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Bell's Palsy and Its Social Impact: Our Experiences at a Tertiary Care Teaching Hospital of Eastern India

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ABSTRACT

Background: Bell's palsy is a common clinical entity found in routine practice. Although Bell's palsy is not a life-threatening disease, it is associated with higher rates of morbidity along with social stigma if stays for a longer period. Although there are several studies for etiologies, clinical presentations and, management for Bell's palsy, but the majority do not provide any insight into the social impact of Bell's palsy.

Materials and methods: This is a retrospective and observational study. There were 52 patients of Bell's palsy enrolled in this study. This study was conducted at the Department of Otorhinolaryngology between December 2018 to January 2021. The enrolled patients were diagnosed with Bell's palsy with fulfilling the selection criteria.

Results: Out of 52 patients with Bell's palsy, 28 were male (53.84%) and 24 were female (46.15%) with a male to female ratio of 1.16:1. There were right side facial palsy in 59.61% of cases, left side in 38.46% of cases and, both sides in 1.92% of cases. There were 21.15% of patients presented with a defect in communications, anxiety in 19.23% cases, depression in 15.38% cases and, social isolation in 5.76% of cases.

Conclusion: Bell's palsy has several ranges of effects on the quality of life. It can affect in a variety of ways such as difficulty in facial expression, speech, vision, drinking and, eating. It can also result in physical discomfort and psychosocial manifestations. Management of the social stigma related to Bell's palsy is more challenging and can be resolved with proper counselling with patients and their family members.

Keywords: Bell's palsy, Facial nerve paralysis, Facial nerve, Social impact, Depression, Social isolation.

INTRODUCTION

Bell's palsy is a common cranial neuropathy resulting in sudden unilateral lower motor neuron facial nerve paralysis. The face of the person is drastically affected by Bell's palsy because of the loss of symmetry of the face. The human face is a vital part of the body that serves an important role in social interaction, emotion, sexual dimorphism and, overall health.¹ Face is a vital body part for self-concept and psychologically the most important part of the human body.² What makes a "normal" facial look has been shaped by society and any change or deviations from this normal one can result in stigmatization. Paralysis of the facial nerve often affects the facial appearance and causes paralysis of any structures innervated by the facial nerve. The paralysis of the facial nerve can occur from idiopathic, congenital, neoplastic, iat-

rogenic, infections and, other inflammatory causes.³ Bell's palsy is a common clinical entity found in routine clinical practice where patients present with acute unilateral lower motor neuron facial nerve paralysis. Ischemic, immune and infective mechanisms are all the potential contributors to the development of Bell's palsy but the exact cause remains unclear.⁴ The patients of the Bell's palsy usually present with sudden onset, lower motor neuron type facial nerve paralysis with accompanying symptoms such as dysgeusia, postauricular pain and, hyperacusis. In Bell's palsy, impaired movement of the face and reduced facial expression can pose challenges in face-to-face communications.⁵ The functional deficits in Bell's palsy include difficulties in eating, drinking, speaking, intimate human information and, emotional expression.⁶ These functional deficits are usually associated with the psychological aspect of the human being which can

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result in social and psychological difficulties for the patients with Bell's palsy including decreased self-esteem, anxiety, depression and, social isolation.⁷ The sudden onset of facial nerve palsy with unknown cause in Bell's palsy will contribute to more psychological distress among patients. Although Bell's palsy is rarely significant in the daily life of a person, the experience related to the social aspects is less studied. Here, we evaluated the social impact of Bell's palsy including the psychological aspect of the patients concerning functional and cosmetic deterioration.

MATERIALS AND METHODS

This study is retrospective and observational, carried out at our tertiary care teaching hospital for two years. This study was carried out from December 2018 to January 2021. The purpose of this study was explained to all the patients and parents of the children with Bell's palsy. This study was approved by the Institutional Ethics Committee (IEC) with reference number IEC/IMS/SOA/72/12.10.2018. The study was carried out on 52 patients attending the Outpatient Department of Otorhinolaryngology. All the patients and the caregivers of the pediatric patients were interviewed. The age ranges of the participants were 5 to 62 years. Both genders participated in this study, with 28 males and 24 females. All of them were diagnosed with Bell's palsy (Fig.1) during the study period. All the patients enrolled in this study had undergone detail clinical examinations. The House-Brackman (HB) grading scale was used to grade the facial palsy in all the patients who participated in this study. The inclusion criteria for this study were any patients developed with idiopathic sudden onset of unilateral lower motor neuron facial nerve palsy. In the case of pediatric patients, we targeted the parents and caregivers of the children with Bell's palsy (Fig.2). The exclusion criteria included the patients with facial paralysis due to congenital, traumatic, iatrogenic, and neoplastic causes. Interviews were done face to face with patients, family members, parents, and caregivers in the case of children. The clinical manifestations of Bell's palsy were documented such as unable to close the eye, epiphora, deviation of the face, and unable to blow of the mouth. A questionnaire related to clinical presentations, the social impact, and quality of life were shared with patients. The social impact /issues or social setbacks related to Bell's palsy such as social embarrassment because of deviation of the face or feeling of helplessness or social isolation by the patients or parents of the children with Bell's palsy were evaluated. All the participating patients of Bell's palsy were referred to the Psychiatric department for evaluation of the psychological issues. The psychological manifestations of the patients with Bell's palsy such as decreased self-esteem, anxiety, depression, and social isolation were evaluated by psychiatrists and psychologists.

STATISTICAL ANALYSIS

Data were analyzed by SPSS and reports were reported as mean, standard deviation, and percentage.

RESULTS

There were 52 patients of Bell's palsy enrolled in this study. Out of 52 patients with Bell's palsy, 28 were male (53.84%) and 24 were female (46.15%) with a male to female ratio of 1.16:1. The age ranges from 5 years to 62 years with a mean age of 32.15 years. The youngest patient in this study was 5 years old who developed sudden onset facial palsy in one side of the face. In all these cases, the causes were not known or idiopathic. There was right side facial palsy in 31 patients (59.61%), left side in 20 patients (38.46%), and both sides in 1 patient (1.92%) (Table.1). House-Brackmann grading of the facial nerve palsy showed Grade-II in 11 patients (21.15%), Grade-III in 22 patients (42.30%), Grade-IV in 9 (13.46%), Grade-V in 7 patients (13.46%) and Grade-IV in 3 patients (5.76%) patients (Table.1). Different clinical presentations of the patients with Bell's palsy showed a deviation of angle of mouth in all the cases (100%), loss of nasolabial fold in 47 cases (90.38%), unable to close off the eyelids in 46 cases (88.46%), unable to close the mouth in 45 cases (86.53%) and loss of crease in the forehead in 44 cases (84.61%) (Table. 2). Social and psychological setbacks among the patients and their family members due to Bell's palsy were studied where 11 patients (21.15%) presented with a defect in communications, anxiety in 10 cases (19.23%), depression in 8 cases (15.38%), and social isolation in 3 cases (5.76%) (Table. 3). Redness in the eye due to exposure keratitis was seen in 11 cases (21.15%) whereas drooling of saliva was seen in 9 cases (17.30%) (Table. 3). These facial manifestations in Bell's palsy were a rude shock to the patients and patient's relatives especially the spouses, family members, and parents of the children. Details of the medical issues associated with Bell's palsy such as exposure keratitis, drooling of the fluid in the affected side of the angle of the mouth, and speech problems were documented and given in Table 3. The negative social issues associated with Bell's palsy were embarrassing situations due to facial changes in the friend circle and unable to communicate properly with the surrounding people. Thirty-two patients presented with psychological issues such as decreased self-esteem, anxiety, depression, and social isolation (Table.3).

DISCUSSION

The face of the human body is an essential component responsible for a person's psychic and social functioning as the facial expression mediates the social interaction and highly affects the constitution of the subjectivity.⁸ In the perspective

of the peripheral facial nerve paralysis, there are psychological and social issues are found in patients with Bell's palsy. The facial paralysis drastically slows the facial expression, so this condition impairs the communication of the patient to fellow persons.⁹ Bell's palsy is unilateral lower motor neuron facial nerve paralysis with sudden onset without any evidence of exact aetiology.¹⁰ Ischemic, immune and infective mechanisms are considered as potential contributors for the development of Bell's palsy but the exact cause remains unclear.¹¹ The facial nerve is the seventh cranial nerve (CN VII) and consists of motor, sensory and parasympathetic components. The facial nerve is the most commonly affected nerve of the human body as it passes through a 35 mm bony canal and so subject to the compression and infectious processes of different etiologies which may block the nervous influx, causing the complete blockage of its function.¹² The function of the facial nerve is for voluntary and mimetic facial movement, taste sensation to the anterior third of the tongue, and controlling the secretions of the submandibular and sublingual salivary glands and lacrimal secretions.¹³ So, the paralysis of the facial nerve results in functional and cosmetic aspects of the person.

The paralysis of the seventh cranial nerve is usually immediately obvious in Bell's palsy. Persons with Bell's palsy have visibly shown a difference in facial appearance, regardless of when they acquired the facial nerve paralysis and deal with a lot of social stigma and discrimination. In the case of Bell's palsy, the patient often experiences shock due to social stigma which contributes to challenges faced by society because of the alteration of the facial appearance. It results in weakness of the muscles of the face, impacting the verbal communication, social interaction in respect to the facial expression, oral competence, taste, protection of the cornea, protection of the ocular globe, and vision of the patient with Bell's palsy. Bell's palsy is a devastating clinical condition causing functional and aesthetic deficits.¹⁴ The deficits due to facial muscle paralysis such as lagophthalmos and impaired oral function lead to psychological distress and impaired interpersonal communication.¹⁵ The Bell's palsy is a form of facial disfigurement and the patient usually experiences severe psychological and social manifestations. In this case, the facial expression is altered or diminished which affects the normal face-to-face communication with other persons and even the non-verbal facial expression may be misinterpreted. Functional problems such as eating and drinking often result in embarrassment.¹⁶ In Bell's palsy, the symptoms are usually sudden in onset which enhances the psychological distress of the affected patients.¹⁷ There are high chances of depression and decreased social contacts documented in the patients of facial palsy.¹⁸ The psychological distress rather than the functional deficits by facial nerve paralysis is the most important predictor of the social disability in Bell's palsy.¹⁹ In Bell's palsy, the self-perception of the facial look, psycho-

logical well-being, social functioning, physical functioning, and overall well-being are an important component in the patients with Bell's palsy. In this study, 19.23% of patients with Bell's palsy presented with anxiety, 15.38% presented with depression and 5.76% showed social isolation.

Facial appearance has an impact on all aspects of an individual's life and related to interpersonal relationships, academic and employment success, and psychological well-being.²⁰ The patients with facial disfigurements are usually stigmatized by society because of the appearance different from "normal" and valued inferior to others who are not associated with facial deviation or disfigurement.²¹ There are different scales are used for quantifying the facial nerve impairment or paralysis. House Brackmann grading system is utilized routinely by clinicians to evaluate the grading of the facial nerve functions in facial nerve paralysis.⁵ The House Brackmann grading for the facial nerve palsy includes Grade 1-Normal; Grade:2-Mild dysfunction; Grade:3-Moderate dysfunction; Grade:4-Moderately dysfunction; Grade:5-Severe dysfunction; Grade:6-Total paralysis.²² In this study, the majority of the patients with House Brackmann grade III facial palsy (42.30%).

Although it has an important role in the clinical evaluation of Bell's palsy, cannot capture the patient's perception of the psychological and social aspect of the facial nerve paralysis which are important components of their facial image. If we will consider social interaction, the face accounts for an essential element in any society. Routine social interaction involves face-to-face discussion where the face plays an important role or emotions and produces mutual recognition.²³

Female patients had significantly higher levels of anxiety in comparison to male patients.²⁴ The depression was also more in male patients than female.²⁴ Persons with facial paralysis are more likely to suffer from depression and anxiety than the general population, particularly if the paralysis occurs later in life rather than at birth.²⁵ Persons who acquire paralysis in the late part of life feel a real sense of loss or alteration on identification than those born with facial paralysis doesn't experience. Persons with Bell's palsy often report being turned down for public-facing jobs or leadership roles. They are also perceived as unfriendly or uninterested because of their appearance of face after Bell's palsy.

The goal for the treatment of Bell's palsy include eye protection, give symmetry of the face at rest, restoring to the normal facial movement, and getting independent, voluntary, and spontaneous facial expression. The medical treatment of Bell's palsy includes steroids and antiviral drugs. In the case of persistent facial palsy, different techniques utilized for the treatment of Bell's palsy include nerve grafting and transfer, botulinum toxin injection, static slings, brow lifts, gold weights, regional muscle transfer, and free functional muscle transfers.²⁶ As there are large numbers of treatment

options available, each treatment option is unique and individualized. There should be greater protection against discrimination and bullying towards persons with Bell's palsy in society. Stigma is the important predictor for the origin of anxiety and depression, so this is a socially created problem and can be acted upon. In the present scenario, specialized support groups are needed for helping patients with Bell's palsy experiencing psychological distress. They should provide therapies including facial palsy rehabilitation and communication skill training.

CONCLUSION

Bell's palsy has a tremendous impact on the patient as well as on his or her family. Patients with facial palsy suffer from impaired social interactions, disruption of self-concept, psychological distress, and reduced overall quality of life. Family and social support are known to play an important role in the psychological well-being of the patient with Bell's palsy. Patients with Bell's palsy often suffer from significant psychosocial issues. The result of facial paralysis results in a negative impact on social perception. Patients with disability by Bell's palsy show greater psychological distress and the more psychological distress present a poorer quality of life. Treatment of the functional problems associated with Bell's palsy alone is not enough. The functional problem might be resolved with adequate treatment but the social and psychological impact of it may remain. The study will surely help the clinicians to understand the situations of the patients and manage them accordingly. More studies are needed for a better understanding of the ability of patients to cope and the psychosocial benefits of treatment strategies.

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Authors Contribution:

1. Prof. Santosh Kumar Swain: Designing of Manuscript and Analysis of Data 2. Dr. Rohit Agrawala: Collection of Data 3. Dr. Somya Ranjan Pani: Tabulation of data and drafting.

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Figure 1: A 42-year-old lady presented with right side Bell's palsy.

Figure 2: A 5-year-old girl presented with left side Bell's palsy.

Table 1: Profile of patients with Bell's palsy

Patient profile	Number of patients (n=52)	Percentage (%)
Gender		
Male	28	53.84
Female	24	46.15
Age		
Range	5 to 62 years	
Mean	32.15 years	
Side of Bell's palsy		
Right	31	59.61
Left	20	38.46
Bilateral	1	1.92
House-Brackmann score		
I	0	0
II	11	21.15
III	22	42.30
IV	9	17.30
V	7	13.46
VI	3	5.76

Table 2: Clinical manifestations of patients with Bell's palsy

Clinical symptoms	Number of patients(n=52)	Percentage (%)
Deviation of the angle of mouth in the paralysed side during showing teeth	52	100
Loss of nasolabial fold in the affected side	47	90.38
Unable to close the eyelids in the affected side	46	88.46
Unable to blow the mouth	45	86.53
Loss of creases in forehead skin in the affected side	44	84.61

Table 3: Social and psychological issues associated with Patients with Bell's palsy

Social issues	Number of patients(n=52)	Percentage (%)
Unable to communicate	21	40.38
Epiphora	17	32.69
Exposure keratitis/redness of the eye	11	21.15
Drooling of saliva at the angle of mouth	9	17.30