

Public Perceptions and Effectiveness of Bat Blood in Hair Growth Suppression in the Middle East

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Abstract

In several Middle Eastern countries, including Egypt, Syria, Lebanon, and Jordan, applying bat blood on girls' bodies is a common practice that is believed to inhibit body hair growth. This study aimed to investigate the prevalence and public perceptions of the effectiveness of bat blood in preventing hair growth. A survey consisting of both manual and online closed-ended questions was distributed to 120 participants, including 90 non-professionals and 30 dermatologists and virologists. The results showed that 97% of participants had heard of the practice, with 71% having personally undergone it. Participants were generally knowledgeable about the steps involved in the procedure, scoring an average of 3.69 out of 5, and most agreed that key practices—such as using warm, fresh blood, performing the procedure immediately after birth, and incorporating olive oil or saline in the body bath—were essential. Furthermore, participants strongly believed in the effectiveness of the practice, with an average score of 3.86, especially among older and less educated women. On the other hand, experts expressed concern about possible risks, such as infections or skin allergies, rating this concern at 4.34. While the traditional belief in the efficacy of bat blood persists in the region, more clinical and laboratory research is needed to assess the potential health risks associated with this practice.

Keywords: Bating process, Bat's blood, Middle East, Hair growth inhibition

Introduction

Although scientific evidence supporting its effectiveness is lacking, many women, particularly in the Middle East, apply bat blood to their newborn daughters' bodies immediately after birth in a practice known as the “bating process” [1]. While some consider this practice superstitious and ineffective, others believe it to be a valuable method, citing the experiences of those who continue to use it today [2]. The objective of this study was to assess public awareness of the bating process,

examining factors such as age, gender, educational background, and opinions on its effectiveness in hair growth reduction in girls. This research focuses on residents from Lebanon, Jordan, Egypt, and Syria, and includes insights from dermatologists and virologists regarding its potential efficacy and associated risks. Furthermore, this study serves as a foundational resource for future laboratory research, offering valuable context on public perceptions and beliefs surrounding this practice.

Materials and Methods

This study employed a descriptive quantitative approach as outlined by Saunders *et al.* [3] to fulfill its research objectives. Data collection was conducted via a questionnaire, which was distributed both online and in person to a randomly selected group of individuals from

Access this article online

Website: <https://smerpub.com/>

E-ISSN: 3108-4818

Received: 05 December 2020; Revised: 27 February 2021; Accepted: x02 March 2021

How to cite this article: Aldebsawi AA, Al-Najdawi MM, Jarrar OB, Saleh MM, Moshawih SF. Public Perceptions and Effectiveness of Bat Blood in Hair Growth Suppression in the Middle East. *Int J Soc Psychol Asp Healthe*. 2021;1(1):1-6. <https://doi.org/10.51847/tvsilehLZk>

the Middle East, specifically in Jordan, Lebanon, Syria, and Egypt. The gathered responses were analyzed using SPSS 24, applying statistical methods alongside the T-test and One-way ANOVA, to assess statistical variations based on socio-demographic characteristics.

120 participants were randomly selected for the study. Among them, 90 were general community members from diverse social backgrounds, while 30 were medical doctors specializing in dermatology and virology. The survey consisted of closed-ended statements designed to capture information on various study parameters.

To ensure reliability, the Cronbach's alpha test was conducted via SPSS before distributing the questionnaire to participants. The Cronbach's alpha values for the first, second, and third scales were 0.891, 0.889, and 0.853, respectively, with an overall reliability coefficient of 0.887. Since these values exceed 0.7, the questionnaire's

reliability was deemed acceptable. Additionally, validity was established by consulting a panel of academic experts specializing in clinical pharmacology and toxicology, who reviewed and validated the questionnaire.

Results and Discussion

Socio-demographic statistics

A total of 90 participants from Egypt, Syria, Jordan, and Lebanon, representing various social groups, along with 30 medical professionals specializing in dermatology and virology, completed the questionnaire, using descriptive statistical techniques, the study applied descriptive statistical analysis to examine the socio-demographic composition of the participants, with results displayed in **Table 1**.

Table 1. Socio-demographic characteristics and general information of participants

Variable	Categories	Frequency	Percentage
Age	> 40 years	50	41.7%
	31-40 years	37	30.8%
	20-30 years	18	15.0%
	< 20 years	15	12.5%
Gender	Female	85	70.8%
	Male	35	29.2%
Education level	Illiterate	42	35.0%
	High school or less	35	29.2%
	Bachelor's degree	25	20.8%
	Master's or doctoral degree	18	15.0%
Country	Lebanon	40	33.3%
	Egypt	37	30.8%
	Syria	32	26.7%
	Jordan	11	9.2%
Are you a physician (dermatologist or virologist)?	No	90	75.0%
	Yes	30	25.0%
Source of knowledge about the bathing process	From my family	43	35.8%
	From my friends	35	29.2%
	Other sources	27	22.5%
	From the internet	15	12.5%

Table 1 presents the socio-demographic characteristics and general information of the study participants, including variables such as age, gender, education level, country of residence, and source of knowledge about the

bathing process. The majority of participants were female (70.8%), aged over 40 years (41.7%), and from Lebanon (33.3%), with a significant portion (75.0%) not being physicians specializing in dermatology or virology.

Socio-demographic characteristics

Table 1 outlines the socio-demographic characteristics and general background information of the participants, covering aspects such as age, gender, education level, country of residence, and sources of knowledge about the bathing process. The majority of respondents were female (70.8%), aged over 40 years (41.7%), and primarily from Lebanon (33.3%). Additionally, a large proportion (75.0%) were not physicians specializing in dermatology or virology.

The descriptive statistical analysis of the study sample highlights that female participants (70.8%) outnumbered males (29.2%), which aligns with the general trend of women showing greater interest in cosmetic practices and hair removal techniques. Regarding age distribution, individuals above 40 years old (41.7%) represented the most engaged group, followed by those aged 31 to 40 years (30.8%), as shown in **Table 1**. This suggests that older individuals are more inclined toward traditional bathing practices, possibly due to their strong belief in folk medicine and natural remedies involving plants and animals [4-6].

In terms of educational background, a considerable portion of respondents had limited formal education, with 35.0% being illiterate and 29.2% having only a high school education or less. Participants with a bachelor's degree accounted for 20.8%, while those holding an MA or PhD degree made up 15.0%. This reflects a diverse range of educational levels among the study participants, though a significant proportion belonged to less-educated groups who tend to be more interested in traditional healing practices and historical medicinal beliefs [7].

The bating habit appears to be more widespread in Egypt and Lebanon, largely due to Egypt's historical association with this practice. Records from the Pharaonic era, specifically in the Ebers Papyrus, provide evidence of bat blood being used for medicinal purposes [8]. When examining how individuals learned about this practice, findings indicate that the largest portion of respondents (35.8%) became familiar with it through their families, while others gained knowledge from friends, the net, or other sources.

To assess the prevalence of this in the Middle East, we asked the participants whether they had ever experienced or heard of the bating process. **Figures 1 and 2** visually represent the awareness and extent of usage of this tradition across Jordan, Lebanon, Syria, and Egypt.

Did you know or hear about bating habit?

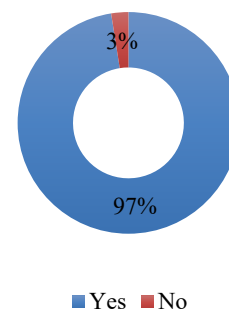


Figure 1. The distribution of participants based on their awareness of the bating process, showcasing how they first learned about it.

Was this habit applied to you?

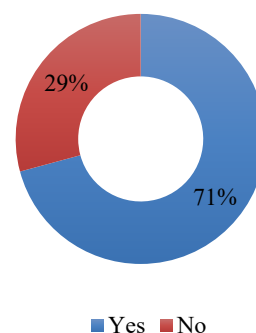


Figure 2. The participants' distribution according to their personal experience with bating, highlighting the extent to which this practice has been encountered or practiced across different regions.

As shown in **Figures 1 and 2**, there is a significant awareness of the bating process among the people of the Middle East, with the majority of respondents being familiar with the practice. Notably, 71% of participants had directly experienced bating, representing over 50% of the sample. This suggests that the participants were well-informed about the process, enabling them to respond to the research questions with reliability and high accuracy.

Assessing respondents' knowledge of the bating process steps and procedures

To explore the depth of respondents' understanding regarding the procedures of the bating process,

participants were asked about key aspects, including the optimal timing for the bat blood operation, how long the bat blood should last on a child's body, and the procedure for washing the child afterward. A five-point Likert scale was employed to evaluate responses, ranging from 1, indicating no knowledge of the process, to 5, signifying

complete knowledge. The findings from the descriptive statistical analysis are summarized in **Table 2**, where the scores were categorized as follows: (1-1.80) representing very low knowledge, (1.81-2.60) low knowledge, (2.61-3.40) moderate knowledge, (3.41-4.20) high knowledge, and (4.21-5.00) very high knowledge.

Table 2. Overview of participants' responses regarding the steps and procedures of the bating process

Statement	Mean	Std. deviation	Rank	Knowledge level
1) The process is performed using warm bat blood before it clots.	4.0000	0.92582	3	High
2) The process is generally done at night because bats have warm blood then.	3.8500	1.07414	4	High
3) Girls are painted with bat blood immediately after birth.	4.0750	0.93631	1	High
4) The painting of bat blood on girls' bodies is completed 40 days after birth.	3.5833	1.11207	7	High
5) Bat blood should remain on the child's body for about 4-8 hours for absorption.	3.7750	0.94791	5	High
6) It is more effective to leave the bat blood on the child's body overnight for better absorption.	3.4750	1.21588	9	High
7) The entire body of the girl is painted with bat blood, focusing on sensitive areas like the face and armpits.	3.7250	0.98700	6	High
8) After the procedure, the child's body is washed with olive oil or a saline solution.	4.0500	1.03591	2	High
9) The child's body is washed with soap and water.	3.1833	1.25010	11	Moderate
10) The process is suitable for all skin tones.	3.5167	1.20909	8	High
11) The process can be applied to both males and females.	3.3583	1.34599	10	Moderate
Overall	3.6902	1.05508	High	

Evaluating respondents' understanding of the efficiency of the process

To assess the participant's knowledge regarding the Efficiency of the bating process in the removal of hair, a series of questions were posed about whether they had personal experience with successful bating or knew others who had benefited from it.

The overall average for this section was high (3.8611), with all statements receiving strong agreement from the sample participants. These findings align with previous research by [1, 2, 9], which highlighted that bat blood has long been recognized for its depilatory and hair removal benefits. The effectiveness of this practice, as emphasized by Pliny *et al.* [9], is noteworthy, particularly their observation that when bat blood is applied to the young man's cheeks, it doesn't produce the desired effects unless grease or hemlock seeds are applied right after.

Impact of age, gender, and education on respondents' beliefs in the efficiency of bat's blood

To examine whether gender influenced respondents' belief in the Efficiency of the bating process, an independent sample T-test was performed. The findings revealed that female participants were significantly more likely ($P < 0.05$) to believe in the process's efficacy compared to their male counterparts. This can be attributed to the fact that women are generally more focused on exploring permanent hair removal methods, as supported by Barrionuevo's study [10].

A one-way ANOVA test was conducted to explore how age and educational level affected belief in the use of bat blood on newborns, as shown in **Table 1**. The results indicated that respondents aged over 40 years, as well as those with lower education levels (illiterate or having completed high school or less), expressed a significantly higher acceptance ($P < 0.05$) of the practice compared to other groups. This finding aligns with the Scheffé test,

which further confirmed that older and less educated individuals were more inclined to support the process. This can be noted by their stronger attachment to traditional, often animal-based, medicine, which is still perceived as reliable by these groups, despite its safety profile yet to be fully established [1, 10-13].

Health risks associated with the bating process

While the potential efficacy of bat blood in hair removal is acknowledged, it is crucial to consider the associated health risks. Numerous studies [14, 15] have indicated that bats can serve as a reservoir and vector for various viruses. To evaluate the potential health risks of the bating process from a medical perspective, this section of the survey was assessed by 30 physicians specializing in viral diseases and dermatology. The results are presented in **Table 3**.

Table 3. The potential health risks of the bating process from a medical perspective

Statement	Mean	Std. deviation	Rank
Applying bat blood to a girl's body could lead to skin irritation, dryness, and itching.	4.6333	0.55605	1
This process may lead to fatal viral infections over time.	4.5333	0.62881	2
The application of bat blood may result in dermatological and gynecological issues.	4.3667	0.61495	3
Coating the body with bat blood could cause skin discoloration or spots.	4.3000	0.53498	4
There is a risk that the process could be fatal to the newborn in certain cases.	4.1667	0.74664	5
The use of bat blood on a girl's body could cause long-term psychological issues such as stress and fear.	4.0667	0.73968	6
Overall	4.3444	0.57724	Very high

The average score for this section was very high (4.3444), also the statements received strong agreement from the participating physicians. This suggests that, while the bating process may be effective, it presents significant risks. These risks include potential infections with fatal viral diseases, or at the very least, skin issues such as dryness, allergies, and blemishes. These findings align with previous research [15-18], which has highlighted that despite the long-standing recognition of the benefits of bats, they are also harmful to humans. Bats carry numerous microorganisms that can cause severe infections, such as Ebola, Marburg, SARS, MERS, and various coronaviruses. Furthermore, recent studies and a 2020 World Health Organization report indicated that bats are reservoirs for the novel coronavirus, with over 500 different coronaviruses identified in bats in China. This underscores the danger posed by bats and the need for precautionary measures [19].

Conclusion

The desire to remove unwanted hair has long been a concern for women, dating back to ancient times and continuing today. While many women in contemporary society turn to various painful hair removal methods, there remains a significant number in the Middle East

who still practice applying bat blood to their daughters' skin. The findings revealed that the majority of participants were well-acquainted with the bating process, understanding key aspects such as the need to use fresh, warm bat blood shortly after birth, along with the application of olive oil or saline solution to cleanse the skin after the procedure.

The study also found a strong belief among participants regarding the effectiveness of bat blood in stopping hair growth or making it smoother. This belief appeared to be influenced by factors such as age, gender, and education level, with older and less educated respondents expressing stronger convictions. Additionally, medical experts in dermatology and virology agreed that while the process may be effective, it could pose significant risks, including the transmission of fatal viral infections or causing skin dryness, allergies, and other skin issues.

In conclusion, although the study highlighted the perceived effectiveness of the bating process in the removal of hair, it does not necessarily validate this practice, especially considering the potential health risks for infants. The study recommends further laboratory research to better understand the medical implications of using bat blood in this context.

Acknowledgments: None

Conflict of Interest: None

Financial Support: None

Ethics Statement: None

References

- Ohrstrom L. [Daily Star] Bat's blood: hair removal potion or old wives' tale [Internet]. 2013 Sep [Cited 2020 Aug 16] [about 1 p.]. Available from: <https://www.dailystar.com.lb/Culture/Lifestyle/2013/Sep-13/231063-bats-blood-hair-removal-potion-or-old-wives-tale.ashx>
- Riccucci M. Bats as materia medica: an ethnomedical review and implications for conservation. *Vespertilio*. 2012;16(16):249-70.
- Saunders M, Lewis P, Thornhill A. Research methods for business students. 5th ed. UK: Pearson Education Ltd; 2012.
- Al-Shukri AF, Al-Marzook FA, Al-Hammadi NA, Mutlag IH. Antitumor activity of alkaloids extract from *Opuntia polyacantha* plant using high content screening technique (Hcs). *Pharmacophore*. 2020;11(1):129-35.
- Morilla LJ, Demayo CG. Medicinal plants used by traditional practitioners in two selected villages of Ramon Magsaysay, Zamboanga del Sur. *Pharmacophore*. 2019;10(1):84-92.
- Alshehri KM. Anticancer plants naturally growing in Al-Baha region, Saudi Arabia. *Int J Pharm Res Allied Sci*. 2020;9(4):92-101.
- Aragaw TJ, Afework DT, Getahun KA. Assessment of knowledge, attitude, and utilization of traditional medicine among the communities of Debre Tabor Town, Amhara Regional State, North Central Ethiopia: a cross-sectional study. *Evid Based Complement Alternat Med*. 2020;2020.
- Sharfeldean RM. Coptic medicine and monastic health care system in the early centuries of Coptic Christianity. *Int J Tour Hosp Manag*. 2019;2(2):72-97.
- Pliny Bostock J, Riley HT, editor. The natural history of Pliny, 4th edn. London: Henry G. Bohn; 1856.
- Barrionuevo P, Nabhan M, Altayar O, Wang Z, Erwin PJ, Asi N, et al. Treatment options for hirsutism: a systematic review and network meta-analysis. *J Clin Endocrinol Metab*. 2018;103(4):1258-64.
- Abi-Najem N. [Vice] My mom wanted to anoint me with bat's blood to make me hairless [Internet]. 2015 Sep [cited 2020 August 25th]. Available from: https://www.vice.com/en_us/article/d3ggb7/my-mom-wanted-to-anoint-me-with-bats-blood-to-make-me-hairless
- Lee CM. Laser-assisted hair removal for facial hirsutism in women: a review of evidence. *J Cosmet Laser Ther*. 2018;20(3):140-4.
- Benzineb E, Kambouche N, Hamiani A, Bellahouel S, Zitouni H, Toumi H. Phenolics compounds and biological activity of leaves of *anabasis Articulata*, an Algerian medicinal plant. *Int J Pharm Res Allied Sci*. 2019;8(4):1-5.
- Hayman DT, Bowen RA, Cryan PM, McCracken GF, O'Shea TJ, Peel AJ, et al. Ecology of zoonotic infectious diseases in bats: current knowledge and future directions. *Zoonoses Public Health*. 2013;60(1):2-21.
- Barclay WS. Receptor for bat influenza virus uncovers potential risk to humans. *Nature*. 2019;35-6.
- Allocati N, Petrucci AG, Di Giovanni P, Masulli M, Di Ilio C, De Laurenzi V. Bat-man disease transmission: zoonotic pathogens from wildlife reservoirs to human populations. *Cell Death Discov*. 2016;2(1):1-8.
- Letko M, Seifert SN, Olival KJ, Plowright RK, Munster VJ. Bat-borne virus diversity, spillover and emergence. *Nat Rev Microbiol*. 2020;18(8):461-71.
- Moratelli R, Calisher CH. Bats and zoonotic viruses: can we confidently link bats with emerging deadly viruses? *Mem Inst Oswaldo Cruz*. 2015;110(1):1-22.
- World Health Organization. Novel Coronavirus (n-COVID 2019): situation report [Internet]. 2020 Aug [Cited 2020 Aug 26th]. Available from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200211-sitrep-22-ncov.pdf?sfvrsn=fb6d49b1_2.