Differentiation of Zaghrouta, Ululation to Express Joy in the Middle East, from Movement Disorders and Other Conditions

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Abstract

Introduction: Clinicians are trained to elicit symptoms and signs to formulate a differential diagnosis. Ruling out treatable diseases is crucial. Movement disorders specialists interpret observable behaviors as indicators of potential pathological processes. Movement disorders specialists must be able to identify symptoms and signs of organic disorders as well as actions that represent normal behaviors in healthy members of specific ethnic and cultural groups. The goal of this presentation is to describe zaghrouta, a manifestation of joy in the Middle East and other cultures, and to differentiate this normal expression of feelings from movement disorders, exaggerated startle responses, and functional disorders.

Case Presentation: A 29-year-old Egyptian woman observed the performance of zaghrouta frequently for happy events in her family, neighborhood, and community since early childhood as long as she can remember. Ten years ago she herself first performed zaghrouta at the engagement party of her friend. Since then she has performed zaghrouta five or six times a year to express happiness for cheerful events.

Conclusions: Zaghrouta may resemble pathological behaviors seen in movement disorders such as tardive dyskinesia, focal seizures, psychiatric manifestations such as catatonia in schizophrenia, tics in the syndrome of Gilles de la Tourette, and functional disorders. Therefore, clinicians around the world must be able to differentiate this normal behavior to express emotions from abnormal behaviors indicating pathology.

Keywords: Conversion Disorder, Contingent Negative Variation, Culture, Emotions, Grief, Happiness, Hyperekplexia, Malingering, Glycine Receptors, Focal Seizures

1. Introduction

Just as the difference between music and noise is in the ear of the listener, the perception of deviance in behavior is in the eye of the beholder. In other words, specific actions and behaviors that clearly are abnormal in one cultural setting may be normal expressions of emotion in other cultural contexts.

The meanings of movements are shaped by their cultural contexts. Actions and behaviors that are abnormal in one cultural setting may be normal expressions of emotion in others. Some voluntary behaviors interpreted as normal expressions of emotion in some cultures may be misinterpreted as pathological phenomena in others. Clinicians must be aware of the expressions of emotion in others cultures to differentiate normal from pathological behaviors (1,2).

The goal of this report is to describe zaghrouta (zagharreett (3) is the plural), an expression of happiness common in women in the Middle East, to facilitate its differentiation from symptoms and signs of medical conditions, especially movement disorders (4) and other neuropsychiatric disorders.

Vocables are melodic and rhythmic utterances without semantic meaning. In the Levant, a section of the Middle East, zaghrouta, a form of ululation, is commonly performed at weddings to express joy (5,6). Wailing is another form of ululation commonly utilized in the Middle East to express grief during mourning rituals for the deceased (3). The following discussion of zaghrouta applies equally to the wailing form of ululation in the Middle East.

Zaghrouta is a high-pitched shriek with a trilling movement of the tongue from side to side in the mouth lasting a few seconds and one hand held a few inches from
the mouth. A loud sound is produced by a forceful exhalation against a partially closed glottis as in a Valsalva maneuver. Initially the tongue is lifted slightly up. Then the tongue is moved rapidly side to side horizontally. The maneuver represents condensation and amplification of the acoustical movements, vibrations of air, created by the sound waves produced by the repetitive movements of the tongue. After deep breaths the process is repeated. Zaghrouta placed over the mouth to avoid spitting on people nearby. Tongue retraction and pulled lip corners (7-9). The hand is extended by placing the tongue slightly up followed by tongue is moved rapidly side to side horizontally. The presentation of conditions prevalent in their communities. At the same time clinicians may be expert in the management of the disorders that they frequently see and unaware of behaviors common in other regions. Particular actions and gestures may have vastly different meanings in different cultures. Thus, clinicians will benefit from an awareness of behaviors that are common in particular regions in order to distinguish health from pathology.

Zaghrouta, a normal behavior to express joy in the Middle East, may resemble abnormal behaviors seen in many neurological and psychiatric disorders. The expression of Zaghrouta is a vocalization to show happiness at marriages and festivals, to foster good luck, and to ward off the evil eye.

Clinicians must be able to distinguish zaghrouta, a manifestation of exhilaration in healthy persons, from dyskinesias and other manifestations of illness in diseased people (1, 2). Additionally zaghrouta must be distinguished from other cultural expressions including exaggerated startle responses.

Exaggerated startle responses. Exaggerated startle responses may represent normal behaviors in some cultures and pathological syndromes in some cultures as well as pathological disorders (10). For example, primary exaggerated startle disorders include hereditary hyperekplexia (11), an inherited disorder characterized by dysfunction of glycine receptors and consequent dysfunction of neuronal Cl− channels manifesting involuntary jerking. Additionally, an example of a normal startle response with a secondary abnormal response is startle epilepsy, a condition in which a normal startle results in a focal frontal lobe seizure (10, 12). Examples of exaggerated startle responses that may represent pathological syndromes in specific ethnic groups (10, 12) include Latah in Malay people (13-15), Jumping Frenchmen of Maine (16), and Ragin’ Cajuns of Louisiana (17). For example, Latah can be triggered by sudden shock resulting in screaming, dancing and cursing. Additionally functional exaggerated startle may resemble exaggerated startle responses with organic causes (12). Electrophysiological procedures may help to differentiate functional and organic exaggerated startle responses (12).

2. Case Presentation

A 29-year-old Egyptian woman observed the performance of zaghrouta frequently for joyous events in her family, neighborhood, and community since early childhood as long as she can remember.

Ten years ago she herself first performed zaghrouta at the engagement party of her friend. Since then she has performed zaghrouta five or six times a year to express happiness for cheerful events. Before episodes of zaghrouta, she experiences a sense of well-being. She is joyful about the celebrated event. In order to express her exuberance to others present she voluntarily performs zaghrouta. Similarly she deliberately ceases to perform zaghrouta at will. She is not motivated to perform the movements for economic gain, to avoid legal responsibility, or improve physical well-being.

She voluntarily produced zaghrouta to demonstrate its expression (Supplementary Files 1 and 2).

3. Discussion

Clinicians become expert in the diagnosis and treatment of conditions prevalent in their communities. At the same time clinicians may be expert in the management of the disorders that they frequently see and unaware of behaviors common in other regions. Particular actions and gestures may have vastly different meanings in different cultures. Thus, clinicians will benefit from an awareness of behaviors that are common in particular regions in order to distinguish health from pathology.

Zaghrouta, a normal behavior to express joy in the Middle East, may resemble abnormal behaviors seen in many neurological and psychiatric disorders. The expression of zaghrouta is a vocalization to show happiness at marriages and festivals, to foster good luck, and to ward off the evil eye.

Clinicians must be able to distinguish zaghrouta, a manifestation of exhilaration in healthy persons, from dyskinesias and other movement disorders (4), exaggerated startle responses, and other manifestations of illness. The differential diagnosis of zaghrouta includes movement disorders, exaggerated startle responses, and functional conditions.

Zaghrouta must be differentiated from functional disorders, including functional neurological symptom disorder (conversion disorder), factitious disorder, and malingering. Zaghrouta and movement disorders may be mimicked by functional neurological symptom disorder (conversion disorder), a distressing neurological symptom without a physical cause; factitious disorder, the deliberate presentation of oneself as ill, impaired, or injured without any apparent reward; and malingering, the deliberate presentation of oneself as ill, impaired, or injured for gain, e.g., avoiding work, school, or jail, (18, 19). Characteristics to facilitate the separation of zaghrouta from other components of the differential diagnosis are tabulated in Table 1. Whether or not items in Table 1 are voluntary may be resolved by electrophysiological measurements.
The presence of a Bereitschaftspotential or contingent negative variation, a slow negative electroencephalographic signal before self-initiated movement, may help to determine if an activity is voluntary or involuntary (21-23). Additionally ethnographic filmmaking of individuals performing the behaviors in their natural environment may facilitate documenting and interpreting the actions in their cultural contexts (24).

In conclusion, zaghrouta represents a voluntary expression of joy in the Middle East. Zaghrouta is a learned phenomenon that is willfully expressed by performers for happy occasions. Clinicians must distinguish zaghrouta from movement disorders (4), exaggerated startle responses, and functional disorders. Electrophysiological (12, 21-23) and sensory measurements (20) are promising tools to establish unique signatures of zaghrouta and related items in the differential diagnosis. Further research is needed to identify physiological characteristics that distinguish zaghrouta from neuropsychiatric disorders.

Supplementary Material

Supplementary material(s) is available here [To read supplementary materials, please refer to the journal website and open PDF/HTML].

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Footnotes

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**Table 1. Differential Diagnosis of Zaghrouta**

| Condition                                      | Voluntary Truthful Report | Deliberate Fabrication of Subjective Complaints | Motivation to Assume Sick Role | Motivation to Avoid Legal Responsibility | Motivation to Achieve Economic Gain | Motivation to Improve Physical Well-Being |
|------------------------------------------------|---------------------------|-------------------------------------------------|---------------------------------|----------------------------------------|-------------------------------------|-----------------------------------------|
| Factitious disorder (18)                       | Yes                       | No                                              | Yes                             | Yes                                    | No                                  | Yes                                     |
| Functional neurological symptom disorder (19)  | Yes                       | Yes                                             | No                              | No                                     | No                                  | No                                      |
| Jumping Frenchmen of Maine (16)                | No                        | Yes                                             | No                              | No                                     | No                                  | No                                      |
| Latah (13-15)                                  | No                        | Yes                                             | No                              | No                                     | No                                  | No                                      |
| Malingering (18)                               | Yes                       | No                                              | Yes                             | Yes                                    | No                                  | Yes                                     |
| Ragin’ Cajuns (17)                             | No                        | Yes                                             | No                              | No                                     | No                                  | No                                      |
| Zaghrouta (1-3, 5)                             | Yes                       | No                                              | No                              | No                                     | No                                  | No                                      |
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