Pseudo-Autism in Malaysia: The Unseen Struggles and Impact on Parents' Mental Health – Brief Report

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ABSTRACT:

This study investigates the phenomenon of pseudo-autism in Malaysia and its impact on the mental health of parents. The aim is to understand the struggles faced by these parents and the effect on their mental health.

A qualitative research design was employed, involving semi-structured interviews with fifteen parents of children diagnosed with pseudo-autism. Participants were selected using purposive sampling to ensure rich, relevant data. The interviews explored parents' experiences, emotions, coping mechanisms, and the support systems they have utilized. Data were transcribed and analyzed using NVivo to identify key themes.

The study revealed significant emotional and psychological challenges faced by parents, including high levels of stress, anxiety, and depression. The misdiagnosis of pseudo-autism as true autism led to unnecessary emotional distress and altered the approach parents took in managing their child's condition. The findings emphasize the need for accurate diagnosis and effective intervention strategies to mitigate these impacts.

The rise in pseudo-autism cases in Malaysia highlights the critical need for improved diagnostic services and public awareness about the condition. Establishing robust support systems for parents and incorporating comprehensive mental health strategies into public health policies are essential. The proposed National Autism Council could play a pivotal role in coordinating these efforts, ultimately enhancing the well-being of affected families and addressing the challenges posed by both pseudo-autism and true autism.

Keywords: Pseudo-Autism, Autism, Diagnosis, Mental Health.

INTRODUCTION

Pseudo-autism, a term used to describe autism-like symptoms in children primarily due to excessive screen time, has garnered increasing attention in Malaysia. This condition is characterized by behaviors similar to those seen in Autism Spectrum Disorder (ASD) but is linked to prolonged exposure to digital devices rather than neurodevelopmental disorders. Experts warn that excessive use of gadgets can lead to developmental issues such as impaired social interaction, delayed speech, and emotional difficulties in children (Vidya, 2022a).

The growing attention to "pseudo-autism" in Malaysia is fueled by concerns about the impact of excessive screen time on children's development. Research suggests a possible link between screen exposure and autism-like symptoms (Ophir et al., 2023). Specifically, studies indicate that children with ASD tend to have longer screen time, which correlates with more pronounced autism-like behaviors (Wedge, 2021). As awareness grows, parents, educators, and healthcare professionals increasingly recognize the need to address this issue to promote healthy child development.

Pseudo-autism, a term coined by Kiyoshi Makita in 1964 (Makita, 1964), refers to conditions that are often mistaken for autism but are not genuinely autistic. The purpose of introducing the term 'pseudo-autism' was to reduce confusion arising from the misuse of terms like 'autistic,' 'autism-like,' and 'seemingly autistic.' These terms revolve around the concept of autism. To describe other autism-like presentations in children, the term 'pseudo autism' is suggested. While it does not correspond to a distinct clinical entity, it serves to differentiate seemingly autistic conditions from essential autism.

In recent years, the prevalence of pseudo-autism cases has risen in parallel with the overall increase in autism diagnoses in Malaysia. This trend has sparked significant concern among healthcare professionals, parents, and policymakers. While ASD remains a well-studied neurodevelopmental disorder, pseudo-autism sheds light on the potential impact of environmental factors, specifically excessive screen time, on child development. In Malaysia, pediatricians play a crucial role in the early detection and diagnosis of Autism Spectrum Disorder (ASD) in children, utilizing tools such as the Modified Checklist for Autism in Toddlers (M-CHAT). This screening tool is specifically designed for children aged 16 to 30 months. It is employed during routine developmental assessments or when parents express concerns regarding their child's development, particularly in communication and social interaction (Al-Beltagi, 2023). The M-CHAT consists of a straightforward checklist of 20 questions that evaluate a child's social, communicative, and behavioral patterns. Pediatricians administer this questionnaire to parents, and if a child is identified as high-risk, a follow-up interview is conducted to clarify responses and minimize false positives, which is crucial for accurate diagnosis (Penner et al., 2023).

The implementation of the M-CHAT in Malaysian government hospitals has significantly enhanced the early detection of autism. Pediatricians are trained to effectively administer and interpret this tool, while public awareness campaigns encourage parents to pursue developmental screenings for their children (Al-Beltagi, 2023). The accessibility and cost-effectiveness of the M-CHAT make it a valuable resource within the public healthcare system, facilitating the identification of autism as early as 18 months. This early detection is vital, as it allows for timely interventions during critical developmental periods, thereby improving long-term outcomes for children with ASD (Al-Beltagi, 2023).

However, the use of M-CHAT in Malaysia is not without challenges. One significant issue is the difficulty in distinguishing true autism from pseudo-autism, which refers to behaviors or developmental delays that mimic autism but stem from other factors such as neglect or trauma (Penner et al., 2023). The overlap of symptoms between true autism and pseudo-autism can lead to false positives during M-CHAT screenings, necessitating detailed follow-up assessments that are often hampered by limited resources in government hospitals (Al-Beltagi, 2023). High patient loads and restricted time for thorough evaluations increase the risk of misdiagnosis. At the same time, access to multidisciplinary teams, including developmental pediatricians and psychologists, is often limited, particularly in rural areas (Penner et al., 2023).

Cultural stigma and parental perceptions surrounding autism further complicate the diagnostic process. Parents may underreport critical details about their child's early experiences due to fear of judgment or shame, which can hinder practitioners' ability to identify non-autism-related factors contributing to developmental delays (Chu et al., 2020). Additionally, the stigma associated with autism may pressure healthcare providers into providing a specific diagnosis, potentially compromising the objectivity of assessments (Chu et al., 2020). The limited awareness and training on pseudo-autism among healthcare providers exacerbate this issue, as many pediatricians may lack the specialized knowledge required to differentiate between

true autism and pseudo-autism, leading to both overdiagnosis and underdiagnosis (Kılınçel & Baki, 2021).

The National Autism Society of Malaysia (NASOM) estimated that 9,000 children are born with autism each year in Malaysia (Yalim & Mohamed, 2023). Recent statistics suggest that approximately 47,000 people in this country are autistic (Kamaralzaman et al., 2018). Raising children with autism entails navigating a complex landscape of challenges. These include addressing the behavior of children with autism, which may occasionally manifest as aggression and hyperactivity. Additionally, families contend with financial burdens related to therapy, transportation, and travel expenses. Regrettably, certain societal groups perpetuate negative stigmas toward both children with autism and their parents. These same factors could also pose similar challenges for parents of children with pseudo-autism.

RISE IN PSEUDO-AUTISM AND AUTISM DIAGNOSES

The Ministry of Health (MOH) Malaysia has reported a steady climb in autism rates, with 589 children diagnosed with ASD in 2021, a significant jump from 99 cases in 2010 (CodeBlue, 2022a). This alarming increase underscores the urgency for comprehensive strategies to address both true autism and conditions mimicking it, such as pseudo-autism. The surge in diagnoses has led the Malaysian government to propose the formation of a National Autism Council aimed at better supporting individuals on the autism spectrum and their families (CodeBlue, 2022b).

The increase in autism diagnoses can be attributed to several factors. Improved awareness and understanding of autism have led to more children being evaluated and diagnosed at earlier stages. Advances in diagnostic criteria and methods have also contributed to this rise, allowing healthcare professionals to identify a broader range of symptoms associated with ASD (Baio, 2018). Additionally, the growing body of research linking genetic, environmental, and prenatal factors to autism has helped refine diagnostic practices (Lyall et al., 2017).

The prevalence of autism in Malaysia reflects global trends. A study by the Centers for Disease Control and Prevention (CDC) reported that in the United States, the prevalence of ASD has increased from 1 in 150 children in 2000 to 1 in 54 in 2020 (Maenner, 2020). This trend is mirrored in many countries, highlighting the need for a global response to autism, encompassing early diagnosis, intervention, and support systems.

Pseudo-autism, on the other hand, is a relatively new phenomenon linked to lifestyle changes, particularly the increased use of digital devices among young children. Excessive screen time has been associated with developmental delays, impaired social interactions, and speech delays. These symptoms are often mistaken for ASD (Tamana et al., 2019). Due to the unique characteristics of an autistic brain, screen time can amplify existing challenges. While these effects can occur in everyone, children with autism are more susceptible to harmful impacts and find it harder to recover from them (Dunckley,2016). Their brains are more sensitive and have less resilience. Thus, without time for healing, it is challenging to differentiate between pseudo-autism and true autism, which can also cause misdiagnosis.

In Malaysia, some health practitioners have made the final diagnosis within a few hours of meeting the child, which has caused misdiagnosis of children. The absence of appropriate support systems may lead to cases of autism being misdiagnosed. In particular, children exhibiting symptoms of pseudo-autism—behaviors mimicking autism caused by neglect, trauma, or other factors—might be inaccurately classified as having Autism Spectrum Disorder (ASD). This issue underscores the need for diagnostic training among health practitioners and specialized centers to identify autism and related conditions accurately. Establishing more efficient support services could significantly alleviate the burden on parents, provide a structured solution to this critical issue, and improve diagnostic accuracy within the Malaysian healthcare system (BERNAMA, 2024).

The COVID-19 pandemic exacerbated this problem because lockdowns and social distancing measures increased children's screen time, further blurring the distinction between pseudo-autism and true autism (Kushima et al., 2022). Although there was another theory suggesting a link between vaccines and autism, scientific studies have proven this to be false, showing that vaccines do not increase the risk of autism spectrum disorder, even among those classified as "at risk" (Jhamb et al., 2023).

In response to the rising numbers of both pseudo-autism and true autism cases, the Malaysian government has proposed the formation of a National Autism Council. This council aims to coordinate efforts across various sectors to provide better support for individuals with autism and their families. Its objectives include improving access to diagnostic services, expanding early intervention programs, and enhancing educational and occupational opportunities for people with autism (Loheswar, 2022).

The council also aims to address the mental health needs of parents and caregivers. Managing a child with autism can be incredibly stressful, leading to high levels of anxiety and depression among parents (Rosli et al., 2020). By providing resources and support, the National Autism Council hopes to alleviate some of this burden and improve the overall well-being of families affected by autism.

Despite these efforts, several challenges remain. There is a need for more trained professionals to diagnose and treat autism and related conditions. The current healthcare infrastructure in Malaysia is often insufficient to meet the growing demand for autism services, leading to long waiting times and limited access to necessary interventions. Additionally, there is a significant need for public education to dispel myths about autism and promote acceptance and inclusion of individuals with ASD. The rise in pseudo-autism and autism diagnoses in Malaysia is a multifaceted issue that requires a coordinated and comprehensive response. By establishing the National Autism Council, the Malaysian government has taken a significant step toward addressing the needs of individuals with autism and their families. However, continuous efforts are needed to improve diagnostic services, expand support systems, and promote public awareness and acceptance of autism.

Pseudo-autism is a phenomenon where a child initially displays behaviors resembling autism spectrum disorder (ASD) but later no longer meets the diagnostic criteria for ASD. The diagnostic process for pseudo-autism involves careful assessment and monitoring over time to differentiate between true ASD and other conditions or temporary developmental delays that mimic autism. Early signs such as difficulties with social interaction, communication challenges, repetitive behaviors, or sensory sensitivities are observed to initiate the diagnostic process (Stenberg et al., 2014).

As mentioned above, The Modified Checklist for Autism in Toddlers (M-CHAT) is a very common screening tool used to assess the risk of ASD in children in the Malaysian Healthcare Department. The M-CHAT must screen all babies in Malaysia on their monthly check-ups at the government clinics. It consists of 20 questions parents or caregivers answer about the child's behavior, focusing on eye contact, interest in social interactions, and response to stimuli. The M-CHAT categorizes children into low, medium, or high risk for autism based on the responses, with high-risk scores prompting a referral for a comprehensive evaluation (Chlebowski et al., 2013).

A multidisciplinary team conducts a detailed assessment of children identified as high-risk by the M-CHAT. This evaluation includes developmental history, behavioral observations, and standardized diagnostic tools like the Autism Diagnostic Observation Schedule (ADOS) or the Autism Diagnostic Interview-Revised (ADI-R). Cognitive and language assessments and input from teachers or caregivers are also considered. Children who exhibit behaviors consistent with ASD but do not meet all diagnostic criteria are often monitored over time. In cases of pseudo-autism, the child may initially display significant autistic traits that diminish or disappear as they develop, possibly due to early intervention or changes in their environment (Stenberg et al., 2014).

The key differentiating factor between pseudo-autism and true ASD lies in the persistence and consistency of behaviors. In true ASD, core symptoms such as challenges in social communication and restricted, repetitive behaviors tend to persist over time, even if their severity fluctuates. The M-CHAT plays a crucial role in the early identification of autism traits, enabling timely intervention. However, not all children identified as high-risk by the M-CHAT are ultimately diagnosed with ASD. In cases of pseudo-autism, the absence of sustained traits leads to the recognition that the child does not have a persistent developmental disorder, emphasizing the importance of ongoing assessment and judicious use of screening tools in the diagnostic process (Stenberg et al., 2014).

In this study, the researcher practiced purposive sampling from a group of parents whose children were categorized as high-risk by the M-CHAT and under comprehensive supervision by the specialist for 6 months and above. Some parents even got suggestions to finalize the diagnosis by filling out the Care Assistance for Disabled Patients Form (BPPOKU Form) by the Department of Social Welfare Malaysia (JKM). At the same time, they are not very sure of the diagnosis, and later, after a few months of intervention and therapy program, their children are dismissed from the hospital because of no persistence and consistency of ASD behaviors. The healthcare classified their children as a "false" case of Autism Spectrum Disorder (ASD). This group of parents was selected as the sample for our study.

Ongoing research and data collection will be crucial in understanding the underlying factors contributing to the rise in pseudo-autism cases and developing effective interventions. By working together, healthcare professionals, policymakers, researchers, and communities can ensure that individuals with autism receive the support and opportunities they need to lead fulfilling lives.

MENTAL HEALTH IMPACT ON PARENTS

Parental concerns regarding autism are not only about the child's health but also about the mental toll it takes on the family. Managing a child with autism can be as stressful as dealing with chronic conditions, leading to significant parental anxiety and depression. Parents often experience profound emotional strain, worrying about their child's future and the societal implications of the condition, which can be comparable to the pressures faced by parents of children with chronic or fatal diseases (Curley et al., 2023). Concerning pseudo-autism, parents of these children have to undergo all these emotions unnecessarily due to misdiagnosis.

Autism is a developmental disorder that, unlike fatal diseases, does not lead to death. It is characterized by challenges in social interaction, communication, and repetitive behaviors (APA, 2013). However, autism is a lifelong condition that requires ongoing management and support, which can be overwhelming for parents. The continuous need for interventions, therapies, and specialized education often leads parents to perceive autism as a chronic condition similar to a fatal disease, given the extensive and enduring care required (Smith et al., 2021).

This perception significantly impacts the emotional well-being of parents. The relentless demands of caring for a child with autism, coupled with the uncertainty about the child's future, can lead to high levels of stress and anxiety. Studies have shown that parents of children with autism experience greater levels of depression compared to parents of typically developing children (Estes et al., 2009).

Moreover, the financial burden associated with managing autism can add to the parents' stress, contributing to feelings of depression and helplessness. The cost of therapies, medical care, and specialized educational services can be substantial, often leading to financial strain. This economic pressure, combined with the emotional and physical demands of caregiving, can significantly affect parents' mental health (Liao & Li, 2020). As a result, it is crucial to provide comprehensive support to families, including mental health services and community resources, to alleviate the burden and improve their quality of life.

Parental Stress And Social Support

Parents of children with ASD face significant mental health challenges, often experiencing higher levels of stress compared to parents of children with other disabilities. This heightened stress is attributed to the unique demands of caring for a child with ASD, including managing behavioral issues, communication difficulties, and the need for constant supervision and support (Laister et al., 2021). The chronic nature of these stressors can lead to severe mental health issues such as anxiety, depression, and even burnout (Leonardi et al., 2021).

One major factor contributing to parental stress is the lack of social support. Studies have shown that parents of children with ASD often feel isolated and unsupported by their communities and healthcare systems. This isolation exacerbates feelings of stress and anxiety, making it difficult for parents to cope effectively with their caregiving responsibilities (Phetoe, 2022). Additionally, the financial burden associated with autism care can further strain mental health, as parents may struggle with the costs of therapies, specialized care, and other related expenses (Drexel University Autism Institute, 2020).

Impact of the COVID-19 Pandemic

The COVID-19 pandemic has intensified these mental health challenges. The disruption of routines, limited access to support services, and increased caregiving demands during lockdowns have led to a significant rise in anxiety and depression among parents of children with ASD. This situation underscores the need for targeted mental health interventions and support systems to help parents manage their stress and improve their overall well-being (Goodwin, 2021).

METHOD

Research Design

This study employs a qualitative research design to explore the mental health issues experienced by parents of children diagnosed with pseudo-autism. The qualitative approach is chosen because it allows a deep understanding of the parents' lived experiences, emotions, and coping mechanisms (Creswell & Poth, 2016). Through semi-structured, open-ended interviews, this research aims to uncover the nuanced ways in which pseudo-autism impacts parental mental health. To make sense of the detailed interview data, the study uses NVivo, a software tool that helps organize and analyze qualitative information. NVivo is used to sort and code the data, assisting researchers in identifying patterns and themes—such as the emotional toll, coping strategies, and the stress of managing a misunderstood diagnosis. The software's ability to visualize and categorize data ensures that essential insights are not missed. By combining open, personal conversations with the structured tools NVivo provides,

this study aims to give a clear and compassionate picture of the mental health struggles these parents face.

The reliability test of the interview instrument was conducted by carrying out a pilot study with several samples, interviewing them using the protocol developed by the researcher. Based on the pilot study, the researcher was able to determine whether the questions constructed in the protocol were understandable, could be answered effectively, and elicited honest responses (Syafril & Yaumas, 2018). Improvements could then be made, and the protocol could be reviewed by more experienced individuals, such as the research supervisor (Syafril & Yaumas, 2018).

In this research context, the pilot study was done by conducting interviews with five parents of children diagnosed with pseudo-autism. These parents, selected to represent diverse demographic backgrounds, are asked to participate voluntarily, with informed consent obtained before the interviews. The test assesses whether the questions are clear, relevant, and capable of eliciting detailed and honest responses. Additionally, it examines the sequencing and structure of the questions, identifies any ambiguities or redundancies, and evaluates the technical feasibility of recording and transcribing the interviews. The researcher uses participant feedback to refine the protocol, ensuring the questions are understandable and meaningful. The interviews are conducted using the developed protocol, recorded for accuracy, and analyzed using NVivo software to test coding and thematic development. The pilot study also includes a review of the revised protocol by an expert, a Special Education associate professor in Universiti Sains Malaysia to enhance the instrument's reliability.

Participants

Fifteen parents (n = 15) of children diagnosed with pseudo-autism were selected using purposive sampling. The researcher approached these parents using data from the government hospital in Penang State, Malaysia. This method ensures that participants have direct experience with the phenomenon under study, providing rich, relevant data (Palinkas et al., 2015). The inclusion criteria for participants are:

a) Parents of children aged 2 to 6 years old diagnosed with pseudo-autism, which means their children are diagnosed with autism initially. Then, later, during a re-diagnosed session, they were diagnosed as pseudo-autism (normal children who exhibit autism characteristics for a certain period).
b) Parents who did not participate in the pilot study.
c) Parents who have observed and managed their child's symptoms for at least six months and
d) Parents who consented to participate in a 60 to 90-minute interview.

Data Collection

Data were collected through semi-structured interviews, which effectively explore complex experiences and allow participants to express themselves freely (Ginn & Munn, 2015). Open-ended questions were developed to maintain consistency while providing the flexibility to delve deeper into specific areas as needed. The interview consists of six (6) simple questions, which are:

a) Can you describe your initial reaction when you first noticed symptoms of autism in your child?
b) How has your child's diagnosis of autism affected your mental health and well-being?
c) What support systems have you sought, and how effective have they been in helping you manage your mental health?
d) How has managing your child's condition influenced your daily life and family dynamics?
e) Can you describe your emotional response upon learning that your child's symptoms were due to pseudo-autism rather than true autism? How did this realization affect your outlook and approach to managing their condition?
f) What are your suggestions to parents with pseudo-autism children?

Interview Protocol

Interviews were conducted in person or via video conferencing, depending on the participants' preferences and current health guidelines. Each interview was audio-recorded with the participant's consent to ensure accurate data collection. Thematic analysis was used to transcribe and analyze the interviews, identifying common themes and patterns in the data.

The study began by scheduling interview times with each participant and obtaining written or verbal consent for participation and audio recording. Participants were greeted and thanked for their time, followed by an explanation of the study's purpose and the importance of their input. Confidentiality assurances were provided, and consent to audio record the interview was confirmed.

During the interviews, participants were asked open-ended questions developed to explore their experiences in depth. Based on the participants' responses, the interviewer allowed flexibility to delve deeper into specific areas as needed. Interviews concluded with an invita-

tion for final thoughts and gratitude for the participants' time and insights. Participants were also informed about the possibility of follow-up contact for clarification or additional information.

DATA ANALYSIS

The audio recordings of the interviews were transcribed verbatim. Transcriptions were imported into NVivo, a qualitative data analysis software, to facilitate systematic coding and thematic analysis (Jackson & Bazeley, 2019). The analysis process included the following steps:

a) Familiarization with the Data: The researcher reviewed the transcripts in-depth to understand the data comprehensively.
b) Initial Coding: Utilizing NVivo, the researcher engaged in open coding by segmenting the text into meaningful units and assigning relevant codes to these segments (Saldaña, 2021),
c) Developing Themes: The codes were analyzed to discern patterns and relationships, subsequently grouping them into themes using NVivo's query and visualization tools.
d) Reviewing Themes: The identified themes were meticulously reviewed and refined to accurately represent the data. This process involved merging some themes and subdividing others into more specific sub-themes.
e) Defining and Naming Themes: Each theme was distinctly defined and named to encapsulate the core of the participants' experiences.
f) Writing the Report: The findings were synthesized into a comprehensive report, incorporating direct quotes from the interviews to illustrate the themes and provide detailed insights into the participants' experiences.

When parents were asked, *"Can you describe your initial reaction when you first noticed symptoms of autism in your child?"* their responses revealed feelings of **sadness and depression**. Using thematic coding in NVivo, recurring emotions such as *fear*, *confusion*, and *denial* were identified as dominant themes. Many parents described being overwhelmed and unsure of what to do. Some, however, expressed feelings of *hope* and reported immediately researching and seeking support to understand their child's symptoms. These themes reflect the complex emotional impact of recognizing early signs of developmental differences.

In response to the question, *"How has your child's diagnosis of autism affected your mental health and well-being?"* thematic coding revealed a dominant theme of **depression and overthinking**. Words such as *stress*, *anxiety*, and *exhaustion* frequently appeared, highlighting the toll on parents' mental health. Subthemes, including *guilt* and *coping*, emerged as parents detailed feelings of inadequacy and their efforts to manage these challenges. Some parents noted attempting therapy or self-care strategies, though the theme of *limited effectiveness* suggested that these measures often fell short of addressing their needs fully.

When asked, *"What kind of support systems have you sought, and how effective have they been in helping you manage your mental health?"* thematic coding identified themes of **seeking support** and **evaluating effectiveness**. Parents frequently mentioned turning to *family*, *experts, friends, community groups*, and *counseling*. However, the subtheme of *insufficient resources* was also prominent, as many described existing systems as inadequate for meeting their specific needs. This thematic pattern underscores the need for more tailored and accessible support services for families navigating pseudo-autism.

The question, *"How has managing your child's condition influenced your daily life and family dynamics?"* prompted reflections that thematic coding categorized under **family strain and adaptation**. Words like *time*, *routine*, and *balance* were common, highlighting the adjustments parents had to make to accommodate their child's needs. Subthemes of *strain* and *tension* emerged, illustrating the impact on relationships with siblings and partners. Despite these challenges, a secondary theme of *resilience* was evident as parents described their determination to adapt and support their families.

Finally, in response to the question, *"Can you describe your emotional response upon learning that your child's symptoms were due to pseudo-autism rather than true autism? How did this realization affect your outlook and approach to managing their condition?"* thematic coding revealed a dominant theme of **relief**. Words like *hope* and *understanding* were frequently mentioned, indicating a positive shift in parents' perspectives. By applying thematic coding through NVivo, these recurring themes and subthemes provide a structured understanding of the multifaceted experiences of parents of children with pseudo-autism. The analysis emphasizes the need for improved support systems, effective resources, and greater awareness to address these families' emotional and practical challenges.

RESULTS

The qualitative analysis of interviews with 15 parents of children diagnosed with pseudo-autism, using NVivo,

provided significant insights into their emotional experiences and coping mechanisms.

Upon noticing symptoms of autism in their child, the majority of parents (80%) reported feelings of sadness and depression, 10% felt disappointed, and 15% experienced guilt due to self-blaming. Three themes emerged from these responses, all indicating negative emotional impacts. These initial reactions highlight the profound emotional burden on parents grappling with the potential diagnosis of autism.

Regarding the impact of the child's autism diagnosis on their mental health and well-being, 75% of parents reported depression and overthinking, 15% mentioned anxiety, and 10% felt fine, having already expected and accepted the diagnosis. Three themes were identified, with two reflecting negative experiences and one positive. This data underscores the significant mental health challenges faced by parents following their child's diagnosis, emphasizing the need for targeted mental health support.

When examining the support systems sought by these parents, 70% relied on family support, which helped them feel calm and accepted. Professional support was utilized by 20%, and 10% turned to friends. Three themes of support systems emerged, with family support being the most prominent. This distribution indicates the family's pivotal role in providing emotional stability and highlights the varying levels of reliance on professional and social networks.

Managing their child's condition had a profound influence on daily life and family dynamics, with 90% of parents reporting changes in routines, a greater focus on therapy, and feelings of exhaustion. Conversely, 10% depended on health institutions' decisions and followed prescribed protocols. Two themes were formed: positive and negative family dynamics. This finding illustrates the extensive adjustments and challenges parents face in adapting their daily lives to manage their child's condition effectively.

Upon learning that their child's symptoms were due to pseudo-autism rather than true autism, all parents (100%) expressed relief. This unanimous response underscores the significant emotional burden lifted and highlights the importance of accurate diagnosis and appropriate intervention.

Finally, when asked for suggestions for other parents of children with pseudo-autism, 55% recommended reducing screen time, 40% advised against early diagnosis but supported attending early intervention programs (EIP), and 5% suggested allowing children to develop at their own pace. Three themes emerged: screen time feedback, diagnosis feedback, and developmental pace feedback. The majority emphasized reducing screen time, indicating awareness of its role in pseudo-autism. These suggestions reflect the collective experiences of parents and emphasize practical strategies and early intervention to mitigate symptoms.

In summary, the analysis provided a comprehensive understanding of the emotional and practical experiences of parents dealing with pseudo-autism. The data emphasize the critical need for accurate diagnosis, robust support systems, and practical strategies to manage and alleviate the challenges associated with pseudo-autism.

DISCUSSION

Current literature findings on pseudo-autism, a condition mirroring ASD symptoms, provide a foundational understanding of the phenomenon. It highlights the growing concern in Malaysia over increased pseudo-autism cases and the parallel rise in true autism diagnoses. The review points to environmental factors, such as prolonged digital device use, contributing to developmental delays, impaired social interactions, and speech issues in children (Tamana et al., 2019).

Data analysis from interviews with parents of children diagnosed with pseudo-autism corroborates these findings. The emotional responses captured in the interviews align with the literature's depiction of the distress and mental health challenges faced by parents. For instance, 80% of parents reported feeling sad and depressed upon noticing autism symptoms in their child, indicating the profound emotional impact and confirming the stress highlighted in the literature (Rosli et al., 2020; Laister et al., 2021; Leonardi et al., 2021; Curley et al., 2023).

> *"I never know the symptoms of Autism until I saw a documentary on the TV and I realised my child has the exact same symptoms at 15 months. I bring her to the hospital and after a few visit, she has been diagnosed with Autism. I feel sad and depressed since I did not know what to do and I never imagine I would have a disabled child."* - Parent 8

Most of the parents have similar responses, and most of them had their final diagnosis after a few visits to the doctor and only a few visits to the therapist. In Malaysia, therapy sessions at government hospitals are crowded, and most patients only see a therapist every four to six months. This is obviously not enough, and the parents also mentioned that they would meet different therapists during each session. These therapists are not familiar with the child and did not see the child's improvements since

they meet every few months. Some of them only focused on the kids' inabilities instead of their improvements since they never met the kids. This is one of the reasons the parents stopped going to the government therapist, as they felt disappointed with the response. A private therapist costs around 120 Ringgit Malaysia per session, which is too expensive for most parents. This situation has led to insufficient early intervention sessions.

The literature review also emphasizes the significant rise in autism diagnoses, both true and pseudo-autism, and attributes this to improved awareness, better diagnostic practices, and environmental influences (Baio, 2018; Lyall et al., 2017). This is reflected in the interview data, where 75% of parents indicated that their child's diagnosis led to depression and overthinking, showcasing the critical mental health challenges associated with managing these conditions. Autism is still a taboo in Malaysia where despites all supports and awareness given, people still feeling depressed once they relate their children with characteristics of autism.

> *"When the doctor diagnosed my child as Autistic at two years old, I am in denial since I think he is too young to be diagnosed, and then I started to think about his future and how can he survive this world without me. I even wish for him to be dead before me so that I don't have to leave him alone in this world. This overthinking series has led me to depression and insomnia. Later on, I learn that it is a lifelong conditions, which make me more devastated"* - Parent 4

Support systems are crucial in managing these mental health challenges, as noted in the literature. The interview data reveals that 70% of parents relied on family support, which provided emotional stability, consistent with studies emphasizing the importance of familial and social networks in alleviating parental stress. The review further highlights the exacerbation of pseudo-autism due to increased screen time during the COVID-19 pandemic, a factor that contributed to heightened stress and anxiety among parents (Curley et al., 2023). This is echoed in the interview responses where parents suggested reducing screen time (55%) as a key strategy for managing pseudo-autism, aligning with the literature's recommendations for mitigating the condition through lifestyle adjustments.

> "*My sister is a Special Education teacher, so I managed to ask her about my son. She is very supportive and advice me to start the early intervention for my son before going for final diagnosis. She also mention that there are a few cases of misdiagnosis at her school due to early final diagnosis and she asked me to go for early intervention first. I am so glad I can rely on her."* - Parent 1

The respondents also emphasized the importance of avoiding early final diagnoses and instead focusing on interventions first (40%). Some parents reported that their children were diagnosed with autism after only a single visit with a pediatrician, lasting just two to three hours. This rushed diagnostic process has led to instances of misdiagnosis, causing unnecessary depression among parents and premature issuance of disability cards to children. Over time, as the autism-like traits diminished, these children were placed in special education classes, which may not have been appropriate for their needs. Consequently, this misplacement issue potentially deprived other, more eligible children of essential resources.

> *"I did tried to place my child in the mainstream playschool for her three years old schooling year but most playschool rejected her because she is diagnosed with Autism, I even said that she does not exhibit much symptoms of Autism yet they did not accept simply because she has been final diagnosed"* - Parent 10

The special education classes in Malaysian schools are already crowded as it is, yet these misdiagnosed children have added to the numbers. In some cases, these pseudo-autistic children have been freed from any autism-like symptoms; they exhibit age-appropriate behavior, but they're from low-income families. Their parents are occupied with working day and night to earn money, leaving them in special needs classes without re-diagnosing sessions with the experts until they finish high school. This is something quite common in Malaysian special education classes, which has caused unfairness to these children and also their peers who are more eligible to be in the special needs classes. Moreover, the issuance of Orang Kelainan Upaya (OKU) of Disabilities Cards by the Malaysian Welfare Department to those who might not genuinely require them results in the misallocation of funds and resources intended for truly deserving recipients, and to these low-income families, the funds from the welfare department is a monthly income to them which is why sometimes they refuse to re-diagnosed their children. Once the disability card is revoked, they won't get the monthly allowance anymore, and they're willing to sacrifice their children's future for this. As a former special education teacher and Special Education Department officer, this situation is quite common for the authors.

The establishment of a National Autism Council by the Malaysian government is a strategic response to these challenges, aiming to provide better support and resources for individuals with autism and their families (Loheswar,

2022). The unanimous relief expressed by parents upon learning their child's condition was pseudo-autism rather than true autism underscores the importance of accurate diagnosis and early intervention, reinforcing the literature's call for improved diagnostic services and support systems (Goodwin, 2021).

Data analysis from the interviews corroborates the literature review's findings, highlighting the significant emotional and practical challenges faced by parents of children with pseudo-autism. Both sources underscore the necessity for accurate diagnosis, robust support systems, and practical strategies, such as reducing screen time and implementing early intervention programs, to manage and mitigate the impact of pseudo-autism. This critical linkage emphasizes the importance of comprehensive and coordinated efforts to address the increasing cases of both pseudo-autism and true autism. Awareness of the differences between true autism and pseudo-autism could alleviate the mental health struggles of parents with pseudo-autistic children. Additionally, it is essential to allow children born after the COVID-19 pandemic to develop at their own pace, as they have missed many social opportunities during the pandemic. Parents should remain calm, provide them with an early intervention program (EIP) if needed, and give these children a chance to grow before labeling them as autistic.

CONCLUSION AND WAY FORWARD

Future research should focus on several key areas to further understand and address the challenges associated with pseudo-autism:

a) Long-Term Impacts of Misdiagnosis: Investigating the long-term emotional and intellectual impacts on children misdiagnosed with pseudo-autism is crucial. Future research could provide valuable insights into the consequences of misdiagnosis and inform better diagnostic criteria and intervention strategies in a Malaysian context.
b) Policymaker roles: Policymakers should prioritize funding for research on pseudo-autism and ensure equitable access to diagnostic and intervention services in Malaysia.
c) Responsibilities of the Practitioners: Practitioners must focus on evidence-based approaches to educate families, deliver effective interventions, and collaborate with broader networks to support the mental health and well-being of both parents and children.
d) Effectiveness of Awareness Programs: Studies should explore the effectiveness of awareness programs aimed at educating parents about the differences between true autism and pseudo-autism. These studies could identify effective support mechanisms by assessing the impact of increased awareness on parental mental health and child well-being.
e) Developmental Trajectories Post-Pandemic: Research should delve into the developmental trajectories of children born during the COVID-19 pandemic. Understanding how the lack of social opportunities has affected their growth can help inform guidelines for parents and educators to support these children effectively.
f) Evaluation of Support Systems: Evaluating the efficacy of various support systems, including family, professional, and social networks, is essential. Such assessment can identify the most beneficial approaches for parents managing pseudo-autism and highlight the role of community resources and mental health services in alleviating parental stress.
g) Interventions to Reduce Screen Time: Further studies are needed to test and validate specific interventions aimed at reducing screen time and their impact on mitigating pseudo-autism symptoms. By creating evidence-based recommendations for parents and caregivers, these studies can help manage and reduce the prevalence of pseudo-autism.

Addressing these research areas can lead to a deeper understanding of pseudo-autism and its effects, ultimately improving outcomes for children and their families in Malaysia.

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DECLARATION OF INTEREST

The authors reported no potential conflict of interest.

ETHICAL APPROVAL

The appropriate ethical committee obtained the Ethical clearance before the study began (USM/JEPeM/21090625). Participants were provided with an information sheet detailing the study's objectives, methodologies, potential risks, and advantages before they decided to take part. Prior to participation, all individuals provided consent, with an emphasis on the voluntary nature of their involvement and their right to withdraw at any point without consequences. To safeguard participant identities, all data were anonymized, and confidentiality measures will be rigorously upheld throughout the study.

Parents provided informed consent for themselves and their children.

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