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**The Impact of COVID-19 Lockdown on Children with  
Autism Spectrum Disorder and Their Families in  
Tripoli, Libya**

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**ABSTRACT**

Background: During COVID-19 pandemic, when social distancing becomes compulsory for all, a nation-wide school closure was implemented. Aims: to assess the impact of COVID-19 lockdown on children with ASD and their families in Tripoli, Libya. Methods: We conducted a face-to-face interview with parents of children with ASD during the period of the outbreak between June to December 2020. Using Modified Check list of Autism in Toddlers (M-CHAT); the families of 250 ASD children aged between three and fifteen years had been interviewed. Results: the prevalence of aggressive behavior had increased by 47%, that of loss of communication is 33%, that of poor interaction is 52% and that of anxiety among families is 27%, although rates were lower among girls. 60% of young children ages 5 to 10 years exhibit increased stereotyped behaviour, attachment to certain TV programs and other electronic devices (such as tablet, smartphone) more often and for longer periods of the day, temper tantrums, and crying and screaming for no obvious reasons as well as difficulty sleeping alone and frequent awakenings. 10% of children complained of psychosomatic symptoms, such as tummy pains, and diarrhea. 16% of Adolescents had been found to have significantly higher rates of aggressive and antisocial behavior when trying to switch them from one activity to another. Conclusion: Children with existing behavioral problems and those with ASD in particular had faced additional social and educational challenges during their special education years and had experienced the most negative consequences of living in a stressful situation like home lockdown, and are therefore had been particularly hard hit. COVID-19 pandemic was a neglected medical cause of deteriorating child behavior, and the acute and chronic effects of this pandemic on these children's health and education are among the greatest child harms of the 21st century. It is mandatory on Paediatricians, child health care providers, public health professionals, education authorities, researchers, and policy makers to address the impact of

the pandemic on children as a critical and priority issue. Children in general and those with ASD must be considered.

**Keywords:** autism, COVID-19, behaviour, lockdown, Libya

**Acknowledgments:** We would like to thank the children and parents who participated in this study.

## Libya



Libya is situated in North Africa, stretching along the Mediterranean shoreline for nearly 2,000 kilometers. Its area is 1,775,500 square kilometers making it the fourth largest country in Africa. Egypt is on its eastern border; Sudan, Chad and Niger are to the south and Tunisia and Algeria lie to the west. Tripoli (the capital) is the country's major city.

The total population of Libya was 6.18 million, with 39% of the population below the age of 15. More than half of the population is urban; most of them live in the coastal area in the main cities, namely Tripoli (2.4 million) and Benghazi (0.75 million). The estimated birth rate is 25.6 births per 1,000 populations (158,000 births per annum). Approximately 98.3% of all births are in health establishments. Infant mortality rate is 17.6 per 1,000 live births; under-five mortality is 20.1 per 1,000 population, with a growth rate of 1.83%. Life expectancy at birth is 72.5 years. Official language Arabic, but English used extensively. Islam is the official and dominant religion. Estimates of total literacy between 70 and 80 percent.

It is estimated that 48.4% of marriages in Libya are consanguineous; 30% of the total marriages are between first cousins.

## Introduction

During COVID-19 pandemic, when social distancing becomes compulsory for all, a nation-wide school closure was implemented.

The Severe Acute Respiratory Syndrome Corona Virus 2 (SARS-CoV2 or COVID-19) pandemic is the major global health crisis of our time and the greatest challenge the globe has faced since World War 2. Since its emergence in China late in 2019, the virus has spread to every continent.

Libya confirmed its first case of COVID-19 and started implementing a response to control the spread in mid-March 2020. In April 2021, at the time of writing of this paper, the country had registered over 162,294 COVID-19 cases

and 2,737 deaths reported to WHO. During COVID-19 pandemic, when social distancing becomes compulsory for all, a nation-wide school Closure was implemented.

Children with existing behavioral problems and those with autism spectrum disorder (ASD) in particular have faced additional social and educational challenges during COVID-19 pandemics. Families were greatly distressed about this as they noticed their child's health regress. In March 2020, schools were closed as part of the COVID-19 response, and all children, including children with ASD who were attending special school, had to start learning on-line from home.

### *Autism Spectrum Disorder*

Autism spectrum disorder is characterized by multiple impairments in social interaction and communication, as well as unusual interests and repetitive behavior. The central feature of which is the significant impairment in social development.

Symptoms include problems with social interaction and communication, and can range from mild, to severe. Compared to typically developing children. children with autism seem to be particularly drawn to certain channels and programs on satellite TV.

- Very likely neurological in origin – not emotional, not the refrigerator mom. Autism impacts normal development of the brain in areas of social interaction and communication skills.
- A disability which affects the way that people communicate and relate to those around them.
- 4 times more prevalent in boys.
- No known racial, ethnic, or social boundaries.
- No relation to family income, lifestyle.
- Occasionally, aggressive and/or self-injurious behavior may be present.

The aim of this paper is to assess the impact of COVID-19 lockdown on children with ASD and their families in Tripoli, Libya.

### **Materials and Methods**

A face-to-face interview with parents of children with autism spectrum disorder (ASD) were conducted during the period of the outbreak between June to December 2020. The Modified Check list of Autism in Toddlers (M-CHAT) was used to evaluate patients.

## Results

250 children diagnosed of ASD were included (205 males & 45 females). The prevalence of aggressive behaviour had increased by 47% that of loss of communication is 33%, that of poor interaction is 52% and that of anxiety among families is 27%, although rates were lower among girls. 60% of young children aged between 5 to 10 years exhibit increased stereotyped behaviour, attachment to certain TV programs and other electronic devices (such as tablet, smartphone) more often and for longer periods of the day, temper tantrums, and crying and screaming for no obvious reasons as well as difficulty sleeping alone and frequent awakenings. 10% of children complained of psychosomatic symptoms, such as tummy pains, and diarrhea. 16% of Adolescents (85% males) had been found to have significantly higher rates of aggressive and antisocial behaviour when trying to switch them from one activity to another (Table 1).

**Table 1.** *Parents' Observed Changes in Child Behavior During the Pandemic*

Type of behaviour	Frequency ( $n$ 250) (M 205 & F 45)	% Increase	Pattern
Conduct problems	117	47%	Hits or bites self, Temper tantrum when given command, destroy objects
Stereotyped behaviour	90	36%	Turns in circle, spinning objects, flaps hands,
Communication	108	43%	Fail to initiate conversation, Echoes words
Social interaction	130	52%	Withdraws and remain alone, Resist physical contact, Unaffectionate.
Screen Time. More than eight hours each day	152	61%	Watching TV, Using PC, Smart phones, Plying video games.
Psychosomatic symptoms	25	10%	Tummy pains, diarrhea, headaches.

## **Discussion**

During COVID-19 pandemic, when social distancing becomes compulsory for all, a nation-wide school closure was implemented. Because of these measures, children with special educational needs and support were deprived from their special education provision and support. Children with existing behavioral problems and those with ASD in particular had faced additional social and educational challenges during their special education years and had experienced the most negative consequences of living in a stressful situation like home lockdown, and are therefore had been particularly hard hit.

The effect of the COVID-19 can be even more worrisome in children suffering from autism spectrum disorders. Sudden changes in daily routine have after-effects and can potentiate existing symptoms, increasing the risk of emotional, behavioral and relationship complications.

The COVID-19 pandemic has produced important challenges to society and families, with impacts on child behaviour and development.

During lockdown, many psychologists and therapy sessions moved online. However, while telehealth was positive for some, it proved problematic for people with ASD. Having to stay in-door not only hold up progress in developing social skills, but also diminishes autonomy and self-confidence.

The direct effects of COVID-19 pandemic on these children included reduced school enrolment, high dropout rates, lower educational achievement, more social isolation, deterioration of speech and language skills that had already gained, psychological trauma, and increased aggressive behaviour that required certain medications to control it.

Indirect effects are multifactorial, including unsafe living conditions as a result of the armed conflict that had been going in the country for long time, deterioration of behaviour, caregiver non-cooperation and failure to cope, displacement and closure of special schools for indefinite period of time and its effects on the child's future. However, the precise effect of any given illness on child's health was difficult to determine.

Recent researches have reported an increase in conflict between parents and their children, using harsh words, and physical punishment that would not normally be implemented.

The COVID-19 pandemic has further exacerbated existing healthcare inequalities for autistic people. An urgent need exists for policies and guidelines on accessibility of COVID-19 services to be updated to prevent the widespread exclusion of autistic people from services, which represents a violation of international human rights law.

## **Conclusions**

For those children with ASD, COVID-19 pandemic is a neglected medical cause of deteriorating child behaviour, and the acute and chronic effects of this

pandemic on these children's health and education had been among the greatest child harms of the 21st century.

Increased incidence of parent stress, anxiety and failure to cope were associated with increased hours of screen usage in children. Our understanding of the scale of disease's effects on children with ASD, the shades of these effects and ways to diminish and treat them remain limited.

It is mandatory on Paediatricians, child health care providers, public health professionals, education authorities, researchers, and policy makers to address the impact of the pandemic on children as a critical and priority issue. Children in general and those with ASD must be considered.

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