

analyses the different dimensions, where high values of cohesion and adaptability indicate balanced families and lower values reveal types of extreme families (2).

In sum, Circumplex Model-based studies using the scale FACES have become an important research area comprising more than 1,200 studies conducted in many countries around the world (4).

In this time of uncertainty, the changes resulting from the Covid-19 pandemic have invaded the family system and created situations for which there are no previous models. This pandemic represents a threat and a crisis situation for the well-being of families due to challenges related to social changes, insecurity, overload, and stress-related to confinement (6).

Remember that COVID-19 was considered a pandemic on March 11, 2020, by the World Health Organization. At the time this article was written, there were 37 888 384 confirmed cases of COVID-19, including 1 081 868 deaths as reported by WHO (7). Portugal, like other countries, declared a state of emergency on March 18, based on the verification of a situation of public calamity (8), forcing the confinement of Portuguese families.

The assumption that the disease and its prevention are a family affair is manifested across the spectrum and scale of the current covid-19 pandemic (5).

It is assumed that the current phase of the COVID-19 pandemic is likely to disrupt specific subsystems within the family (6). Following the general theory of family systems, the health of the family system must be the central focus of family nursing and involves strengthening the relational and systemic level, requiring the ability to understand the interdependencies of multiple components of a system, relating the individual, the environment and the context (9).

There will be considerable variability in how families will be affected by the COVID-19 pandemic; some families will be more vulnerable to this crisis than others (6), highlighting the relevance of this study. The reactions to COVID-19 are the most widespread social and family experience of

all time; their impact will take place at different levels and extend over time (10).

The COVID-19 pandemic has forced families to try to maintain balance, but with less support, including the closure of schools and nurseries. Now, new concerns are added to the multiplicity of previous family roles, such as eLearning, teleworking, financial concerns due to the loss of jobs and income, the separation with extended families to reduce exposure to the virus, physical and emotional contact with some elements 24 hours a day, among many others (11). Some families are trying to prevent and survive the infection, while others face the disease and the loss of family members (10) directly, but whatever the circumstances, in this context, the balance has become increasingly challenging.

An important principle in systems theory is that times of crisis and life challenges have an impact on the whole family and, in turn, the main family processes mediate the adaptation (or lack of it) of all individual members, their relationship, and the family unit (13), which may occur in a pandemic phase.

As an open system, family balance indicates that the type of family is dynamic, and family members are free to move in any direction, as required by the family's life cycle or by family members' socialization (13). In times of stress, balanced systems will tend to switch to another type of system to adapt, while unbalanced systems tend to get stuck in their extreme pattern, which can generally create more stress (2).

In Portugal, families today have a significantly smaller size (2,6); although the couple continues to be the predominant form of family organization, their value has decreased. In contrast, childless couples, single parents, and people living alone increased. Simultaneously, the changing trends in life as a couple have increased with the increase in de facto unions, out-of-wedlock births, and family reconstitution. The fertility rate has reached very worrying levels, and the average life expectancy has increased. These changes implied a progressive and persistent shift towards new living ways with the family (14). These

family structures may not be favourable in times of pandemic.

Awareness of the importance of nurses in observing families due to their unique character and from a systemic perspective, integrating the family as the focus of nursing care (15), this study aimed to assess the family functioning according to the Olson Circumplex Model, through the components of cohesion and adaptability of Portuguese families during this pandemic.

Methods

A descriptive, exploratory, and correlational study was used to evaluate family cohesion and family adaptability of Portuguese Families in a time of social confinement by COVID-19.

Setting and participants

The sample, no probabilistic and for convenience, consisted of 376 people. The inclusion criteria included: being over 18 years of age and voluntarily consenting to participate in the study.

Data collection

The instruments for data collection were organized and sent through Google® forms, including the Informed Consent Form (ICF). Data collection was carried out through social networks. The questionnaires were applied during the state of emergency in Portugal (March 20 to May 2).

In this study, a questionnaire was used, including sociodemographic data, with questions related to gender, age, marital status, educational qualifications, data on the characterization of the family, housing, family cohabitation in a pandemic period, and the phase of the Vital Duvall cycle (1976). To assess family cohesion and adaptability, FACES II was used.

The FACES II instrument was developed by Olson, Portner, and Bell translated and adapted to the Portuguese population by the Family Therapy Society and later by Fernandes (1995) (16). The Family Adaptability and Cohesion Scale II is a 30-item scale used to measure an individual's

perceptions of adaptability, family cohesion, and the family's general functioning. There are 16 questions that measure family cohesion and 14 that measure family adaptability, on a Likert-type scale from 1 (almost never) to 5 (almost always) (2).

For the assessment of cohesion, items 1, 5, 7, 11, 13, 19, 21, 23, 27, and 30 are positively rated, and items 3, 9, 15, 17, 25, and 29 are in the negative direction. The dimensions of cohesion are classified as disengaged, separated, connected, and very connected.

To assess adaptability, items 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, and 26 are rated positively, and items 24 and 28 are rated negatively. The adaptability dimensions are classified as rigid, structured, flexible, and very flexible. The instrument is recommended for research purposes (alpha de Cronbach: family cohesion 0.87; family adaptability 0.78) (16).

Ethical considerations

Authorization was obtained from the Ethics Committee to carry out the study (approval number was 2020/12). The participant was informed about the purpose of the study and the guarantee of data confidentiality, validating the informed consent in the electronic form.

Data analysis

Data analysis was performed using the IBM SPSS® Statistics software. Nonparametric tests were used for inferential analysis, as a normal sample distribution was not verified. When indicated, non-parametric tests (Mann-Whitney U or Kruskal-Wallis, respectively) were used, considering a level of statistical significance for values of $p < 0.05$.

Results

The sample consisted of 376 people, and the average age was 40.40 (Standard deviation=11,9, with a minimum of 18 years and a maximum of 74 years. Of the individuals surveyed, 77.7% are from the northern region, 82,7% are women, 53,5%

are married, 48,9% have a degree. Regarding the family situation, the number of family members is 3, 3, and a standard deviation=1, 23. The majority are legal couples with

children (Marriage) (55,3%), and according to Duval's life cycle, the majority are in the families with school-age children (21,8%) stage (Table 1).

Table 1. Participants characterization (N=376)

Variables	N	%
Gender		
<i>Male</i>	65	17.3
<i>Female</i>	311	82.7
Age groups		
<i>18-29</i>	62	16.5
<i>30-41</i>	136	36.2
<i>42-53</i>	129	34.3
<i>54-65</i>	36	9.6
<i>66-77</i>	13	3.5
Marital status		
<i>Single</i>	102	27.1
<i>Civil union</i>	51	13.6
<i>Married</i>	201	53.5
<i>Divorced</i>	17	4.5
<i>Widowed</i>	5	1.3
Residence region		
<i>North</i>	292	77.8
<i>Center</i>	34	9.0
<i>Lisbon area</i>	28	7.4
<i>Alentejo</i>	5	1.3
<i>Algarve</i>	6	1.6
<i>Azores</i>	3	0.8
<i>Madeira</i>	8	2.1
Educational Level		
<i>Basic (1 to 4 years)</i>	2	0.5
<i>Basic 2 (5 to 6 years)</i>	1	0.3
<i>Basic 3 (7 to 9 years)</i>	14	3.7
<i>Secondary school (10 to 12 years)</i>	69	18.3
<i>Bachelor degree</i>	10	2.7
<i>Licensed degree</i>	184	48.9
<i>Master degree</i>	74	19.7
<i>PhD</i>	22	5.9
Profession		
<i>Occupations in the armed forces;</i>	1	0.3
<i>Representative of legislative power and executive organs;</i>	21	5.6
<i>Intellectual and scientific experts;</i>	230	61.1
<i>Technicians and intermediary-level occupations</i>	48	12.8
<i>Administrative staff</i>	8	2.1
<i>Workers of personal. Protection and safety services and salespeople;</i>	15	3.9
<i>Workers skilled in farming and agricultural trades</i>	7	1.9
<i>Workers skilled in industrial. construction and operational trades</i>	7	1.9
<i>Workers no qualified</i>	19	5.1
<i>Student</i>	20	5.3
Employment situation during the COVID-19 pandemic		
<i>Retired</i>	19	5.1
<i>Domestic</i>	7	1.9
<i>Unemployed</i>	12	3.2
<i>Active worker (face-to-face)</i>	169	44.9
<i>Active worker (telecommuting or similar)</i>	93	24.7
<i>Worker on vacation</i>	10	2.7
<i>Worker in a lay-off situation</i>	24	6.4
<i>Student</i>	42	11.2

Table 3. Face II and variables (N=376)

Variables	Family cohesion				P	Family adaptability				P		
	Mean	SD	Min	Max		Mean	SD	Min	Max			
Gender												
Male	60.7	9.8	36	76	0.690	53.1	9.6	22	66	0.425		
Female	61.2	9.6	30	77		54.1	9.7	19	70			
Age groups												
18-29	59.7	12.9	30	77	0.071	51.9	12.7	19	66	0.248		
30-41	63.0	8.8	33	76		54.2	8.5	20	70			
42-53	60.4	8.0	36	75		54.7	7.9	29	66			
54-65	60.5	10.5	38	76		55.9	10.8	20	69			
66-77	57.9	9.6	41	69		48.5	14.0	21	64			
Marital status												
Single	57.4	11.8	30	70	0.001	50.9	12.1	19	66	0.034		
Civil Union	64.7	9.1	36	76		55.9	9.2	20	66			
Married	62.1	8.1	41	76		54.8	7.7	21	70			
Divorced	61.6	7.9	46	75		55.2	11.7	28	67			
Widowed	62.4	5.1	57	70		58.4	8.9	43	66			
Residence region												
North	61.35	9.9	30	77	0.934	54.4	9.5	19	70	0.467		
Center	9.6	9.2	34	75		59.6	11.6	20	64			
Lisbon area	61.9	8.1	45	76		61.9	8.7	36	66			
Alentejo	62.6	7.3	57	74		62.6	8.2	41	58			
Algarve	59.2	10.3	48	71		59.2	8.0	42	63			
Azores	61.3	13.1	51	76		61.3	10.2	44	63			
Madeira	62.3	9.9	48	76		62.3	8.4	40	66			
Educational level												
Basic (1 to 4 years)	58.5	14.8	48	69	0.098	53.0	15.6	42	64	0.008		
Basic 2 (5 to 6 years)	58.0	0	58	58		53.0	0	53	53			
Basic 3 (7 to 9 years)	56.8	6.4	49	69		49.4	8.1	38	65			
Secondary school (10 to 12 years)	58.9	12.2	30	77		50.7	12.3	19	66			
Bachelor degree	58.4	4.9	51	65		51.9	8.1	39	62			
Licensed degree	61.8	9.1	33	76		54.5	9.1	21	70			
Master degree	62.1	9.6	38	76		55.5	8.5	27	66			
PhD	63.7	5.9	52	74		58.6	6.1	44	67			
Profession												
Occupations in the armed forces;	64.0	0	64	64	0.028	56.0	0	56	56	0.010		
Representative of legislative power and executive organs;	57.8	9.1	45	75		50.3	8.4	31	65			
Intellectual and scientific experts;	61.9	9.1	33	76		55.1	9.2	20	70			
Technicians and intermediary-level occupations	60.3	8.8	34	76		52.8	10.4	19	66			
Administrative staff	55.8	8.5	45	70		49.8	6.7	41	58			
Workers of personal. Protection and safety services and salespeople;	59.1	9.0	40	73		52.8	7.3	38	63			
Workers skilled in farming and agricultural trades	64.1	8.4	46	70		55.3	6.3	43	60			
Workers skilled in industrial. construction and operational trades	64.9	7.6	50	72		56.95	5.1	51	63			
Workers no qualified	64.4	10.6	33	76		6.6	8.8	29	66			
Student	55.5	15.3	30	77		46.8	14.7	66	66			
Employment situation during the COVID-19 pandemic												
Retired	59.4	10.9	41	76		0.449	50.2	14.4	21		66	0.176
Domestic	63.0	3.0	61	69			52.6	5.6	49		65	
Unemployed	60.4	14.1	35	75	47.9		15.3	25	66			
Active worker (face-to-face)	61.8	8.9	33	76	55.3		7.8	29	70			
Active worker (telecommuting or similar)	59.9	8.7	34	76	53.7		8.7	20	67			
Worker on vacation	65.7	7.8	49	76	60.3		5.9	50	69			
Worker in a lay-off situation	61.5	9.7	38	76	53.7		10.4	20	66			
Student	60.7	12.7	30	77	51.8		12.9	19	66			
Housing type												
Luxurious. Spacious home or floor. offering its residents maximum comfort	64.4	7.5	49	76	0.000	55.2	9.1	19	66	0.003		
House or floor that is spacious without being luxurious	61.9	9.4	34	77		54.8	9.5	20	70			
Modest house or floor. Well built and in good condition. Well lit. Airy. With kitchen and WC.	58.9	10.1	30	76		52.8	9.5	29	29			
House with kitchen and W.C.. but: - Degraded and/or - Without essential appliances.	46.6	5.1	38	38		37.6	9.1	27	27			

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