Dermatoses caused by cultural practices

Cosmetic cultural practices

Neelam A. Vashi, MD,[a] Nicole Patzelt, MD,[a] Stephen Wirya, MD,[a] Mayra B. C. Maymone, MD, DSc,[a] and Roopal V. Kundu, MD[b]
Boston, Massachusetts, and Chicago, Illinois

Learning objectives
After completing this learning activity, participants should be able to discuss cultural competency and its value in an office- or hospital-based setting; identify common dermatologic diseases that can be attributed to religious practices; and identify common dermatologic diseases that can be attributed to environmentally driven cultural practices.

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The second article in this continuing medical education series discusses cosmetic practices associated with cultural dermatoses, including hair care, traditional clothing, and skin decorations. Often, the steps individuals take to enhance their physical appearance are determined by cultural perceptions of beauty. Without awareness of cultural practices, a multitude of cutaneous dermatoses may be missed by the dermatologist. Recognition and understanding of patients' cultural backgrounds and habits will allow the practicing dermatologist to offer better counseling and treatment options while providing a more meaningful and understanding physician–patient relationship. (J Am Acad Dermatol 2018;79:19-30.)

Key words: cosmetic; cultural competency; globalization.

HENNA

Key points

- **Henna is a red dye used for temporarily tattooing the skin and coloring hair, while black henna, an adulterated form, contains para-phenylenediamine, which is a strong skin sensitizer**
- **The most common complication of henna is allergic contact dermatitis; however, severe cutaneous and systemic adverse events have been reported**

Abbreviations used:

ACD: allergic contact dermatitis
CAM: complementary or alternative medicine
PPD: para-phenylenediamine

Background

Henna is a dye made from the plant *Lawsonia inermis* and is used for temporarily tattooing the skin, hair, and nails, an art form that is traditionally

From the Departments of Dermatology at Boston University School of Medicine[a] and the Department of Dermatology, Northwestern University Feinberg School of Medicine,[b] Chicago
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Reprint requests: Neelam A. Vashi, MD, Department of Dermatology, Boston University School of Medicine, 609 Albany St, J108, Boston, MA 02118. E-mail: nvashi@bu.edu.

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performed in Hindu and Muslim communities. It is applied for various social events, particularly weddings and Eid celebrations. Natural henna gives the skin a reddish hue from the active ingredient, lawsone, and additives like indigo darken the mixture. Unfortunately, although touted as henna, mixtures known as black henna, which contain many other darkening agents and possibly no natural henna at all, are frequently used.[1] Black henna often contains diaminobenzenes and diaminotoluenes, such as para-phenylenediamine (PPD) and p-toluenediamine.[1] PPD, in concentrations ranging from 0.25% to 64%, is used as an additive because it darkens the product and reduces the drying time from hours to minutes.[1-3] Other ingredients that have been found in henna mixtures include heavy metals. Nickel has been found in concentrations ranging from <2.5 ppm to 3.96 ppm and cobalt from concentrations of 2.96 ppm to 3.54 ppm.[2] Although no international standards exist, it has been recommended that products used on the skin should not contain nickel or cobalt at levels >5 ppm; however, a nickel concentration of 0.5 ppm has been sufficient to cause contact dermatitis.[4,5] Coffee, black tea, lemon juice, eucalyptus, clove, mustard oil, vinegar, indigo powder, and even animal urine can be included to alter henna color; fenugreek seeds, okra, and tamarind paste can be included to alter the texture.[6-8]

Complications

Although rare, natural henna can lead to severe contact allergies.[7,9-12] Complications, particularly allergic contact dermatitis (ACD), most commonly arise when black henna containing PPD is used (Fig 1). Previous sensitization can occur from exposure to different hair dye preparations and by inhaling henna particles.[13] The incidence of allergic reaction among those receiving temporary tattoos can be as high as 2.3%.[14] Permanent sequelae from such reactions includes dyspigmentation, leukoderma, and keloids.[15,16]

Henna application has also been associated with contact urticaria, irritant contact dermatitis, erythema multiforme–like reaction, temporary hypertrichosis, superficial epidermal necrosis, and systemic allergic reactions, such as angioedema.[6,10,14-24] Serious, sometimes fatal, hemolytic crises in patients with underlying glucose-6-phosphate dehydrogenase deficiency have been reported in 4 children.[25] Because of its structural similarity to 1,4-naphthoquinone, it is believed that lawsone may act as an oxidant that can prove fatal in glucose-6-phosphate dehydrogenase–deficient persons.[25] Rare cases of acute renal failure and death caused by renal tubular necrosis have been reported.[9]

Fig 1. Bullous contact dermatitis on the dorsal surface of the right hand after application of black henna.

Hairdressers and artists are at risk for hand and forearm dermatitis; Khanna et al[26] found that 3.2% of Indian hairdressers and beauticians had positive patch tests to henna mixtures.

Patients suffering allergic reactions to henna should be advised to avoid further contact with henna products and PPD or its cross-reactors, such as latex, rubber, azo dyes, sulfonamides, sulfa drugs, thiazide diuretics, and local anesthetics.[21,27,28] Side effects can be reported to the US Food and Drug Administration hotline for tracking PPD-related reactions.[29]

THREADING

Key points

- **Threading is a temporary hair removal technique that uses cotton thread and swift twisting movements**
- **Complications vary from minor pain and erythema to infections and koebnerization**

Background

Threading is a temporary hair removal technique that is commonly used in South Asia and the Middle East that has grown in popularity globally. Men most commonly remove hair from the cheek, ear, and forehead, while unwanted facial hair along the eyebrows, upper lip, chin, and cheeks are the most common locations for women (Fig 2).[30,31] Hairs are trapped between cotton threads that are held tightly

Fig 2. Threading using cotton thread and swift twisting movements.

in an operator's teeth or around the neck and looped through their fingers. As the operator closes the loop in his or her fingers, the entire hair shaft is extracted from the skin in rapid succession.[31,32] Overall, threading is believed to have several advantages over other hair removal methods, including lower cost, shorter operating time, and less trauma.

Complications

Common complaints after threading include immediate pain, erythema that subsides within hours, pruritus, edema, folliculitis, irritant dermatitis, and secondary pigmentary changes.[30,31,33-35] Threading can also lead to several infectious dermatoses, including bullous impetigo, verrucae, and molluscum contagiosum; spread of these infections is made easier by the trauma induced by threading which can disturb the epidermal barrier function of the skin.[31,32,34,36,37] Particles of human papillomavirus can be transferred from one area of the body to another, as was the case in a patient with verrucae on her forearm and wrist that spread to her eyebrows after undergoing threading of both areas.[32,34,37] Risk of acquiring these infections can be minimized by training those that perform threading to use aseptic techniques.[31,32,37] Koebnerization can occur in patients with underlying dermatologic diseases, such as vitiligo, psoriasis, or lichen planus. There has been 1 reported patient who developed depigmented patches around the eyebrows after a procedure.[38]

BINDI AND KUMKUM

Key points

- **Bindi and kumkum are pigments and adhesives applied to the forehead**
- **Complications include allergic contact dermatitis and chemical leukoderma**

Background

Kumkum and bindi are pigments and adhesives applied to the forehead. Bindi, meaning dot in Sanskrit, is a decorative adornment worn between the eyebrows, considered the location of the "third eye." Although traditionally worn by Hindu women to indicate marital status, the bindi is now popularized and commonly worn as decorative jewelry (Fig 3). Kumkum (also known as sindoor or vermillion) is a powder typically made from turmeric to which slaked lime is added to turn the dried powder from a rich yellow to red color.[39]

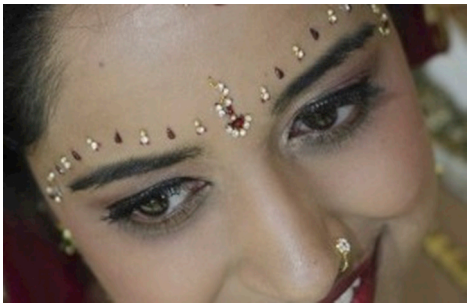

Fig 3. Bindi on the forehead and decorative nose piercing on the left nasal ala of an Indian woman.

Traditionally, kumkum was prepared at home from alkalinized turmeric powder, but kumkum and bindi mixes are more commonly being mass produced with the incorporation of various dyes and chemicals, such as coal tar dyes, toluidine red, erythrosine, lithol red calcium salt, lead oxide, fragrances, groundnut oil, tragacanth gum, parabens, canaga oil, and sandalwood.[39-43] Additionally, bindi that are made of nickel or plastic with an adhesive backing are more commonly used. Allergens associated with bindi include gallate mix, thimerosal, nickel sulfate, Brilliant lake red R, Sudan I, PPD, Kathon CG, benzotriazol, tert-butyl hydroquinone, aminoazobenzene, Disperse Blue 124, and Disperse Blue 106.[42-44]

Complications

Dermatitis caused by kumkum or bindi can refer to allergic or pigmented contact dermatitis, chemical leukoderma, and foreign body granuloma formation.[42,44,45] Lesions can develop on the forehead, glabella, hair part, abdomen, and neck.[43] Although generally restricted to the site of application, lesions can involve surrounding skin via the spread of kumkum or bindi mix by sweating.[43] Kumkum and bindi can also cause a chemical leukoderma, which occurs when a genetically susceptible individual comes into direct contact with chemicals that are melanocytotoxic. One study found that about 75% of patients who developed chemical leukoderma had first developed ACD to the kumkum or bindi.[46,47] The most common allergen implicated is para-tertiary-butylphenol, which is found in the adhesive of sticker bindis.[40,44,46]

HAIR OILS

Key points

- **Hair oils are used to soften and provide shine**
- **Complications include allergic/irritant contact dermatitis and contact urticaria**

Background

Commonly used in India and by African Americans, hair oils are applied directly to the hair and also added to shampoos and conditioners to soften, provide shine, promote hair growth, and prevent hair loss.[9,48] It is thought that the saturated and unsaturated fatty acid content of hair oils inhibit dermatophyte growth.[49] Amla oil is toxic to *Microsporum canis*, *Microsporum gypseum*, and *Trichophyton rubrum*, while coconut oil is toxic to *Trichophyton mentagrophytes*. In addition, coconut oil has been shown to decrease *Staphylococcus aureus* colonization in patients with atopic dermatitis.[9] The antifungal and antibacterial medicinal properties of coconut oil (*Cocos nucifera L)* are attributed to 3 medium-chain fatty acids: lauric acid (most abundant), capric acid, and caprylic acid, which are thought to interfere with the bacterial cell structure and cellular energy production.[50]

Complications

Some oils that have been associated with various dermatologic complications include mustard oil, argan oil, coconut oil, *Cuscuta reflexa*, *Citrullus colocynthis*, and *Eclipta alba*.[48,51-54]

Complications from using or working with such hair oils include allergic and irritant contact dermatitis and contact urticaria.[51-56] ACD has presented with pityriasis rosea–like lesions in 1 patient.[51] Certain oils with high oleic acid content, such as coconut oil, olive oil, and shea butter, can worsen seborrheic dermatitis as several Malassezia species have high lipase activity, allowing them to use the applied oils for growth.[57-61] Given their occlusive nature, hair oils have been theorized to cause folliculitis; however, no cases have been reported.

Mudichood is a rare dermatosis associated with hair oils that is seen most commonly during the summer months in southern India.[62-64] The term derives from the Malayalam language, translating to "heat of the hair" and represents the comedogenic effect of hairs oils combined with heat, humidity, and occlusion.[65] The traditional practice of maintaining long hair allows for prolonged contact with the neck and upper back, and because of interactions between hair oils that are commonly used in the region (typically coconut or sesame) with the natural heat and humidity, a lichenoid dermatitis forms.[62,66,67]

HAIR RESTRUCTURING AND STYLING TECHNIQUES

Key points

- **Hair care practices, with heat, chemical, or physical modalities, are used to make the hair easier to style**
- **Complications include contact dermatitis, hair breakage, and scarring alopecia**

Background

Hair restructuring techniques, with either heat or chemicals, are used by African Americans and Indians to make the hair more manageable.[68] Hot combing consists of the use of a metal comb heated to high temperatures (150-500°F) and slowly pulling it through portions of hair; hair relaxers are chemicals.[69] Both work by disrupting disulfide bonds in keratin. Relaxers are divided into lye and no lye formulations containing sodium hydroxide and calcium hydroxide/guanidine hydroxide, respectively.[70,71] Formaldehyde and its derivatives are also ingredients in hair relaxers marketed as Brazilian keratin treatments.[72] Hair styling techniques include braids (interlocking of ≥3 hairpieces), cornrows (small, tight braids close to the scalp), twists (2 pieces of hair that are twisted together), and locks (twists that are not removed to intentionally form matted ropes of hair).[69]

Complications

Complications associated with hair relaxers include local irritation, chemical burns, hair shaft dryness, contact dermatitis, hair shaft fragility and breakage, seborrheic dermatitis, infection, hyper- and hypopigmentation of the hair, and scarring alopecia.[71,73,74] Common complications related to thermal straightening include moderate to severe burns, hair breakage and weakening, and severe damage to the hair shaft.[69] Ethnic hairstyling techniques can cause excess tension and traction on the hair, leading to nonscarring and scarring alopecia.[75] Clinically, hair loss typically manifests on the frontal and temporal scalp.[76] Central centrifugal cicatricial alopecia has been associated with application of heat, trauma, and tension (Fig 4).[73,77] Hair relaxers have also been associated with serious and rare dermatologic complications, including Stevens–Johnson syndrome.[78]

SARI DRAWSTRINGS

Key points

- **Saris and salwaars are traditional outfits worn by South Asian women that close with a drawstring**

Fig 4. Central centrifugal cicatricial alopecia is characterized by a symmetric, roughly circular patch of scarring alopecia at the vertex and mid-scalp.

- **Complications include lichenification, cutaneous infection, koebnerization, and squamous cell carcinoma**

Background

Saris are garments of a length of fabric that is draped around the body, while salwaars are tunic and trouser combinations. These are common traditional clothing worn by women in India, Pakistan, Bangladesh, and Sri Lanka. Under the sari, a petticoat is worn that closes tightly with a drawstring; the pants of salwaars are similarly held up by a drawstring.

Complications

Sari drawstring complications include blisters from acute friction and pruritus, lichenification, dyspigmentation, cutaneous infection, koebnerization, and rare cases of squamous cell carcinoma from chronic friction. The constant friction and pressure caused by the tightly worn drawstring can create a lichenified, hyperkeratotic, and hyperpigmented band at the waistline.[79] Hyperpigmentation can be interpreted by patients as poor hygiene leading to increased scrubbing during bathing, exacerbating the cutaneous changes.[79] Posttraumatic leukoderma at the waistline can also be seen.[79] The occlusive environment, along with superficial trauma induced by the constant friction, can form an entry point for bacterial and fungal infections.[79] Trauma and pressure induced koebnerization of vitiligo, psoriasis, and lichen planus has also occurred.[79,80] Another rare complication that has been reported is formation of a Marjolin ulcer with development of squamous cell carcinoma, termed "sari cancer" in this case.[79]

SKIN LIGHTENING

Key points

- **Skin lightening involves the use of creams often containing hydroquinone and corticosteroids to decrease pigmentation**
- **Complications vary and can be seen in high percentages of patients with duration of use correlated to the number and degree of side effects experienced**

Background

Skin lightening creams and lotions are used by patients with darker skin types to improve overall appearance, portray a higher social level, treat skin blemishes, satisfy a spouse, or increase marital prospects.[81-84] The use of skin lightening agents for cosmetic purposes that are typically restricted for medical use is a common practice worldwide, including Africa, Asia, the Caribbean, the Middle East, and Southern and Central America, with increasing use in North America and Europe.[81-90] In Senegal, 26% of women surveyed currently used skin lighteners, and 36% had used them at some point.[81] Rates up to 73% were reported in other countries.[83] Creams are applied to focal or entire body surface areas multiple times daily. Women who are married, younger, with higher education, or from higher social standing are more likely to use skin lighteners.[81,83,90]

The ingredients contained in these topicals are variable and often not disclosed. Many of the ingredients are prohibited, imported illegally, and sold on the black market. Typical active ingredients in skin lightening agents are hydroquinone and corticosteroids.[81] Other components can include mercury, kojic acid, kojic dipalmitate, 5,5′-dipropylbiphenyl-2,2′-diol, phenylethyl resorcinol, arbutin, aleosin, azelaic acid, salicylic acid, soy proteins, methyl gentisate, licorice root extract, detergents, hypochloride sodium, lemon juice, potash, toothpaste, milk, camphor balls, ascorbic acid, peroxides, and chlorates.[81,83,84,86,90-95] High levels of metals have also been found in skin lightening creams, including cobalt, chromium, nickel, cadmium, lead, copper, aluminum, zinc, manganese, and iron.[90,96] These metals have been found in far excess of the limits for cosmetics and

may have been present as an intentionally added ingredient or as a contaminant from poor production processes.[96]

Complications

Complications from using skin lighteners have been reported in up to 75% of patients, with duration of use correlated to the number and degree of side effects experienced.[81] A classic sign of overuse is hyperpigmentation over the metacarpal and interphalangeal joints with contrasting hypopigmentation between the joints, possibly because of less efficacy of the skin lighteners on the skin over the joints.[82] Chemical burns mimicking toxic epidermal necrolysis have been described.[97] Each of the main skin lightening ingredients is associated with its own particular set of complications, but because the creams frequently contain ingredients at concentrations that are mislabeled with various unknown additives, it can be difficult to predict the side effects likely to occur with use of any single product. Further complicating the ability to determine causality is the frequent, simultaneous use of multiple topical products.

Hydroquinone competitively inhibits melanin production, acting as a substrate for tyrosinase.[83] Concentrations ranging from 2% to 5% are typically used, but can be much higher. The most feared complication from hydroquinone use is exogenous ochronosis, a paradoxical hyperpigmentation caused by the deposition of homogentisic acid in the skin (Fig 5).[83,85] Duration of use rather than hydroquinone concentration may affect exogenous ochronosis development. Corticosteroids are frequently found at superpotent concentrations in lightening products. They lighten the skin by decreasing endogenous steroid production and its precursors, including melanocyte-stimulating hormone.[83] Mercury products function as skin lighteners by inhibiting tyrosinase.[83] As a preservative, mercury is only allowed at ≤65 ppm in eye area products and <1 ppm in all other products; however, concentrations ranging from 4.08 to 33,000 ppm have been found in skin lightening agents.[87,98] Acute and chronic complications associated with hydroquinone, corticosteroids, and mercury are included in Table I.

DECORATIVE NOSE PIERCINGS

Key points

- **Nose piercings are a common body piercing with cultural significance in parts of India**
- **Common complications include contact dermatitis and infections; rare severe reactions include necrosis and collapse of the nasal wall**

Fig 5. Exogenous ochronosis on the left malar cheek, nose, and upper cutaneous lip of a Haitian woman, characterized by stippled brown-black macules with surrounding pink hue.

Background

Decorative nose piercings are common throughout the world, though they have cultural significance in parts of South Asia because they are frequently worn during marriage ceremonies (Fig 3). Although often made with metals like stainless steel, gold, niobium, and titanium that are rarely allergenic, piercings can contain contaminants, such as nickel.[99]

Complications

Numerous complications can arise from nose piercings, including contact dermatitis, local and systemic infections, and poor cosmesis from keloid formation, necrosis, and collapse of the nasal wall.[99] Piercings through the cartilaginous septum can lead to serious bleeding and septal hematomas which can become secondarily infected with Staphylococcal and Pseudomonas species, group A B-hemolytic Streptococcal species, *Mycobacterium tuberculosis*, and atypical mycobacterial species.[99,100] More serious systemic infections, including infective endocarditis, can rarely occur in individuals with moderate- or high-risk cardiac conditions.[100] Amateur piercers, nonsterile instruments, and nonhygienic standards were the most common factors influencing whether patients developed complications.[100]

SCARIFICATION AND TATTOOING

Key points

- **Scarification is the intentional cutting/burning of the skin to produce scars, while tattooing involves marking the skin/mucous membranes with colored materials**
- **Complications are often infectious**

Background

Scarification is a practice seen in several African societies in which scars are produced by cutting with a sharp knife, stone, or scalpel or burning the skin with a hot metal for decorative and medicinal purposes.[101,102] Keloid formation is often the desired effect in scarification.[103] Certain marks are often made on the face to easily recognize a person's tribal affiliation (Fig 6).[104] In 1 report from Nigeria, 7.2% of

Table I. Summary of cosmetic cultural practices

Cultural practice	Dermatologic complications	Systemic complications
Threading	Erythema,[9,30-32,34,36,56] pruritus,[31] folliculitis,[9,30-32,34,36,56] hyperpigmentation,[9,30-32,34,36] bullous impetigo,[9,31,36,56] verruca plana,[9,32,34,37,56] molluscum contagiosum,[9,34] and koebnerization[9,32,34,36,38,56]	
Kumkum and bindi	Allergic contact dermatitis,[9,39-44] leukoderma,[9,41,46,47] and foreign body granuloma[9,45]	
Hair oils	Allergic and irritant contact dermatitis,[9,51-54,56,113] and contact urticaria[52,53]	
Hair restructuring and styling techniques	Contact dermatitis,[70,71] acute scarring alopecia,[55,68,71,72,74,114] central centrifugal cicatricial alopecia,[71,73] and abscesses[70,74]	Uterine leiomyomata[74,115] and Stevens–Johnson syndrome[78]
Sari drawstring dermatitis	Hyperpigmentation,[9,56,79,80] intertrigo,[9,79] pruritus,[79] allergic contact dermatitis,[79] koebnerization,[9,56,79,80] and squamous cell carcinoma[9,56,79]	
Skin lightening		
Hydroquinone	Exogenous ochronosis,[81-83,85,88] squamous cell carcinoma,[82,83,88] cutaneous sarcoidosis,[85] contact dermatitis,[81-84,86,88,90,92-95,116,117] reticulate postinflammatory pigmentation,[81,82,116] pigmented colloid milia,[83] periorbital hyperpigmentation,[97] pseudo-lupus eruptions,[88] scleral and nail pigmentation,[83] and leukoderma[81,82,88,91]	Cataracts,[83] impaired wound healing and dehiscence,[83] secondary trimethylaminuria,[83] and fetal growth retardation[82]
Corticosteroids	Folliculitis,[83] skin atrophy,[81-83,88,118] purpura and telangiectasias,[81,83] hypertrichosis,[81-83] perioral dermatitis,[83] facial acne,[81-83] excessive striae,[81-83,88,118] dyspigmentation,[81-83] steroid addiction syndrome,[83] allergic contact dermatitis,[82,83] delayed wound healing,[83] susceptibility to numerous infections including tinea corporis/intertrigo/pyoderma/cellulitis/scabies/warts[81-83,88]	Adrenal insufficiency,[82,83] cataracts,[83] glaucoma,[83] Cushing syndrome,[83] electrolyte imbalances,[83] osteoporosis,[83] diabetes,[82,83,88] and hypertension[82,83,88]
Mercurials	Dermatitis,[82,87] hyperpigmentation,[82,83,87] and nail dyspigmentation[83]	Pneumonitis,[83] gastrointestinal discomfort,[83] neurologic toxicity such as psychosis and peripheral neuropathy,[83,87] renal toxicity such as membranous glomerulonephritis and proliferative glomerulonephritis,[81,83,87,88] mercurial baboon syndrome,[89] and birth defects, including adverse effects on fetal brain development and low birth weight[87,88]
Henna	Contact dermatitis,[1,6-14,17,20,21,24,27-29,56,119] leukoderma,[9,15,56] erythema multiforme–like reaction,[6,9,18,21] hypertrichosis,[9,19,23] keloids,[9,16,56] angioedema,[9,22,56] and hand eczema[9,26]	Heavy metal toxicity[2,9] and hemolytic crisis[6,9,25]

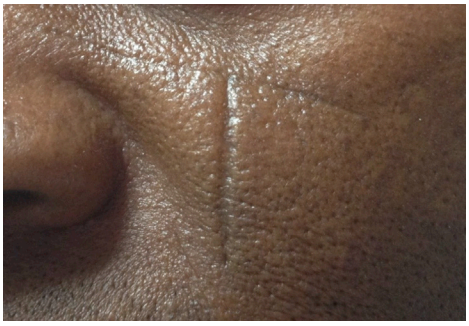

Fig 6. Scarification with tribal markings on the left cheek of an African man.

Fig 7. Gingival tattooing on the left upper gingiva in an Ethiopian woman.

children had evidence of scarification marks and 12.9% had tribal marks.[104]

Ritual tattooing, opposed to cosmetic tattooing, is the culturally sanctioned process of pigment implantation into the skin. Many cultures have preserved ancient methods of placing tattoos, which often symbolize identification within a certain group and also used to enhance beauty.[102,103] Gingival tattooing is most commonly described among women from Ethiopia where the gingiva are covered in kohl powder before piercing with a needle (Fig 7).[101,105]

Complications

Complications with scarification include keloid formation (as the desired effect),[103] squamous cell carcinoma,[106] and infection with hepatitis B and C and HIV.[104] Cutaneous complications from tattooing include impetigo, cellulitis, hypersensitivity, scarring, keloid formation, allergic contact dermatitis, contact urticaria, foreign body reaction, abscess formation, and koebnerization.[103,106,107] Infection with hepatitis B and C, HIV, syphilis, leprosy, and leishmaniasis has occurred.[103,105,106] Serious adverse events have been reported, including candida endophthalmitis, systemic zygomycosis, spinal abscess, and retinal vasculitis.[106] Complications are included in Table II.

CULTURAL COMPETENCY

Key points

- **Cultural competency is the set of behaviors and policies physicians use to provide effective cross-cultural care**
- **Goals include eliminating health disparities, creating open lines of communication, and optimizing health care**

Cultural competency involves adopting behaviors and policies that allow physicians to provide effective cross-cultural care with goals of eliminating health care disparities and providing optimal health care. This requires respect for the health beliefs, practices, and cultural and linguistic needs of diverse patients.[108] It also requires an understanding of one's own culture and how that affects patient care. Unfortunately, many physicians may lack training or comfort regarding cultural competency topics. According to the National Center for Complementary and Alternative Medicine's 2010 survey, only one-third of respondents had discussed complementary or alternative medicines (CAM) with their health care provider, and in >50% of those cases, it was the patient that brought up CAM rather than the provider.[109] The most common reasons for not discussing CAM were that the health care provider never asked (42%) and that patients did not know that they should discuss it (30%). Other reasons given included a lack of time during the visit, doubts about the provider's knowledge of CAM, fear of dismissal, and lack of comfort discussing the topic.[109] Providers may be wary to discuss topics surrounding race and ethnicity, terms that have variable meaning to people. Avoidance of the topic may seem like an appropriate way to avoid offending patients; however, this practice can limit the ability to have a successful physician–patient relationship.[110]

One way to begin to approach the topic of culture with patients is to incorporate cultural assessment questions during intake at the office. Taylor et al[108] devised a possible set of questions that assess a patient's cultural background and health beliefs that providers may find useful. It is important for physicians to realize that use of alternative medicines does not necessarily mean their patient is wary of conventional medicine. By discussing cultural practices and therapies, providers can foster a comfortable environment for their patients that will likely contribute to trust and, therefore, better compliance with prescribed treatment regimens.[108]

Although this continuing medical education series focused on cultural dermatoses, innumerable other factors are culturally determined and can affect the health and well-being of patients. It is important to

Table II. Rare dermatoses caused by cosmetic cultural practices

	Definition and presentation	Dermatologic complications	Systemic complications
Decorative nose piercing	Common worldwide but frequently worn during marriage ceremonies in South East Asia, often made with metals that can contain contaminants (nickel)[99]	Contact dermatitis,[103] granulomatous perichondritis,[99] nasal wall necrosis and collapse,[99] piercing migration or accidental traumatic removal,[99] hypertrophic scars,[106] keloids,[106] embedding of the piercing requiring surgical removal,[99] pyogenic granuloma,[33,100] and staphylococcal/streptococcal/pseudomonal/mycobacterial infections[99,100]	Infective endocarditis,[99] infection with hepatitis B/hepatitis C/HIV/tetanus[99]
Scarification	Practiced in several African societies, scars are produced on the skin for decorative and medicinal purposes[101,102]; herbalists and native doctors cut the skin with a sharp knife/stone/scalpel or burn the skin with hot metal, most common on the face to denote tribal affiliations	Keloid formation (this is the desired effect)[103] and squamous cell carcinoma[106]	Infection with hepatitis B/hepatitis C/HIV[104]
Tattooing	Placement of tattoos to symbolize identification within a group and to enhance beauty[102,103]; in Ethiopia the gingiva can be covered in kohl powder and pierced with a needle for tattooing[101,105]	Impetigo,[103] cellulitis,[103] hypersensitivity,[103] scarring,[103,106] keloid formation,[103,106] allergic contact dermatitis,[106] contact urticaria,[106] foreign body reaction,[107] abscess formation,[106] infection with syphilis/leprosy/leishmaniasis,[106] koebnerization,[106] and magnetic resonance imaging–induced burn[106]	Infection with hepatitis B/hepatitis C/HIV,[103,105,106] candida endophthalmitis,[106] systemic zygomycosis,[106] spinal abscess,[106] retinal vasculitis,[106] and cystic macular degeneration[106]

be aware of dietary habits (eg, Muslims fasting during Ramadan may wait to take their medications until they break fast each day), modesty concerns (eg, women of various faiths may request a female physician), family dynamics (eg, Latino families may want to shield elders from poor prognoses), and hair styling (eg, Africans may have unique hairstyling practices incompatible with a provider's recommendations).[101,108,111] Health-related myths that patients believe can also be culturally determined. African Americans are more likely to believe that their skin does not burn, wrinkle, or need moisturizer. They may also believe they are not susceptible to skin cancer.[110] Asians may use hot showers to treat pruritus.[112] In our increasingly diverse nation, dermatologists will see patients with a variety of cultural beliefs. This series of articles aimed to provide a comprehensive background of the available literature on dermatoses caused by these beliefs. There is still much to be explored.

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