

## Chapter 15

# Inclusive Strategies and Screening of Autism Spectrum Disorder (ASD) in the Gulf Cooperation Council (GCC) Countries: A Regional Overview

Omniah AlQahtani

 <https://orcid.org/0000-0002-3223-0586>

United Arab Emirates University, UAE

### ABSTRACT

*Children face different potential problems during their development that may concern their parents. The parents usually want to emphasize whether their child is growing normally. An early childhood assessment can help indicate the child's strengths and weaknesses, which helps to answer parents in indicating their child's development. This early assessment is significant in determining the child's need for support and early intervention at an early age. Autism spectrum disorder (ASD) shows a high record prevalence in GCC countries ranging from 1.4 to 29 per 10,000 persons, representing a significant health concern. This chapter aims to provide an overview of autism states in the GCC Arab region, focusing on ASD cases, the barriers to early diagnosis, and the screening instruments.*

### PREVALENCE OF ASD IN THE GCC COUNTRIES

Several studies from the past decades show growth in ASD cases. However, this growth varies in different populations around the world. For example, a meta-analysis by Qiu et al. (2020) shows that ASD prevalence in Asia is estimated at 0.36% in males, higher than in females. On the other hand, Salgado-Cacho et al. (2021), recent studies showed that ASD prevalence in Western countries reached 13.4 per

DOI: 10.4018/978-1-6684-4680-5.ch015

1000 children aged four years in 2010. In comparison, the number reached 15.3 per 1000 children aged four years in 2012 and continued to rise to 17.0 per 1000 in Western countries in 2014 (Salgado-Cacho et al., 2021). Furthermore, according to Qoronfleh et al. (2019), around 86.5% of ASD cases have been reported Outside High-Income Countries (HICs). In contrast, few studies have been conducted in Low to Medium Income Countries (LMICs), which may provide an incomplete representation of the ASD impact.

Researches on ASD remain new in the GCC countries, and most researchers focus on the etiology of ASD (Qoronfleh et al., 2019). Moreover, most ASD prevalence research in the Arab region lacks accuracy (Qoronfleh et al., 2019). On the other hand, epidemiological ASD research is also considered new and ambiguous in the GCC countries (Qoronfleh et al., 2019). Moreover, the few studies which discussed the ASD states in the GCC region were mainly from the Kingdom of Saudi Arabia (Kelly et al., 2016). Most of these articles focused explicitly on the ASD etiology, and only 5.3% focused on the effect of ASD treatment methods (Kelly et al., 2016).

ASD prevalence in the GCC countries is distinguished by factors like race and ethnicity (Qoronfleh et al., 2019). Despite the evidence about the growth of the world's ASD cases number, there are limited studies about its prevalence in the GCC countries (Eapen et al., 2007). In UAE, a random representative sample of around 700 local children at three was assessed within two stages (Eapen et al., 2007). The Autism Screening Questionnaire used for the first stage showed that 58 children per 10,000 have autistic symptoms. In the second stage, clinical interviews were conducted, and the results showed that 29 children per 10,000 with a DSM-5 diagnosis showed signs of pervasive developmental disorder (PDD) (Eapen et al., 2007).

However, the children of the previous sample were not officially diagnosed before the study. Therefore, the PDD rate within the UAE can be similar to that of the western region. According to Wentz (2019), the ASD prevalence reached 1.4 per 10,000 in Oman and 29 per 10,000 among three-year-old children in the UAE. Still, there is a strong need for comprehensive screening programs in the GCC countries to recognize such disorders earlier and provide the children with early intervention opportunities.

Eapen et al. (2007) study indicate no PDD differences between families from three different regions of the UAE and families of other socioeconomic groups. This assures the results of an old study that denied that PDD has differences caused by geographical area or social class (Fombonne et al., 1997). However, this study was claimed to have some limitations regarding the modest sample size and the absence of a used psychodiagnostic instrument in the second stage (Eapen et al., 2007). Nevertheless, according to Eapen et al. (2007), the study has significant results for the GCC region despite the previous limitations as it considers the first report from the GCC region about the PDD prevalence. Although the importance of early intervention and that autism can be diagnosed at two, many children fail to be diagnosed as pediatrics need effective screening and assessment tools and programs (Eapen et al., 2007).

In 2014, Salhia et al. (2014) provided data from three GCC countries, Oman, Saudi Arabia, and UAE, about ASD prevalence. The data showed that ASD prevalence reached 1.4 per 10,000 children in Oman in 2011. In the UAE, the ASD prevalence reached 58 per 10,000 children, according to the Autism-screening questionnaire (Salhia et al., 2014). However, it dropped to 29 per 10,000 children after the clinical evaluation. In Bahrain, the ASD prevalence reached 4.3 per 10,000 in 2013. Finally, Qoronfleh et al. (2019) revealed that the ASD prevalence in the GCC region got 1.4 to 60 per 10,000 children (table1)

However, there was no data from other GCC countries like Kuwait and Qatar in the study. Moreover, the exact number of ASD cases in the Arab world remains unidentified (Qoronfleh et al., 2019). Although the statistics of ASD in the Middle East, in general, are considered low, recent data indicated that 1 in 146 children is diagnosed with ASD in the UAE (Jung et al., 2021).

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