Needs and Coping during the COVID-19 Pandemic among Families of Children with Autism Spectrum Disorder in a Government Tertiary Hospital

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ABSTRACT

Background. The COVID-19 pandemic has affected the well-being of children with Autism Spectrum Disorder (ASD) and their families. The core deficits of the condition and increased parental stress during this time made them more vulnerable.

Objectives. This study aims to explore how the pandemic has affected these families by identifying their needs and capabilities in order to provide support.

Methods. A total of 227 parents of children with ASD completed an online survey consisting of items on sociodemographics, family needs, and coping strategies. Descriptive statistics were used and t-test and ANOVA/Kruskal Wallis were used to determine the relationship between parent and child factors with needs and coping.

Results. Needs for Information, Community Services, and Finances are the top categories while the greatest identified need during this pandemic was for financial assistance. Religiosity, Problem-Solving, and Cognitive Reappraisal were the widely used coping strategies by the parents. Fathers, younger children, daughters with ASD, and having more than one child with ASD showed significant association with needs. Parents with primary and tertiary education were associated with use of the cognitive reappraisal strategy and those with jobs were associated with substance use.

Conclusion. Families of children with ASD have multiple needs during this pandemic, from autism-specific information and services, to more generic concerns such as financial assistance. Despite these challenges, these families have positive strategies in place to facilitate coping mechanisms.

Keywords: autism, COVID-19 pandemic, needs assessment, coping behaviors



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INTRODUCTION

The Coronavirus disease 19 (COVID-19) pandemic is an unexpected and an unprecedented situation. What started as an isolated series of acute atypical respiratory disease in Wuhan, China in the last month of 2019 has now caused millions of deaths worldwide. The pediatric age group is one of the most hard-hit during this pandemic despite having a direct effect that is not as severe as in the older populations. The impact is on their well-being¹ and those with disabilities face additional threats because of their existing challenges². There is little, if any, population-based data on the experiences of people with disabilities during emergency situations³ and there was no data on the impact of previous pandemics on this population. Public health infectious disease—tracking and

surveillance systems do not identify people with disabilities in their reports and have not been a focus of emergency preparedness activities.⁴ Without the capacity to identify people with disabilities in these situations, they may be overlooked when interventions are planned and evaluated.

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterized by persistent impairments in social communication and interaction, and the presence of restricted, repetitive patterns of behaviors, interests, or activities. One in 546 to as high as 1 in 40 in a parent-report study⁷ are diagnosed with ASD. No data is published yet on the prevalence of ASD in the Philippines. A review of referrals done at the Philippine General Hospital (PGH), a tertiary government hospital in Manila catering to low- to middle-income patients in Metro Manila and its neighboring provinces, revealed that autism ranked second as the top diagnosis from 2004 to 2008 at the Developmental Pediatrics Clinic.8 Recent unpublished figures show that ASD has been the top diagnosis for 2018 and 2019, comprising 31% and 33.4% of general clinic consults, respectively. Even before the COVID-19 pandemic, families of those diagnosed with ASD have higher stress levels compared to children with other disabilities, 9,10 have more incidence of depression, and have a lower quality of life in comparison to children with other developmental and physical disabilities, or chronic health conditions¹¹⁻¹⁵. Thus, individuals with autism are an important group who might require additional support during the COVID-19 outbreak.16 The possible effects of the pandemic to these individuals based on the core deficits of the condition, include experiencing difficulty in receiving necessary therapies, practicing physical distancing, and adjusting to changes in their routines.

Needs of Families of Children with ASD

ASD is a pervasive condition that demands services for the development and behavior of the child¹⁷ and support for the whole family¹⁸. These needs occur daily and across the lifespan.¹⁹ In upper income countries, information on services, family support, and respite care were the most frequently identified unmet service needs while funding and quality of professional support available were deemed met. Factors noted to predict needs include child and maternal age, income, and child disruptive behaviors.²⁰ These findings, however, may not be generalizable across jurisdictions and socio-demographic profiles. In developing countries where resources are limited, one of the identified issues is the need for parental understanding of the condition.²¹

Stress and Coping in Parents of Children with ASD

Numerous researches have described the experience of parenting a child with ASD as stressful and psychologically difficult but only a few looked into coping, which refers to a person's cognitive or behavioral efforts to manage the demands of a stressful situation.²² Coping strategies are influenced by parental demographic characteristics and

psychological attributes, child characteristics, and situational factors. Mothers use more social support, problem-focused coping, and spiritual coping strategies; while the fathers use emotional coping.²³ Other factors that were noted to affect coping are: availability of treatment services, referrals from doctors to support resources, family functioning, and the combined effects of available community support and child behavior problems.

Persons with Disabilities during the COVID-19 Pandemic

Experts foresee an increase in mental health concerns because the strategies that are aimed to limit the transmission of the virus involve physical distancing which caused a cessation of face-to-face social interactions, education, and rehabilitation programs. Sources of stress include losing or changing jobs, marital conflict, and financial instability; and increased parenting demands since they are at home all the time and are doing homeschooling.²⁴ Increase in behavioral challenges encountered have resulted in strains in the parentchild-family relationship. Parents were noted to experience increased levels of anxiety and stress and have a high need for support. Capabilities, the internal and external resources that aid in handling the stressors, include turning to routines to handle their child's behaviors and getting access to child services such as behavioral supports through phone or webbased technology. Being connected to the autism community through social media was beneficial to parents' coping. This information came mostly from developed countries and no published studies were found specific to ASD in lowincome countries but a related survey on the impact of lockdown measures on youth with disabilities in Manila and Jakarta²⁵ was identified, however, most of the participants had sensory impairments with no mention of autism. Those in Manila expressed the need for urgent financial aid, while other common needs stated were healthcare support and accessible information about COVID-19 and the Enhanced Community Quarantine (ECQ).

Significance of the Study

As the world experiences the COVID-19 pandemic, investigators have taken an interest in exploring the impact of the situation in different populations. People with disabilities, including autism, have been the subject of a few studies internationally. Locally however, there is no published data at the time of the development of this study, on needs assessment specific to the Autism community. Knowing that children with ASD and their families are vulnerable during this time, a research question was formulated, What are the needs during the COVID-19 pandemic among families of children diagnosed with Autism Spectrum Disorder being seen at a government tertiary hospital in the Philippines? This cross-sectional descriptive study aimed to identify the needs of these families and the coping strategies used. The sociodemographic profile of the children and their parents and

the variables associated with the needs and coping strategies will be identified. Recommendations for support will be generated based on the result of the study.

METHODS

Study Population and Settings

Participants were recruited from the patients of a Developmental Pediatrics clinic in the largest provider of charity diagnostic services for children and adolescents with developmental and behavioral disabilities in a tertiary government teaching hospital in the Philippines. They are parents of children diagnosed to have ASD at the said clinic and are the primary caregivers, living in the same house as the child during this pandemic. Their children should be less than 19 years old and have been seen at least once by a Developmental Pediatrician at the said clinic. For the purpose of this study, children who have other genetic or neurodegenerative disorders (e.g., Fragile X Syndrome and Rett Syndrome) and any participant who wished to withdraw from the study were not included. Families from the patient scheduling logbook who fit the inclusion criteria were invited by the principal investigator (PI) to participate in the study via phone call. A purposive sampling strategy was used to recruit families meeting the inclusion criteria.

Data Collection Procedure

The objectives and procedures were described by the PI and those who agree to participate were provided a control number to ensure confidentiality. An electronic informed consent, which included an electronic signature or a photo of the participant's signature, were obtained by the PI through a Google form prior to answering the survey. The privacy and confidentiality of the participants and voluntary participation were emphasized. The control number and hyperlink to the survey were sent via text message or email to the participants. The survey was administered via Google forms, which took 10-15 minutes to complete.

Questionnaire

Sociodemographic information for the parents included age, sex, marital status, educational status, employment, household monthly income²⁶, and socioeconomic status. Child information included age, sex, age diagnosed with ASD, and presence of a sibling also diagnosed to have ASD. The *Roberto Scale* was used to assess the socioeconomic status, which is based on the housing condition including the materials used, appearance and structure of their house.²⁷ This information was gathered through the questionnaire as well as by photos uploaded by the participant of the outside and inside of their house. The perceived needs of the families were assessed using the *Family Needs Survey (FNS)*, which was initially developed to assess the functional needs of parents of young, handicapped children²⁸ for use in early intervention and has been applied in children with cerebral

palsy^{29,30} and ASD²⁰. It has been validated on a population of parents who have children with disabilities.³¹ Strategies employed by the families were measured using the *Filipino Coping Strategies Scale*³², a locally developed scale based on quantitative foreign scales, such as the Ways of Coping Questionnaire and the COPE Inventory which are widely used in studies involving caregivers of children with ASD²³, as well as taking into consideration qualitative local research on coping (Appendix A).

Data Analysis

Raw data were downloaded as Microsoft Excel files from Google Forms for analysis using STATA 14.0 with reported p-values and 95% confidence intervals. Descriptive statistics were used to provide baseline information of the parent participants and their child with ASD. T-test for 2-level variables was done and ANOVA/Kruskal Wallis was used for variables with more than 2 levels to determine the relationship between parent and child factors with needs and coping.

Ethical Considerations

The study was submitted for approval to the University of the Philippines-Manila Research Ethics Board. Consent was obtained from the parent-participants prior to the study. Patient privacy was strictly enforced, the data collection form contained a control number instead of the participant's name and a list was made. The contact information of the principal investigator was provided for families who may have concerns or questions regarding the outcome or results of the study. There were no major risks for the parents and children involved in the study. Those who may have felt uncomfortable with the items in the questionnaire, were given a chance to withdraw from the study.

RESULTS

Sociodemographic Profile of the Participants

A total of 231 respondents participated in the survey, however 4 had incompletely filled out forms and were not included in the analysis. Two hundred and twenty-seven (227) in total were included in the study, 208 (91.6%) of them were female and 19 (8.4%) were male. The ages of the participants ranged from 22 to 63 years old with a mean of 39.25 years (SD=7.14). Most of the participants are from the 40 - 49-year-old age group (47.7%). Majority are married (67.8%) and a portion are living together (18.1%). More than half (58.4%) have reached at least tertiary education, and none had no formal education. Majority are unemployed (75.3%). Data for the other parent shows that ages ranged from 22 to 66 years old, with a mean of 40.93 years (SD=7.36). Similar to the participants, most of their spouses are from the 40-49-year-old age group (47.7%) and have reached tertiary education level (67.2%). In contrast to the parents who participated in the study, most of their spouses are employed (76.4%). Majority of the families earn between P9,

520 to 19, 040 (40.7%) and are classified as Class C based on the Roberto Scale (73.6%). The children with ASD are mostly male (79.7%). Age ranged from 2 to 18 years old, with a mean of 9.30 years (SD=4.07), most are from the school age group (34.2%). Majority of these children were diagnosed during the toddler years, 3 – 5 years old (62.4%). There are 24 children (10.6%) with another sibling diagnosed to have ASD (Table 1).

Family Needs during the COVID-19 Pandemic

By category, Needs for Information, Community Services, and Financial Needs have the greatest number of "definitely need help responses" on the items (Table 2). The top individual items rated as needs during this pandemic are: Need for information regarding future services (92.5%), information about how children grow and develop (88.5%), and reading materials about other parents who have children similar to theirs (86.2%). On the other hand, the least rated as needs are: help in locating babysitters or respite care providers (16.7%), help in deciding who will do household chores, child care, and other family tasks (17.5%) and talking more to a minister/priest who can help them deal with their problems (19.4%) (Appendix B).

Out of the 227 participants, 14 gave more than one answer to the question "During this COVID-19 pandemic, what is your greatest need as a family?" while two of the

Table 1. Sociodemographic Profile of Parents and their Children with ASD

Female 208 (91.6)			Parent, n (%)	Other Parent, n (%
Age 19-29 years 12 (6.2) 12 (6.1) 30-39 years 69 (35.4) 69 (35.4) 40-49 years 93 (47.7) 93 (47.7) >50 years 21 (10.8) 21 (10.8) Marital Status Married 154 (67.8) Single 12 (5.3) Separated 9 (4.0) Common law 41 (18.1) Widowed 11 (4.8) Educational Attainment Primary education level Secondary education level 97 (58.4) 131 (67.2) Employment Yes 56 (24.7) 149 (76.4) No 171 (75.3) 46 (23.6) Monthly Income (Household) P9,520 or below P9,520 to P19, 040 92 (40.7) P19,040 to P38, 080 40 (17.7) P38, 080 to P66, 640 12 (5.3) Roberto Scale AB 19 (8.4) C 167 (73.6) D 33 (14.5) E 8 (35.5) C C 167 (73.6) D 33 (14.5) E 8 (35.5) C C 167 (73.6) D 33 (14.5) E 8 (35.5) C C 167 (73.6) D 33 (14.5) E 8 (35.5) C C 167 (73.6) D 2 (36.3) S	Sex	Male	19 (8.4)	
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Table 2. Categories of Family Needs

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	Number of items per category with "definitely need help" response [mean (SD)]	Total number of items per category
Needs for Information	5.8 (1.9)	7
Community Services	2.7 (1.5)	5
Financial Needs	3.1 (1.8)	6
Needs for Support	3.9 (2.6)	8
Explaining to Others	1.8 (1.8)	5
Family Functioning	1.4 (1.4)	4

Table 3. Greatest Needs during the COVID-19 Pandemic

Identified Need	n (%)
Financial Need	117 (48.55)
Services	36 (14.94)
Food	24 (9.96)
Employment	20 (8.30)
Medications	9 (3.73)
Recreation	6 (2.49)
None	6 (2.49)
Internet/Gadgets for Online Services	5 (2.07)
Well Being	5 (2.07)
Support for Others	4 (1.66)
Housing	3 (1.24)
Information	3 (1.24)
Safety	2 (0.83)
Time	1 (0.41)

Table 4. Coping Strategies used during the COVID-19 Pandemic by Domain

Coping Strategy Domains	Composite Score [Mean (SD)]
Religiosity	3.6 (0.4)
Problem-Solving	3.4 (0.5)
Cognitive Reappraisal	2.8 (0.8)
Tolerance	2.7 (0.8)
Relaxation/Recreation	2.7 (0.5)
Social Support	2.4 (0.7)
Overactivity	2.3 (0.7)
Emotional Release	1.9 (0.5)
Substance Use	1.1 (0.2)

responses were not valid because the responses were comments and not needs. Out of the 240 responses, almost half (48.55%) identified that assistance with finances is the greatest need during this pandemic (Table 3), followed by the need for services (14.94%), and food (9.96%). Among the services mentioned, therapy was the most frequently identified (76%) followed by education and medical services, 14% each.

Coping Strategies Used during the COVID-19 Pandemic

The composite scores for the Filipino Coping Strategies Scale were computed by getting the average sum of the 4-point rating across the items in each domain. Religiosity is the most used coping strategy by the parents with a composite score of 3.6 (SD 0.4). This is followed by Problem-Solving (3.4, SD 0.5) and Cognitive Reappraisal (2.8, SD 0.8). The least used strategies are Substance Use (1.1, SD 0.2) and Emotional Release (1.9, SD 0.5). (Table 4)

Socio-demographic Characteristics and its Association with Needs and Coping

Table 5 shows a summary of the parent and child characteristics and its relationship with the needs identified in the survey and coping strategies used. Among the different variables, parental sex, child age and sex, and presence of more than one child with ASD showed an association with needs. Need in Family Functioning was associated with fathers (*p*-value=0.033). The age of the child is inversely associated with the expressed needs. Parents with younger children, ages 1-5 years old, have increased expressed needs in four domains than parents of late adolescents. The domains with significant association are: needs for information (*p*-value=0.0022), explaining to others (*p*-value=0.0196), community services (*p*-value=0.0001), and financial needs (*p*-value=0.016). Parents whose daughters have ASD

expressed a need in family functioning compared with those who had sons (*p*-value=0.049). Lastly, having more than one child diagnosed with ASD is associated with needs in community services (*p*-value=0.021). Parental educational status was noted to be associated with the use of cognitive reappraisal strategy (*p*-value=0.02). Being employed was noted to be associated with the coping strategy substance use (*p*-value=0.0).

DISCUSSION

The conceptual framework used in the study was adapted from the Family Adjustment and Accommodation Resource (FAAR) Model³³ which suggests that families respond to stressful life events with the interaction of three domains, namely demands, capabilities, and family's meaning (Figure 1). This model suggests that when demands increase, families employ their capabilities, to "balance" the new pressures experienced.

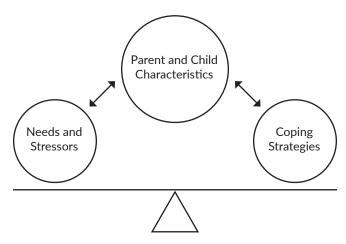


Figure 1. Conceptual Framework.

The need for information received the most "definitely need help response" which is consistent with studies done in both developed and developing countries prior to the pandemic, where it was noted that there is a general lack of information for parents of children with autism. ^{20,21,34} Autism-specific information, such as on how to create routines, regulate emotions, and handle challenging behaviors, were identified. ³⁵ Community services (medical, dental, therapy, and education) arose as a need because schools, therapy centers, and outpatient services have been closed in the country.

Financial strain, loss of income, and economic instability are consistently mentioned in literature across different countries^{24,25,36,37}, which is similar to the present study. Despite this being the most frequently expressed need when asked openly, financial needs only ranked third by category. Looking closely at the individual items in this category, half of the items were rated as a "definite need" (help in paying for child services, help in paying for basic expenses, and help in getting special equipment), while the other half were not deemed as needs (need for counseling or help in getting a job, help in paying for toys, and help in paying for babysitting or respite care). Thus, resulting in decreased overall mean of

that category. The need for financial support and income is likely to be present in our country as we face an economic crisis. Since the pandemic started, the unemployment rate has increased up to 17.7% in April 2020³⁸ with more than 1 million Filipino adults jobless.

Although only a few parents reported the need for recreation and internet connection or gadgets for online use, these needs are noteworthy as these are possibly unique to the current situation. Due to community quarantine restrictions, traveling for leisure and recreational activities are on hold.³⁹ Interaction to the world outside of their homes has been hampered and access to the internet has become vital during this time as a means of connecting with friends and family, providing opportunities to work and study at home, as well as in engaging with the government, and exercising political freedom.⁴⁰ This may not be a concern in developed countries with highly advanced technology but for low-resource countries such as Africa and the Philippines, this is a necessity brought about by the pandemic.^{41,42}

To understand which parent and child variables are related to perceived family needs, further analysis showed that parental sex was associated with the need for assistance in

Table 5. Association of Parent and Child Socio-demographic Characteristics with Needs and Coping Strategies Used

	Family Needs [Mean (SD)]					
	Needs for Information	Needs for Support	Explaining to Others	Community Services	Financial Needs	Family Functioning
Parent						
Sex						
Male	6.5 (1.6)	4.5 (2.7)	2.3 (1.9)	2.7 (1.6)	3.5 (1.9)	2.1 (1.6)
Female	5.7 (2.0)	3.8 (2.5)	1.8 (1.8)	2.7 (1.4)	3.0 (1.7)	1.4 (1.4)
p-value	0.115	0.240	0.242	0.996	0.324	0.033
Parental Educational Attainment						
Primary	6.3 (1.1)	6.0 (1.7)	2.3 (1.1)	3.3 (0.6)	3.3 (1.5)	2.0 (1.0)
Secondary	5.8 (2.1)	4.1 (2.8)	1.9 (1.9)	2.7 (1.4)	3.0 (1.8)	1.6 (1.3)
Tertiary	5.9 (1.8)	3.6 (2.5)	1.8 (1.8)	2.7 (1.5)	3.1 (1.8)	1.3 (1.4)
<i>p</i> -value	0.966	0.168	0.725	0.769	0.944	0.225
Employment						
Yes	5.9 (1.9)	3.8 (2.4)	1.6 (1.9)	2.7 (1.4)	3.0 (1.8)	1.3 (1.5)
No	5.8 (1.9)	3.9 (2.6)	1.9 (1.8)	2.7 (1.5)	3.1 (1.8)	1.5 (1.4)
<i>p</i> -value	0.389	0.841	0.274	0.7714	0.6697	0.6559
Child						
Current age (years)						
1 year - 5.11	6.4 (1.1)	4.4 (2.3)	2.1 (1.8)	3.5 (1.1)	3.5 (1.5)	1.7 (1.4)
6 years - 9.11	6.0 (1.8)	4.0 (2.5)	1.8 (1.9)	2.7 (1.6)	3.2 (1.9)	1.5 (1.4)
10 years - 12.11	5.6 (1.9)	3.7 (2.6)	2.0 (1.9)	2.4 (1.2)	3.0 (1.8)	1.5 (1.4)
13 years - 15.11	5.0 (2.4)	3.7 (2.6)	2.0 (1.9)	2.4 (1.5)	2.7 (1.8)	1.3 (1.6)
16 years - 18.11	5.0 (2.4)	2.7 (2.9)	0.7 (1.2)	1.8 (1.4)	2.1 (1.5)	0.7 (1.1)
<i>p</i> -value	0.0022	0.1222	0.0196	0.0001	0.016	0.076
Sex						
Male	5.7 (2.0)	3.8 (2.5)	1.8 (1.8)	2.6 (1.4)	3.0 (1.8)	1.3 (1.4)
Female	6.1 (1.7)	4.2 (2.8)	2.1 (1.8)	2.9 (1.5)	3.4 (1.8)	1.8 (1.4)
<i>p</i> -value	0.199	0.326	0.272	0.190	0.195	0.049
With other sibling(s) diagnosed with ASD	6.4 (1.0)	4.3 (2.5)	2.2 (1.9)	3.3 (1.4)	3.5 (2.0)	1.2 (1.6)
p-value	0.126	0.388	0.252	0.021	0.230	0.514

Table 5. Association of Parent and Child Socio-demographic Characteristics with Needs and Coping Strategies Used (continued)

	Coping Strategies Needs [Mean (SD)]								
	Cognitive Reappraisal	Social Support	Problem- Solving	Religiosity	Tolerance	Emotional Release	Overactivity	Relaxation/ Recreation	Substance Use
Parent									
Sex									
Male	2.8 (0.5)	2.6 (0.9)	3.5 (0.6)	3.6 (0.4)	2.4 (0.9)	1.9 (0.6)	2.4 (0.7)	2.7 (0.5)	1.2 (0.4)
Female	2.8 (0.5)	2.4 (0.7)	3.4 (0.5)	3.6 (0.4)	2.7 (0.8)	1.9 (0.5)	2.3 (0.7)	2.7 (0.5)	1.0 (0.2)
p-value	0.896	0.167	0.932	0.956	0.095	0.601	0.816	0.955	0.353
Parental Educational Attainment									
Primary	2.9 (0.4)	1.9 (0.5)	3.1 (0.8)	3.5 (0.3)	2.2 (0.3)	1.9 (0.1)	2.1 (0.5)	2.5 (0.5)	1.0 (0.0)
Secondary	2.6 (0.6)	2.4 (0.8)	3.3 (0.6)	3.6 (0.4)	2.7 (0.9)	1.8 (0.4)	2.2 (0.6)	2.6 (0.5)	1.1 (0.1)
Tertiary	2.9 (0.4)	2.4 (0.7)	3.5 (0.5)	3.6 (0.4)	2.6 (0.8)	1.9 (0.5)	2.3 (0.7)	2.7 (0.5)	1.1 (0.2)
p-value	0.02	0.464	0.154	0.090	0.506	0.772	0.801	0.059	0.576
Employment									
Yes	2.9 (0.5)	2.4 (0.7)	3.5 (0.5)	3.7 (0.5)	2.6 (0.8)	1.9 (0.6)	2.4 (0.7)	2.7 (0.5)	1.2 (0.4)
No	2.8 (0.5)	2.4 (0.8)	3.4 (0.5)	3.6 (0.4)	2.7 (0.8)	1.9 (0.5)	2.3 (0.7)	2.7 (0.5)	1.0 (0.2)
<i>p</i> -value	0.498	0.606	0.434	0.378	0.382	0.361	0.088	0.547	0.000
Child									
Current age (years)									
1 year - 5.11	2.8 (0.4)	2.5 (0.7)	3.5 (0.5)	3.7 (0.3)	2.6 (0.9)	1.9 (0.5)	2.3 (0.7)	2.7 (0.5)	1.1 (0.2)
6 years - 9.11	2.8 (0.5)	2.4 (0.8)	3.4 (0.6)	3.6 (0.4)	2.8 (0.8)	1.9 (0.6)	2.3 (0.7)	2.7 (0.6)	1.1 (03)
10 years - 12.11	2.9 (0.5)	2.4 (0.7)	3.4 (0.5)	3.6 (0.5)	2.5 (0.9)	1.9 (0.5)	2.4 (0.7)	2.7 (0.5)	1.1 (0.3)
13 years - 15.11	2.9 (0.5)	2.4 (0.7)	3.5 (0.5)	3.6 (0.3)	2.5 (0.9)	1.8 (0.3)	2.1 (0.6)	2.8 (0.5)	1.1 (0.1)
16 years - 18.11	2.7 (0.5)	2.2 (0.8)	3.3 (0.7)	3.6 (0.3)	2.6 (0.6)	1.8 (0.3)	1.9 (0.6)	2.7 (0.5)	1.1 (0.3)
p-value	0.771	0.592	0.816	0.318	0.237	0.428	0.058	0.945	0.997
Sex									
Male	2.8 (0.5)	2.4 (0.8)	3.4 (0.5)	3.6 (0.4)	2.7 (0.8)	1.9 (0.5)	2.3 (0.7)	2.7 (0.5)	1.1 (0.2)
Female	2.8 (0.4)	2.4 (0.7)	3.4 (0.5)	3.6 (0.3)	2.7 (0.9)	1.9 (0.4)	2.3 (0.7)	2.7 (0.5)	1.1 (0.2)
p-value	0.884	0.867	0.967	0.709	0.844	0.715	0.918	0.994	0.354
With other sibling(s) diagnosed with ASD	2.9 (0.5)	2.5 (0.7)	3.4 (0.5)	3.6 (0.4)	2.9 (0.7)	2.0 (0.6)	2.4 (0.8)	2.8 (0.6)	1.1 (0.1)
<i>p</i> -value	0.574	0.500	0.694	0.141	0.132	0.198	0.360	0.692	0.488

family functioning. The fathers in the present study were more likely to express the need for help in discussing problems, supporting each other, and deciding on recreational activities, which is in contrast to other countries wherein the mothers usually have more needs. 43,44 In the Philippines, fathers usually take traditional roles in the home being the primary providers, thus having limited extent to childrearing and managing the home⁴⁵, this typical paternal role is a possible explanation for this need. Parental age, educational, marital, and socioeconomic status were not noted to be associated with needs. For the child variables, an inverse relationship between the child's age and the number of expressed needs was noted, in which those coming from the younger age groups (i.e., toddler and preschool age) were more likely to have more needs than those from the older age groups (i.e., late adolescents). This finding is consistent with other studies showing that age is one of the predictors of needs in families of children with ASD.^{20,43} Another variable noted to have an association with a need was the child's sex. Parents in the study who had daughters with ASD were more likely to express a need for family functioning than those with male children. Studies have shown that parents of girls with ASD have higher levels of stress and parent-child dysfunction than those with sons^{46,47}, which may reflect the need for help in the family functioning aspect.

Families experience different stressors throughout the lifespan, but the current pandemic has posed a new and unexpected challenge that families must deal with. Through the process of coping, families can overcome the challenges they are presented with.⁴⁸ In the present study, religiosity was noted to be the most frequently used coping mechanism of parents. Spirituality has an important role as a coping mechanism as it seems to be the first line of defense against distress and pain. 49 Parents of children with ASD in Southeast Asia⁵⁰ hold on to religious beliefs and are used as a support for them to accept and raise their child. Spirituality and turning to religion are frequently observed in the Philippines^{33,51} and this applies to the families of autistic children^{52,53} as well. Other frequently used strategies are problem-solving and cognitive appraisal, which are consistent with literature in coping by Filipino parents in which attaching positive meaning to stressful events and channeling efforts towards handling problems are done.⁵² Parental education status was noted to be associated with the coping strategy, Cognitive

Reappraisal, an attempt to reinterpret an emotion-eliciting situation in a way that alters its meaning and changes its emotional impact.²⁶ Consistent with literature, higher educational status is related to more adaptive and problem-focused ways of coping.²³ It must be noted however, that the parents with primary education level (n = 3) have the same mean score as those with tertiary education, which may signify a relationship as well. Parents who are employed were more likely to have substance use as a coping mechanism than those who are jobless. This may be related to receiving salaries thus, being able to purchase alcohol and cigarettes.

Most of the parents in the study employ positive coping strategies despite the current situation, which implies that they have internal resources in place to handle the challenges. To provide additional support for these families, recommendations generated based on the results of the study are as follows: [1] development of a parent training program specific to autism that can be delivered via online platforms. The said webinar will provide information on ASD, how to manage behaviors, communicate, and play with their child; [2] dissemination of information on available services during this pandemic, such as therapy centers, dentists, and physicians who have telemedicine and/or face-to-face services. These may be posted through social media platforms and in chat groups; [3] in relation to the former, continuation of free consultation and assessment services for indigent patients with autism at the said government tertiary hospital through telemedicine and eventually face-to-face consults; [4] collaboration with the allied medical professionals who may be able to offer these services to children with autism; [5] collaboration with experts in the field of mental health to be able to support their needs to prevent mental health concerns or disorders in the children and their parents; [6] coordination with Autism-specific societies and local government units (LGU) to share the findings of this study in order to generate a bigger response. The results and recommendations may be considered in creating guidelines in LGUs to address the inequities brought about by the lack of community services for children with disabilities.

Limitations

The present study's population sample was limited to the families of patients from a tertiary government hospital catering to mostly low- to middle-income families. In relation to this, the study was exclusively distributed via electronic means and families without access to the internet or devices were not reached. Self-report measures may lead to response biases or memory recall, which might impede the generalizability of the findings of this study.

CONCLUSION

The present study gives us a glimpse of the plight of families of children with ASD in the Philippines during the COVID-19 pandemic. These families are experiencing

various difficulties and have multiple needs ranging from autism-specific, such as information and services, to a more basic need, finances. Despite these, they have positive coping strategies in place, particularly religiosity, problem solving and cognitive reappraisal. These findings can pave the way for the Division of Developmental and Behavioral Pediatrics, Autism Societies, and the government to support children with autism and their families especially during outbreaks and pandemics.

Recommendations

A follow-up study post-pandemic may be done to better understand the situation and investigate the long-term effects on these families. Future studies may be done to include a greater population to cover across socio-demographics and developmental disabilities.

Statement of Authorship

Both authors certified fulfillment of ICMJE authorship criteria.

Author Disclosure

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APPENDICES

Appendix A. Description of Questionnaires Used

Questionnaire	Description
Roberto Scale	It ranges from AB to E. AB scale, the highest, is a well-furnished house with the painted outer wall and roof made of sturdy materials, regardless whether the house is owned or not, and is also considered when a car park and/or garden is part of the housing condition; C scale is a house made of strong materials but unpainted and has no car park or lawn; D scale is a house made of mixed but predominantly light materials with no concrete walls and; E scale, the lowest, is a house made of makeshift or salvaged materials.
Family Needs Survey (FNS)	It is a 35-item questionnaire which begins with the instruction "for each of the needs listed below please check the space that best describes your need or desire for help in that area during this COVID-19 pandemic (since March 2020)," a modification done for this study. Other items modified include numbers 24 and 25, from the Community Services categories and the addition of two open-ended questions asking for other needs not mentioned and their family's greatest need during the present pandemic. It uses a 3-point Likert scale, with rating from 1 to 3, with 1 corresponding to "I definitely do not need help with this," 2 with "not sure," while 3 is "I definitely need help with this." There are six categories in the questionnaire, which are: need for information, need for support, explaining to others, community services, financial needs, and family functioning. The questionnaire was translated in Filipino by the Sentro ng Wikang Filipino of the University of the Philippines, Manila with permission from its authors.
Filipino Coping Strategies Scale	It is a 37-item questionnaire that are rated using a 4-point Likert scale, with 1 indicating Never (<i>Hindi</i>) to 4 indicating Often (<i>Madalas</i>), and one open-ended question at the end asking for other coping strategies that they specifically use but are not found in the scale. The instructions were modified for this study to specify the role of the participant as a parent and the current stressful situation, the pandemic. The nine domains of coping strategies measured in this scale are as follows: cognitive reappraisal (<i>pagsusuri</i>) involves changing a person's views or outlook about a problem (items 1, 8, 17, 23, and 30); social support (<i>paghingi ng tulong</i>) are help-seeking behaviors such as getting advice from professionals, support from family and friends, and sharing of one's problems (items 9, 24, and 31;) problem-solving (<i>pagtugon</i>) includes planning, taking action to confront the sources of stress, and eliminating stressors (items 2, 10, 18, and 32; religiosity (pagkarelihiyoso) are religious behaviors such as praying, leaving everything to God, and trusting the will of a higher Being (items 3, 11, 19, and 33); tolerance (<i>pagtitiis</i>) involve enduring difficulties without confronting or actively solving it (items 12 and 25); emotional release (<i>paglabas ng saloobin</i>) refers to venting out emotions through various means (items 4, 13, 26, and 34); overactivity (<i>pagmamalabis</i>) refers to using overexertion as a means to divert one's attention from stressors (items 5, 14, 20, 27, and 35); relaxation/recreation (<i>paglilibang</i>) involves engaging in activities that could relax or make a person at ease (items 6, 15, 21, 28, and 36); substance use (<i>pagbibisyo</i>) refers to drinking alcoholic beverages, cigarette smoking, and intake of medications to relieve physical and mental manifestations of stress (items 7, 16, 22, 29, and 37). This questionnaire has been validated in the general population, at least 18 years old, across socio-demographic variables such as sex, socio-economic status, and educational attainme

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Appendix B. Family Needs during the COVID-19 Pandemic (Individual Items)

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