, We shall replace them with other skins, so that they may taste the punishment. Indeed Allah is all-mighty, all-wise." (Surah An-Nisa': 56)

Al-Amash said that Ibn Umar said, "When their skin are burned, they will be given another skin in replacement, and this skin will be as white as paper." This was collected by Ibn Abi Hatim. besides, explaining the highly apocalyptic statement in this verse, Mu'adh RA says that as soon as their skin is burnt out it will be replaced and this will be with such speed that the skin will be replaced a hundred times in one moment. Hasan Al-Basri says, "The Fire will eat them every day seventy thousand times. When it would have eaten them up, they will be commanded: 'Return'. So, they shall return to be as they were." [al-Baihaqi, as quoted by Mazhari]

According to a narration in al-Bukhari and Muslim, the Prophet Muhammad SAW said:

“Lightest in punishment among the people of Fire will be the man in the sole of whose feet there will be two smouldering embers the heat from which will keep his brain boiling like a cauldron boiling to the brim.”
[Almundhiri, al-Targheeb v.4, p.239]

Skin is the largest organ in the body. It covers the body's entire external surface, serving as a first-order barrier against pathogens, UV light, and chemicals, and provides a mechanical barrier from injury. It also regulates temperature and amount of water released into the environment. Skin is the body's protective barrier against a whole battery of environmental aggressors both of natural and anthropogenic origins. It primarily protects against desiccation, and thus makes life on land possible.

Every class of terrestrial organism has evolved an appropriate barrier against fluid loss from the body and almost all employ modifications of the cutaneous surface for this purpose. The formation of the barrier layer and its maintenance and renewal is the function of epidermal keratinocytes, although other cell types interacting with keratinocytes also play a significant role in regulation of this function. Besides, skin supports a large commensal micro flora that is important in keeping in check the colonization of skin by pathogenic microbes. Lastly, we can conclude that there is always a reason why Allah sent us the verses, despite just knowing the meaning, we can also discovered scientific studies behind it.

2 LITERATURE REVIEW

Human skin is the outer covering of the body. In humans, it is the largest organ of the integumentary system. The skin has up to seven layers of ectodermal tissue and guards the underlying muscles, bones, ligaments and internal organs. Human skin, in human anatomy, the covering, or integument, of the body's surface that both provides protection and receives sensory stimuli from the external environment. According to the title that selected, the writer aims to understand existing literature about human skin. In accordance with the objectives of this research, the writer aims to explain about the layer of the skin. Then, another objectives is to explain about how the human skin functions.

The book entitle “The Unchallengeable Miracles of The Quran: The Facts That Can't Be Denied by Science” by Yusuf Al-Hajj Ahmad talks about the issue of the Quran as a book of guidance for all humanity and Allah has promised that He will preserves it in its original pristine form until the Day of Judgment. The inimitable style of the Quran and the superior wisdom in it are definitive evidences that it is the Word of God. Besides, the Quran has many miraculous verses proving that it is undoubtedly a revelation from Allah SWT and not the work of a human (Yusuf, 2004).

Next, the book becomes a reference for this study is by Suhaib Sirajudin, entitled “Master The Miracles of The Quran in 10 days”. This book is about the statement of ‘Quran is a miracle of miracles’ that most of us heard it in many times. We have heard this many times and we continue to hear this statement often, but the question is that what is it in the Quran that really makes the Quran a miracle? Well to find out more, by mastering the miracles in this book you will master the miracles in the Quran that you may have never heard of (Suhaib, 2015). This will only increase in knowing the creator of this world, Allah SWT and becoming more obedient to Him since this is really the ultimate purpose of our creation as a human.

Third, the book entitled “200+ Ways the Quran Corrects the Bible: How Islam Unites Judaism and Christianity” by Mohamed Ghounem. This book tells of from America to Israel, Europe to Africa in discovering how Allah SWT has uniting Christians and Jews worldwide as Muslims (Mohamed, 2007). Besides, witness on how the Quran answers Gospel and Torah difficulties. Islam is the fastest growing religion in the world getting knowing why that is happen and the path to Heaven is now illuminated more than ever.

In addition, book of “The Structure and Function of Skin” written by William Montagna and Paul F. Parakkal tells about devoted to all matters pertaining to the structure and function of the skin. Drawing upon the accumulated data derived from embryology, histology, anatomy, physiology, biochemistry, and pharmacology, this book presents an overview of skin, with emphasis on human skin. Topics range from the biological functions of the dermis to the histochemical and microchemical properties of the epidermis; the effects of protein deficiency on hair growth; cutaneous innervation; nail regeneration and growth; sebaceous glands; and eccrine sweat glands. This book is organized into 12 chapters and begins with an overview of the structure and function of skin, and then discusses the epidermis and its structural features. Special consideration is given to the life cycle of epidermal cells; the properties and function of stratum corneum; and other cells in the epidermis including melanocytes, the cells of Langerhans, and Merkel cells (Montagna & Parakkal, 1974). The chapters follow focus on age-related changes in the dermis, cutaneous blood flow,

changes in skin circulation, and the dermal nerve network. This book also considers hair growth and differentiation; the effects of malnutrition on the morphology of hair roots; and the structure and development of the nails. A chapter describing the cytochemistry and pharmacology of eccrine sweat glands concludes the book. This book is written primarily for dermatologists, whether seasoned veterans or neophytes, and will also be useful to all biologists who are interested in biomedical disciplines.

Lastly, this book also used as a reference in this research entitled "The Biology of the Skin". This book explains more clearly about the basic biology of the skin, how the skin functions, effects of the environment, the molecules that direct cutaneous function, genetic influences, and methods in cutaneous research. Besides, the book provides a selective review of all biologic processes involving the skin and will foster an appreciation of how the skin works based on our knowledge of the basic science of skin structure and function in the 21st century (Freinkel & Woodley, 2001).

3 METHODOLOGY

In general, this study is based on qualitative method which is library research, documentation and internet. These method were used by the researcher to complete this study. During this study, the writer has been using sources from printed materials as well as electronic materials such as reference books from several texts and resources from the internet associated with it to get information related to the research topic. The result of library research helped the researcher in finding materials or ideas on the aspects that researcher can study. In addition, the researcher also can get the material needed through the online library. This makes it easier for researcher to get articles to gain more information resources and also additional information that can be used as input materials to complete this study. Besides, this study also was initiated by a study of written materials such as journals, thesis, newspapers and resources from the internet to get the information to this study. Referring to these resources will make it easier for the researchers to complete the task. Through this research, the researcher also looking for an information by browsing the internet. There are a lot of information that the researcher can get through this method.

4 DISCUSSION AND RESULT

4.1 Surah An-Nisa' Verse 56

As a result, we know that there are several of Quranic verses that explain about the cycle of changing skin during Allah's punishment towards the betrayers. One of the surah is as following:

"Indeed those who defy Our signs, We shall soon make them enter a Fire: as often as their skins become scorched, We shall replace them with other skins, so that they may taste the punishment. Indeed Allah is all-mighty, all-wise." (Surah An-Nisa': 56)

This verse talks about the punishment form Allah towards the betrayers. The punishment that involved of changing skin after it has been burn, and it remain repeatedly.

4.1.1 Balaghah

Wahbah az-Zuhaili in "*Tafisr Munir*" said that among the 'kafaru" words there is a meaning to each other. In 'liyazuqu al-azab' there is a pattern of *isti'arah*. *Dzauq* which means the taste is usually done by oral, but here it is associated with all limbs who feel painful punishment. The use of the *mudhari*' pattern shows that they will feel the punishment repeatedly. Quran rightly mentions this 'extreme' stage for the change of skin. The Arabic word used is 'nadhijat" which indicates the burning to the extreme stage. Ibn al-Faris says that its basic meaning includes burning something to the last stage. Hence, not only the Quran told humans that sensation is due to the pain receptors of the skin, Quran also describes accurately the type of burn that kills the pain receptors (Mohammad, 2011).

4.1.2 Mufradaatul Lughawiyah

"Kafaru" - The meaning is to deny and forget to think of the verses of Allah. They doubted the verses when they knew and believed that the verses were really from God.

"Bi aya tina" - The meaning is by the arguments which indicate that this religion is true, and among these the most magnificent signs are the Holy Quran.

"Nushlihim" - The purpose is to include them.

"Nadhijat Juludhum" - Means burning and peeling.

"Baddalna hum Juludan Ghayraha" - Means that their skin will return as before burning.

“Liyazhuqu al-azab” – Means they will feel the weight of the punishment.

“azizan” - Which means defeats and controls, nothing will weaken Allah

“Hakima” – Means that Allah is omnipotent in creating His creature, putting everything in his place or meaning Allah is the substance that governs everything according to His wisdom.

4.1.3 Meaning and Explanations of The Verse

This verse 56 of Surah An-Nisa' indeed discussed about those who deny the verses that Allah has revealed to the Prophets, especially the Quran which is the most obvious and most perfect last book will be tormented in hell. Then Allah also explained that the punishment would remain. The painful torture is the time when their skin is burned down until they cannot feel the pain but Allah SWT will change it with a new skin that is still functioning properly and can feel the pain of torture. The skin changing will continuously and repeatedly happens.

Mohammad (2011) said that this verse indicates that there is something in the skin which makes us feel pain. This is exactly what modern science tells us that pain receptors are responsible for feeling pain. It was thought that the sense of feeling and pain was dependent only on the brain. Recent discoveries however prove that there are pain receptors present in the skin, without which a person would not be able to feel pain. When a doctor examines a patient suffering from burn injuries, he verifies the degree of burns by a pinprick. If the patient feels pain, the doctor is happy, because it indicates that the burns are superficial and the pain receptors are intact. On the other hand, if the patient does not feel any pain, it indicates that it is a deep burn and the pain receptors have been destroyed.

Prophet Muhammad SAW says:

“In every day their skin will be replaced up to seven times”

The point is that they can continue to feel torture. This is the same as the phrase "May Allah glorify you." which is spoken before a noble person that means "May God continue to glorify and increase your glory." This phrase is also parallel to the verse:

“Whomever Allah guides is rightly guided, and whomever He leads astray you will never find them any guardians besides Him. On the Day of Resurrection, We shall muster them [scrambling] on their faces, 1 blind, dumb, and deaf. Their refuge shall be hell. Whenever it subsides, We shall intensify the blaze for them” (Surah Al-Isra': 97)

Then Allah asserted their reason for the punishment and also explained His authority. Allah explains that he is very noble and so powerful that no one can prevent him from doing anything to the infidels. Allah SWT is so wise that the punishment given to a person is based on the principle of justice. Among the justice of Allah is to establish that disbelief and disobedience will be rewarded with punishment and torture, whereas faith and good deeds will be rewarded with enjoyment and paradise. It is noteworthy that in explaining the doom of infidels, Allah uses the word “Saufa” which means that to wait for the doom is very long, because in *Mahsyar* Field they may feel the painful torture exceeds the punishment of hell.

The disbelievers will have a definite punishment. The punishment that they will feel is the torment that the body and spirit can feel. When someone says how one's skin may be tested when the skin does not commit a sin? The answer is that the skin is not the one who accepts the punishment or punishment. Those who feel the pain of the torment is spirit or soul because of the spirit or soul that has the sense and the meaning of the doom. The purpose of digging the skin at the time of torture is to add pain to the soul. As Imam Muqatil said, the peoples of the infidels will be consumed by fire every day as much as seven times. According to Hasan al-Basri seventy thousand times. When the skin is destroyed, the skin is ordered to return. Allah Almighty to do that punishment and no one can block the power of Allah. Allah is also wise in taking care of His servants and in returning them to the right place.

4.2 The Layer of Human Skin

Skin in fact made of tissues that work together as a single structure to perform unique and critical functions. The skin and its accessory structures make up the integumentary system, which provides the body with overall protection (BC campus, n.d). In addition, the skin is the largest organ of the body, with a total area of about 20 square feet and protects human from microbes and the elements, helps regulate body temperature, and permits the sensations of touch, heat, and cold. Skin has three layers which are the first is epidermis, the outermost layer of skin, provides a waterproof barrier and creates our skin tone. Next is dermis, beneath the epidermis, contains tough connective tissue, hair follicles, and sweat glands and the last is deeper

subcutaneous tissue (hypodermis) is made of fat and connective tissue (Hoffman, 2014).

Epidermis is super thin on some parts of human body (eyelids) and thicker on others (bottoms of feet). The epidermis is the layer of skin in charge of making new skin cells, giving skin its colour and protecting human body (American Academy of Dermatology [AAOD], 2018). Excluding the stratum corneum, the rest of the epidermis is composed of nucleated cells and therefore collectively referred to as the viable epidermis. The viable epidermis is typically 50–100 µm thick [30] and devoid of blood capillaries and sensory nerve endings. It is composed primarily of keratinocytes (95 %), with the remainder being Langerhans cells, melanocytes and Merkel cells. Keratinocytes arise from the stratum basale and undergo progressive differentiation whilst migrating towards the stratum corneum. Keratinocyte differentiation is characterised by increasing keratinisation (formation of intracellular networks of keratin fibres), the formation of the lamellar bodies that secrete stratum corneum lipids and the loss of intracellular organelles and nuclei. The process culminates in the formation of corneocytes in the stratum corneum. Keratinocyte differentiation serves to maintain the stratum corneum by replenishing stratum corneum lipids and corneocytes lost via desquamation (Ng & Lau, 2015).

The second layer is dermis function as making sweat, helping in feel things, growing hair, making oil and bringing blood to human skin (AAOD, 2018). The dermis, typically ≥ 1 mm thick [2,31], comprises the bulk of the skin and is responsible for its elasticity and strength. It is composed principally of fibroblasts in an extracellular matrix of structural proteins, mainly collagen and elastin. It also contains a range of immune cells including macrophages and dermal dendritic cells. The dermis can be subdivided into the upper papillary dermis and the lower reticular dermis, which can be distinguished microscopically from each other by the thinner and looser packing of collagen fibres in the papillary dermis. The papillary dermis contains papillae that interdigitate with the basal layer of the epidermis at the dermo-epidermal junction. The dermis contains hair follicles, sweat glands, sebaceous glands, sensory nerve endings, lymphatic vessels and blood capillaries which extend to the dermal side of the dermo-epidermal junction. This allows nutrient and oxygen delivery to, as well as waste removal from, the avascular epidermis to occur by diffusion across the dermo-epidermal junction (Ng & Lau, 2015).

The last layer is subcutaneous tissue or hypodermis plays an important role in human body by attaching the dermis to muscles and bones, helping the blood vessels and nerve cells, controlling body temperature and storing fat (AAOD, 2018). The hypodermis is the innermost layer of the skin. However, its absence is not able in some lean skin, such as that on the eyelid. The hypodermis is composed mainly of subcutaneous fat. Embedded in this skin layer are larger lymphatic and blood vessels (Ng & Lau, 2015).

4.3 Functions of Human Skin

White (n.d) stated that human skin has three main functions: protection, regulation and sensation. The primary function of the skin is to act as a barrier. The skin provides protection from: mechanical impacts and pressure, variations in temperature, micro-organisms, radiation and chemicals. Next, the skin regulates several aspects of physiology, including: body temperature via sweat and hair, and changes in peripheral circulation and fluid balance via sweat. It also acts as a reservoir for the synthesis of Vitamin D. In addition, the skin contains an extensive network of nerve cells that detect and relay changes in the environment. There are separate receptors for heat, cold, touch, and pain. Damage to these nerve cells is known as neuropathy, which results in a loss of sensation in the affected areas. Patients with neuropathy may not feel pain when they suffer injury, increasing the risk of severe wounding or the worsening of an existing wound.

The most important function of the skin is “to feel” all kinds of touching, heat or pain. On its wide surface, there are numerous points where feeling starts and corresponds with the end of neuro-fibers. The number of these points in a square centimetre differs according to the location of the receptor. Most of them are found on fingertips. The feeling then moves from those points to the fibers until it reaches the central nervous system where it is then felt and recognized. It has been clearly mentioned that the skin is the chief source of feeling pain to the exclusion of other parts of the body.

Shaikh Zindani said: “People used to believe that all the parts of the human body feel pain regardless of where a person is struck, until the advancement of anatomy revealed the truth that not all parts of the body feel pain and that it is only the skin that is the source of pain. For example, if you bring a needle and insert it into the body of a person, the pain stops as soon as it passes through the skin into the flesh. Scientists discovered with the help of a microscope that nerves are centered in the skin and that the sensory nerves are of different kinds. Some of them feel touch, some feel pressure, some feel heat and some feel coldness. They realized that the nerves that give sensation of heat and coldness are only found in the skin (Yusuf, 2004).

5 CONCLUSION

As a conclusion, there are few verses from Quran that related to the changing skin or the punishment for the betrayers. There are many explanations about human's skin that we may not notice in the Quran. As we know, many scientists do research about the human's skin and its functions for a long time on how the human's skin function in protecting or being formed and changed. They found that human's skin have three layers and all the layers have their own function in making sure that humans will keep on protected.

Allah SWT The High and Exalted, tells us that He would change the disbelievers roasted skins to other skin that they may perpetually taste the punishment of Fire continuously. However, while He informs us about the punishment that will take place in the bowels such as drinking of boiling water, He does not tell us that the pain shall be continued by changing their bowels for another. Hence, the Quran explains what happen to the skin and the bowels that may changing repeatedly after the existed one were damaged. Certainly, this description could only come from the one who knows the structure of the skin and bowels and the secrets of their synthesis.

Knowing that the layer of human skin includes of three, and seeing the functions of the skin that related to the human body based on the Quran in Surah An-Nisa' verse 56. Other than that, we know that most of the science facts nowadays had exist in the Quran since for a long time ago. This discovery proved the sign of Allah's power and the miracle of Quranic verses. May all the research will be beneficial to show the proves of the miraculous functions of the skin based on the Quran

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