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### RESEARCH ARTICLE

#### CORRELATION BETWEEN ACNE AND EATING CHOCOLATE IN TABUK CITY, SAUDI ARABIA.

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#### Abstract

**Background:** Acne is one of the most prevalent diseases in dermatology clinics and it is a multifactorial illness. There has been a remarkable paucity of proof for an association between chocolate and acne. However, studies in recent years have corroborated a link between cocoa intake and acne. **Objectives:** Acne patients were surveyed to assess their knowledge in the link between chocolate consumption and acne. **Methods:** We conducted a cross-sectional study in Tabuk, Saudi Arabia at the dermatology department of King Khalid hospital, among 100 subjects, during a period from June to August 2016. Patients who are complaining from the acne or had a previous history with acne were kindly requested to participate in a questionnaire about the link between chocolate consumption and acne. **Results:** (49%) of respondents believed that chocolate could affect acne, (60%) they tried to change chocolate eating habit to reduce acne exacerbation, (43%) they found improvement due to reducing chocolate intake per day. The majority of respondents (42%) believed that greasy food didn't contribute to their acne and (76%) thought that an oily skin more risk to develop acne once consumption chocolate. **Conclusion:** Based on the available evidence, it shows that the majority believes in the chocolate as an acne trigger. We recommend working on randomized control studies in order to assess the cocoa effect on acne exacerbation and to elucidate the proposed mechanisms linking chocolate and acne.

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#### Introduction:-

Acne vulgaris is a very common worldwide skin problem affecting 9.4% of the world population, making it the eighth most prevalent disease worldwide and it is most common in postpubescent teen.<sup>[1]</sup> The correlation between acne and chocolate consumption is still not approved, and so there are few studies which conduct this subject and concerned about the cocoa effect on acne aggravation.<sup>[2]</sup> In studies of various populations, people with acne usually attribute the condition or its exacerbation to diet. Chocolate and greasy or fatty foods are usually implicated, but reviews before 2007 have all over that diet plays no important role in acne and that the condition is primary as a

result of genetic predisposition and hormonal influences.<sup>[3]</sup> There is a French study on acne in adolescents, concluded that several of the studied groups thought that gender, body mass index, eating dairy products, and physical activity didn't influence acne. Consumption of chocolate and snacks, smoking cigarettes, sweating, not washing, touching/squeezing spots, consumption of fatty foods, using cosmetics, pollution, and menstruation were thought to worsen acne.<sup>[4]</sup>

Another study was conducted in 2014 by Caroline Caperton in Florida. The study demonstrates the effect of chocolate consumption in patients with a history of acne Vulgaris. It's a double-blind, randomized controlled trial. The results demonstrated the consumption of chocolate correlates to an increase in the exacerbation of acne.<sup>[5]</sup>

A similar study that attempts to explore patients' information about the link between diet and acne. Surveys were directed to fifty acne patients at an academic dermatology clinic in 2014. In those surveyed, there was a stamina of the theory that fried/greasy foods and chocolate may serve as acne exacerbation factors.<sup>[6]</sup>

The aim of present study was to demonstrate the correlation between chocolate consumption and acne in Saudi Arabia.

### Methods:-

This is a cross-sectional study was done in the Dermatology Department of king Khalid hospital in Tabuk city, patients who are complaining from the acne or had a previous history with acne were kindly requested to participate in a survey study about the link between chocolate consumption and acne. If so, they completed a questionnaire. Subjects were asked about the quantity of chocolate eaten per day, and if they thought about the relationship between acne and chocolate consumption, and if they tried to change their diet in regard to improving their acne exacerbation, and if this change alleviated their acne or not.

Finally, our subjects asked about their perception of the oily skin nature as a risk factor for acne based on their personal recognition of the disease.

Demographic data, such as age and gender, was included in the questionnaire. Surveys were administered from June to August 2016.

### Results:-

The study included 100 Saudi people, (89%) of them were females and (11%) were males. Almost half of them (61%) aged between 19 and 25 years, (16%) between 26 to 30, (15%) more than 31 and (8%) between 13 to 18.

(49%) of our subjects think that there was a correlation between acne and of consumption chocolate, (27%) believe that there was no link between chocolate and acne and (24%) of them didn't notice anything. On daily basis of chocolate consumption there was (23%) used to eat one piece of chocolate a day, (56%) used to eat less than one piece, (11%) used to eat two pieces, and (10%) used to consume three pieces or more of chocolate per day, a chocolate piece 40 gram which contain an amount of cocoa 25%, 218 Kilocalories, 22 sugar, 12.9 fat, 7.7 saturates, 3 proteins, 0.11 salt.

(60%) they tried to change chocolate eating habit to reduce acne exacerbation, (40%) they didn't change eating habits. (43%) They found improvement due to reducing chocolate intake per day and (57%) didn't notice the relationship between chocolate and acne exacerbation.

The majority of our respondents (42%) believed that greasy food didn't contribute to their acne. A minority of them (37%) believed that their acne was aggravated by nuts, dairy products and oily foods and (21%) didn't notice the relation.

(76%) of our respondents thought the oily skin as a risk factor for developing acne when correlated with chocolate consumption, on the other hand (9%) didn't know about this factor and (15%) think that there was no difference between skin nature whether it's oily or dry in contribution to acne.

**Discussion:-**

Respondents forcibly believed that chocolate could affect acne exacerbation and they were 49% of the whole respondents. In fact, 27% of subjects believed that chocolate had no effect on acne. Additionally, 24% didn't notice the relationship from the first place.

Although 60% tried to change their daily habits of chocolate consumption in regard to improving their acne and 43% found this daily habit modification effective and helpful regarding their goal of acne healing.

Although 42% of our respondents which was the majority believed that greasy food didn't contribute to their acne, which raised the idea of needing more focus to be included in the acne management, research studies and in the community-based activities. On the other hand, 37% people who agreed with the effect which was the minor group despite the 21% didn't notice the relation between greasy food and acne exacerbation. For the idea of the oily skin in nature as a risk factor for developing acne when correlated with chocolate consumption, the majority of our respondents 76% agreed with this idea, and 9% who thought that there is no such difference between acne exacerbation and skin nature, despite the 15% who didn't think about the oily skin as an exacerbating factor for acne.

In conclusion, while there is limited research performed in the area of acne and its aggravating factors among people in Saudi Arabia, we recommend the focus on this area especially in the dermatological clinics and furthermore on community-based activities and research studies.

**Conclusion:-**

Based on the available evidence, it shows that the majority believes in the chocolate as an acne trigger. We recommend working on randomized control studies in order to assess the cocoa effect on acne exacerbation and to elucidate the proposed mechanisms linking chocolate and acne.

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