

ADHD caregivers facing the COVID-19: The impact of age, distance learning and medication on emotions and parenting strategies

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Abstract

La ricerca ha studiato l'impatto della pandemia di Covid-19 sui genitori caregiver di bambini con ADHD. Le variabili indagate sono l'età dei bambini, la loro terapia farmacologica e l'apprendimento a distanza. 992 genitori hanno compilato un questionario online anonimo che ha rilevato le difficoltà che hanno avuto nell'apprendimento a distanza e le strategie e le emozioni genitoriali dei caregiver prima e durante il lockdown. I nostri risultati mostrano che i caregiver hanno vissuto difficoltà rilevanti nell'apprendimento a distanza, che hanno sperimentato più frustrazione e che hanno utilizzato strategie genitoriali più negative rispetto a prima della pandemia. La terapia farmacologica non si è dimostrata un predittore significativo di cambiamenti nelle strategie genitoriali, mentre l'età dei bambini e il carico per la didattica a distanza hanno predetto i cambiamenti delle strategie genitoriali positive. Inoltre, la nostra analisi di mediazione ha mostrato che il carico dovuto alla didattica (ad esempio, l'aumento dei compiti a casa e la dipendenza dei bambini dai genitori) media parzialmente l'effetto dell'età sui cambiamenti nelle strategie positive. Ciò significa che più grandi sono i bambini, minore è il carico e minore è il cambiamento nelle strategie positive. Questi risultati descrivono l'impatto del lockdown sulle difficoltà dei genitori di bambini con ADHD e spiegano come i genitori si sono adattati alla situazione modificando le loro strategie.

Introduction

Parenting style has a crucial influence on ADHD symptoms severity (Healey et al., 2011), a positive parenting style plays a protective role in the functioning of children dealing with various hyperactive/inattentive symptomatology. In turn, ADHD symptoms severity and the stress due to impaired functioning of children with ADHD could modulate emotions and parenting style (Berenguer et al., 2021). Also pharmaceutical therapy was reported to be a relevant dimension in determining parenting strategies: caregivers taking care of children under pharmacological therapy improve the quality of parenting strategies (Chronis-Tuscano et al., 2008).

According to the recent literature, the COVID-19 pandemic significantly impacted children and adolescents dealing with ADHD and their caregivers. Distance learning and home-schooling were among the most challenging dimensions to manage by caregivers of children with ADHD (Becker et al. 2020). For instance, Cortese et al. (2020) reported that confinement altered the daily routine of children with ADHD and increased the chances of more severe hyperactivity and impulsive behaviour, causing difficulty for the caregivers to engage these children in meaningful activities. Moreover, Siracusano and colleagues (2021) confirmed that parents of children with ADHD experienced a higher stress level in the pre-pandemic period: the higher stress level was correlated to the severity of ADHD symptoms and not to parents' sense of competence.

However, parenting strategies represented a powerful resource for dealing with ADHD symptoms. For instance, Breaux et al. (2021) confirmed such an increase in symptoms severity, but they found that emotion regulation could be a protective factor to favour the behaviour management of ADHD at home. Therefore, emotion regulation and positive parenting could reduce the stress of managing a child with ADHD during confinement. Studies on emotional-behavioural problems expressed by children with ADHD during the lockdown showed that confinement represented a risk or indirect protective factor on children and adolescents' behavioural problems compared to their pre-lockdown behaviour and children with a neurodevelopmental disorder (Melegari et al., 2021). It is to manage these challenges that some caregivers adjust their parenting behaviour (Menter et al., 2022)

To summarise, the literature highlighted the relevance of parenting strategies and emotions in dealing with children with ADHD and showed that the pandemic had a significant impact on both of these dimensions. In particular, dealing with distance learning emerged as one of the most problematic areas.

Research aims

The present research aimed to investigate the impact that the COVID-19 pandemic may have had on caregivers' emotions and parenting strategies in dealing with children with ADHD. To this aim, we investigated the role of three specific dimensions in determining changes in caregivers' emotions and strategies in dealing with children with ADHD: (1) children's age, (2) the perceived difficulties in distance learning, (3) caring for children under pharmacological therapy. Our hypotheses are that the perceived difficulties in distance learning will exert a greater impact on parenting strategies and emotions in dealing with children with ADHD. In other words, the greater the caregivers' perceived difficulties, the more the changes in their strategies and emotions. Moreover, according to recent literature on the topic (Chronis-Tuscano, 2008; Thorrel et al., 2022; Roy et al., 2022), we expect that children's age and pharmacological therapy will be protective factors. In other words, caregivers taking care of older children and caregivers taking care of children under medication are expected to change fewer strategies and emotions during the lockdown.

Methods: Subjects

We advertised the research through the Italian ADHD Family Association (AIFA) website (from June 4 to June 21, 2020).

We recruited 992 caregivers who were taking care of children with a certified ADHD diagnosis at the time of the questionnaire (Woman= 894 [90.1%]; Men = 72 [7.3%]; Not Specified = 26 [2.6%]). All the participants were recruited in Italy (South = 211 [21.3%]; Centre = 247 [24.9%]; North = 534 [53.8%]) having a varied educational (Primary = 185 [18.5%]; Secondary = 520 [52.4%]; Tertiary = 287 [28.9%]) and self-perceived economic (Low = 220 [22.2%]; Medium = 742 [74.8%]; High = 30 [3.0%]) background.

The population of care-receivers, namely children with ADHD, had an average age of 11.52 years (SD = 3.17; Min Age = 5; Max Age = 18) and were mainly boys (Girls = 145 [14.6%]; Boys = 847 [85.4%]).

Our sample reflects the gender distribution in the wider population of ADHD patients (Rucklidge, 2008). Moreover, the total sample is representative of the entire Italian territory with the participation of all regions, 20 metropolitan cities and 78.3% (n=92) of Italian provinces.

Results: distance learning and parenting strategies

Table 1 Difficulties in managing distance learning

Difficulties	Percentages
d1. Materials availability	68.3% (n=678)
d2. Lack of attention from school	54.5% (n=451)
d3. Homework increase	36.7% (n=364)
d4. Children's reliance on caregivers	33.4% (n=331)
d5. Managing access to the lectures	24.5% (n=243)
d6. Accessibility tools provided by the school	11.1% (n=110)

Most caregivers (98.5% [n=977]) reported having experienced at least one difficulty..

As a result of our Analysis of Principal Component (APC), we extracted three factors: *access difficulties*, *lack of school support*, *learning burden*. The factorial solution explains 61.3% of the total variance.

Lack of school support is where caregivers reported the highest distance learning problems. These problems were characterised by having trouble finding didactic materials (n=678) and not being helped by the school (n=451).

Distance learning was also characterised by a learning burden (N=695). For instance, some caregivers reported difficulties managing the work overload, characterised by increased homework (n=364) and the children's lack of independence in schoolwork (n=331).

Compared to the other dimensions, caregivers reported *access difficulties* (N=343) with a lower frequency. For instance, few experienced issues accessing the lectures (n=243) and fewer were not provided with access tools by the school (n=110).

Table 2 Caregivers' change in parenting strategies during the lockdown

Parenting strategies	Started		Stopped		Overall Changes	
	%	N	%	n	%	n
s1. Raising the voice	78.8%	(189)	21.3%	(51)	24.2%	(240)
s2. Complaining	72.5%	(116)	27.5%	(44)	16.1%	(160)
s3. Finding compromises	33.6%	(49)	66.4%	(97)	14.7%	(146)
s4. Organising routine	57.0%	(77)	43.0%	(58)	13.6%	(135)
s5. Ignoring	71.1%	(91)	28.9%	(37)	12.9%	(128)
s6. Anticipating crises	42.1%	(53)	57.9%	(73)	12.7%	(126)
s7. Being authoritarian	65.0%	(80)	35.0%	(43)	12.4%	(123)
s8. Reassuring	34.3%	(36)	65.7%	(69)	10.6%	(105)
s9. Explaining	37.4%	(37)	62.6%	(62)	10.0%	(99)
s10 Distracting	64.4%	(56)	35.6%	(31)	8.8%	(87)
s11 Punishing	71.9%	(41)	26.3%	(15)	5.7%	(57)

As a result of our APC, we extracted two factors: (1) changes in *positive strategies*, and changes in *negative strategies*. The factorial solution explains 42.4% of the total variance.

Negative strategies involved the actions that changed the most (N=651). In particular, caregivers employed more negative strategies (n=476) than those who ceased (n=175).

Positive strategies changed slightly less than the negative ones (N=611). In particular, caregivers reported having ceased more positive strategies (n=359) than those employed (n=252). Overall, during the lockdown, caregivers changed toward a negative direction, employing negative strategies and dropping positive ones (n=835) rather than employing positive strategies and dropping the negative ones (n=427).

Results: emotions

Table 3 Caregivers' emotional change during the lockdown

Emotions	Started		Stopped		Overall Changes	
	%	n	%	n	%	n
e1. Worried	62.7%	(141)	37.3%	(84)	22.7%	(225)
e2. Powerless	65.7%	(130)	34.3%	(68)	20.0%	(198)
e3. Frustrated	68.7%	(136)	31.3%	(62)	20.0%	(198)
e4. Scared	72.3%	(133)	27.7%	(51)	18.5%	(184)
e5. Optimistic	27.7%	(49)	72.3%	(128)	17.8%	(177)
e6. Angry	66.7%	(112)	33.3%	(56)	16.9%	(168)
e7. Confused	68.0%	(87)	32.0%	(41)	12.9%	(128)
e8. Loving	37.3%	(47)	62.7%	(79)	12.7%	(126)
e9. Desperate	71.9%	(82)	28.1%	(32)	11.5%	(114)
e10.Compassionate	48.1%	(50)	51.9%	(54)	10.5%	(104)
e11. Guilty	64.4%	(65)	35.6%	(36)	10.2%	(101)
e12. Humiliated	61.0%	(36)	39.0%	(23)	5.9%	(59)
e13. Indifferent	75.0%	(9)	25.0%	(3)	1.2%	(12)

As a result of our APC, we extracted two factors: *care* and *frustration*. The factorial solution explains the 47.0% of the total variance.

The lockdown impacted caregivers' emotions in a marked negative way. Caregivers mainly experienced new emotions of *frustration* (n=753) rather than quitting them (n=379). Moreover, the number of *care* emotions that ceased (n=312) was slightly higher than those experienced during the lockdown (n=279).

Results: correlations and mediation analysis

Table 5 Pearson's correlation coefficients

	Age	PS	NS	AD	LS	LB	CA	FR
Age	1							
PS	-.119**	1						
NS	-0.041	.314**	1					
AD	-0.011	-0.005	-0.006	1				
LS	0.035	-0.01	0.045	0.018	1			
LB	-.351**	.113**	0.053	0.001	0.038	1		
CA	-.074*	.465**	.313**	-0.025	0.021	0.062	1	
FR	-0.06	.355**	.309**	-0.023	0.032	0.035	.488**	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Our results showed a significant negative relation between the *age of the children* and *changes in positive strategies*. This means that the older the children, the fewer caregivers changed their positive strategies during the lockdown. Moreover, the children's age was also slightly negatively related to changes in *care emotions*, meaning that the older was the children, the fewer caregivers changed their *care emotions*.

Second, we found a significant relation between *learning burden* and changes in *positive strategies*. This means that the more caregivers experienced a schoolwork overload, the more they changed their *positive strategies*.

Third, our correlations showed the presence of a significant relation between changes in emotions and strategies in dealing with children with ADHD. In particular, we found changes in *positive strategies* to be significantly related to changes in *care* and *frustration*. Moreover, we found negative strategies to be significantly related to both changes in *care* and *frustration* emotions.

Table 6 Mediation analysis: total, direct and indirect effects

Total effect of X on Y						
Age (x)	Effect	Se	T	P	LLCI	ULCI
	-0.0376	0.0101	-3.7173	0.0002	-0.0574	-0.0177
Direct effect of X on Y						
Age (x)	Effect	Se	T	P	LLCI	ULCI
	-0.0285	0.0108	-2.6447	0.0083	-0.497	-0.0074
Indirect effect of X on Y						
Learning burden (x)	Effect	BootSE			BootLLCI	BootULCI
	-0.009	0.0042			-0.0174	-0.001

Mediation analysis showed that the change in positive strategies is partly due to the indirect effect of age on the perceived difficulties in distance learning. In other words, the older the children, the fewer the changes in caregivers' positive strategies in dealing with children with ADHD. This effect is mediated by a reduced perception of difficulties in dealing with distance learning.

Conclusion

The present research described the impact of the pandemic on caregivers and explained the role of medications, children's age, and distance learning on parenting strategies and emotions in dealing with children with ADHD. In our opinion, these findings provide clinical practice and intervention with valuable insights, such as the relevance of focusing on caregivers' resilience resources in parent training. This may, in turn, have a significant benefit on children's severity of symptoms and caregivers' caring experience.