



Journal Homepage: -www.journalijar.com
**INTERNATIONAL JOURNAL OF
 ADVANCED RESEARCH (IJAR)**

Article DOI:10.21474/IJAR01/6844
 DOI URL: <http://dx.doi.org/10.21474/IJAR01/6844>



RESEARCH ARTICLE

EMOTIONS IN PEDODONTICS.

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Manuscript Info

Manuscript History

Received: 04 February 2018
 Final Accepted: 06 March 2018
 Published: April 2018

Keywords:-

Evolutionary, Physiological, Cognitive,
 Theories, Pedodontic.

Abstract

Emotions are clues which give insight about a person's personality. Every person expresses own's feeling in a different way. The cues provided by a person like body language, facial expressions can help in social communication. Knowing the reason behind an emotionally challenging situation can help a Dentist in dealing and effectively rendering the treatment to a child patient. It is very essential that a child's psychological and behavioral aspects are addressed before looking into Dental treatment needs. For this, knowledge on theories of emotions and its practical application plays a paramount importance.

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Introduction:-

Dentists have a hard time in dealing with fearful, apprehensive crying child. Anger, fear, cry, tantrums are some of the forms of emotions a child expresses in response to an overwhelming situation. Emotion is a complex, multi component episode that creates a readiness to act. It creates a change in one's biological and psychological sphere. There is continuous adaptation to environmental stimulus [1] and the reaction varies accordingly. Researchers have identified the role of physiological component, subject's feelings, facial expression and cognitive appraisal as being the components of emotional construct. A practicing dentist may adopt various behaviour modification techniques to deal with an emotionally challenged patient. A child may express one's emotions through facial expression, bodily movement, gestures or by verbalising ones feelings. Understanding the physiology and mechanism behind an emotional outburst, helps in effectively managing and rendering a dental treatment to the patient. There are various aspects in relation to emotion- evolutionary, physiological, and cognitive.

Evolutionary theories:-

Emotions are adaptive and are inherited through evolution. Darwin's theory in 1872 state that the various emotions such as happiness, sadness, fear, disgust, anger, surprise are inherited through evolution. According to Darwin there is no cognitive component involved, emotion is because of innate reflexes [2]. After seeing a dentist in white coat, a child raises the eyebrows which increases field of vision. It is warning sign of a possible danger. Constricting the face in disgust or shrinking the nose in case of bad odour is a warning sign. Evolutionary psychologists consider emotion to be an ancestral adaptive technique. Ekman (1992) states that emotional expressions are due to modification of facial expression with no cognitive component. [3] Emotions serves as non-communicative adaptive function. Oatley and Johnson-Laird (1996) [4] states that emotions are due to organization of cognition processed evolutionarily. It works in two ways -

1. Propositional or symbolic communication, which allows the information to be shared about the environment. It involves meanings based on the syntax of the language being used.

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2. Non -Propositional or emotional communication, which shifts the information into an emotional mode. [5] This information shift is more pronounced in children. With advancing age, an adult tries to process more of propositional communication, wherein less of emotion and more of logic is used.

Robert Zajonc (1989) on "facial efference theory of emotion" noted that the facial musculature of mammals control the temperature of hypothalamus. [6, 7] Increased temperature of the hypothalamus produces aggressive behaviour, whereas reduced one produces relaxed behaviour. Joseph Le Doux (1996) states there are two pathways of fear, travelling from thalamus to amygdala. The older route is faster which results in instant fear. The newer route is slower and circuitous [8, 9] From the thalamus information passes into frontal lobe which results in appraisal of the situation, then to amygdala which elicits autonomic nervous system. Seeing a dentist in white coat, child gets scared which results in fear. This occurs through older route. This route has been the one which had been seen in Primates. As a child gets older, the child understands the difference between dentist and others in white coat. This change in appraisal which occurs as child matures is because of newer neural route passing through the frontal lobe which is developed in Human beings.

The emotions are linked to personality. Openness to experience, conscientiousness, extroverted, agreeableness and neuroticism are the Big five personality. Seeking, lust care and play are positive emotions; fear, anger and panic are negative emotions of survival. Affective Neuroscience Personality Scales (ANPS)[10] finds a relationship between emotions and personality. Seeking is linked with openness to experience; play is linked with higher extroversion, care with higher agreeableness. The emotions exhibited by the child both in normal and emotionally challenging situations form the personality of future adult. High scores on fear, anger and panic are associated with neurotic personality. Ability to communicate with dentist is associated with agreeableness. Ability to sit on the Dental chair without parents help is associated with Openness to experience.

Physiological theories:-

According to these theories emotions are result of physiological activation. Williams James and Carl Lange (1967) state that emotion is perceived because of physiological responses to external events.[11] An event occurs, followed by perception of environmental change that result in emotion. Nervous system reactions like increased heart rate, trembling, and upset stomach are seen. Response feedback produces an expression of emotion. A child inside a dental clinic sees a dental setting, equipment and the dentist in white coat and begins to tremble. He notices that he is breathing deeper and then experiences fear. It is the perception of dental setting as fear producing which causes the child to cry.

Cannon-Bard theory (1927) states that one experiences physiological arousal and emotional response at the same time, which results in fear.[12] Emotions are felt and physiological reactions such as sweating, trembling and muscle tension are experienced simultaneously. The child inside a dental clinic sees a dental chair, dental equipment and also sees a dentist in white coat at the same time. He begins to tremble, starts breathing deeper and experiences fear which makes him cry. Thus arousal and emotional response together causes emotional response.

Cognitive theory:-

Schachter-Singer (1962) two factor theory states that physiological factors along with cognitive aspect cause emotional reaction. The cognitive aspect includes past experience and appraisal of current situation [13]. A child in dental clinic for simple restorative treatment notices another child undergoing extraction of tooth. He feels that his procedure would be also be painful and begins to tremble. He feels that he would also have pain in a similar way which makes him cry. External stimulus (seeing the dentist), followed by the physiological arousal (increased heart rate and trembling) associated with cognitive factor (associating someone's pain as their pain) makes fear to be experienced.

Conclusion:-

Fear and anxiety in a dental environment makes a child avoid getting treated. The negligent dental condition gives rise to inferiority complex which furthers the vicious cycle [14]. Knowing the physiology behind fear, primal responses, assessing the cognitive level of the child patient help in understanding the sequel of emotions like fear, anger, cry, and fright. This would benefit the dentist in rendering the treatment with empathy and concern.

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