**Table 3. Types of unaided communication behaviour**

| **Type of unaided communication behaviour** | | | **Meaning** | **Characteristics or examples** | **Studies** |
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| **Non-linguistic unaided communication** | | | | | |
| *Eye movements* | | | Using eye movement to communicate. | Eye blinking; eye gaze; prolonged eye closure; referential gaze to person’s face, object or elsewhere; weeping eyes; closing eyes tightly; opening/slight opening of eyes; visual pursuit; gaze withdrawn; gaze returned | 4, 10, 14, 16 |
| *Facial expressions* | | | Using the face to communicate/ to indicate a thought or an emotion. | *Positive* – smile; blowing a kiss; winking; lip puckering  *Neutral* – eyebrow raise, posed or spontaneous; licking lips; scratching chin; scratching nose; relaxed face; open mouth; chewing; finger in mouth; chewing thumb  *Negative* – crying; frowning; levator contraction or cheek tightening; poking out tongue; not opening mouth for feeding; biting lower lip; clenching teeth; wincing; grimacing | 1, 10, 12, 13, 14, 15, 18 |
| *Gestures* | | | | | 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 14, 15, 16, 17, 18 |
| Head and neck movement | | | Moving the head and neck to communicate. | Nodding head; shaking head; lifting head of bed; slow turn; moving head side to side; rubbing head on bed; turning head to one side (left or right) |
| Pantomime gestures (miming) | | | Actions of a complex concrete, sequential nature that are used to describe a construct and can be interpretated in isolation – substituting verbal utterances. These gestures include body parts that can be used as objects. | Walking that refers to forward movement of hand with alternating extension and flexion of index and middle finger  Drawing a vertical rectangle to indicate air or holding an imaginary remote |
| Metaphoric gesture | | | Presenting an image of an abstract concept, such as knowledge or justice. | Two fists bouncing against each other can refer to “clashing arguments” in a heated discussion  Tilting the horizontal hand from side to side to indicate equivocation |
| Pointing | Deictic | | Pointing to self, a location on the body or pointing to a referent in physical environment. | Pointing to referents, to their arm or to something on the table  Pointing to distant referents, for instance, to the wall to indicate the neighbours or something outside  Pointing to abstract referents, for instance to the sky to refer to “heaven” |
| Referential gesture | | Assigning an entity of referents, such as objects, places or characters in the story. |
| Beat gestures | | | Movements that do not present a discernible meaning are recognised by prototypical repetitive movements and following speech intonation patterns. | Touching nose during conversation |
| Emblem gestures | | | Hand movements that go simultaneously with the rhythm of speech, used for emphasis and to accentuate syllables or words. | Thumbs-up gesture in the Dutch and English culture  Thumb and pointer finger making a circle shape for “OK” |
| Non-communicative gestures | | | These gestures do not indicate communication intent but the motor execution of activities. | Fidgeting: repetitive movements involving self-touch but not grooming of body  Grooming: grooming the body and changing the body’s position |
| Reflexive behaviour | | | These behaviours are automatic and reflexive motor movements of the body. | Muscle tension or compliance; rising temperature; sweating; heartbeat; heart rate; flexing and deflating muscles; absence of movement; restlessness; flexion;, flushing; tactile and olfactory response; opening mouth;, removes feeding tube; squeezing hand; shrugging shoulders; shaking body; leaning forward; clasping/shaking hands; leaning on partner; feeling collar; slow cautious movement; repetitive movement; attempting to reach pain site; touching pain site; guarding oneself from the caregiver; massaging pain site; pulling tube; defensive grabbing; cooperative movement; attempting to return to supine; clenching fist; slapping nurse’s hand away; rubbing knees | 9, 10, 12, 13 |
| *Vocalisations* | | | These vocalisations are voiced or voiceless utterances that are not considered as words. | Laughing; yawning; clearing throat; heavy breathing; producing high-pitch sound; growling; clicking tongue; sighing; singing; tutting; moaning; intonation (pitch and prosody); coughing; mouthing (voiceless vocalisation) | 9, 12, 13, 18 |
| **Linguistic unaided communication** | | | | |  |
| *Gestures* | | | | |  |
| *Iconic gestures (symbolic, meaning-laden, speech focused and codified)* | | | These are hand gestures that have semantic content closely related to speech production. The gestures can be used for word retrieval. They are context specific and support speech production. They are combined with natural speech and cannot be interpreted in isolation. | The iconic gesture of pretending to drink is similar to the real activity of drinking  Swinging arms back and forth could indicate running  Tracing index finger in the frontal space from left to right to indicate running  Imitating the action of throwing a ball  Pointing index finger upwards and making a circular movement upwards to indicate going up the stairs  Moving lips without producing sound and moving hand back and forth in front of mouth to indicate one cannot speak | 2, 5, 9, 10, 11, 12, 13, 14, 15 |
| Finger spelling | | Time | Spatial indication to denote a time, such as past or future. | Indicating the past (back of the body) or the future (front of the body) |
| Letter | Movements associated with writing letters. | Writing letters in the air or on the desk/thigh with an empty hand or fingers |
| Number | Using one’s fingers to display numbers. | Displaying numbers by showing the fingers |