

# Supportive educative system based on the integration of family centered care and family tasks towards family support in adolescents with smartphone addiction



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## ABSTRACT

**Introduction:** The family as the smallest unit of society is a social institution that has and functions at every stage of development. During the pandemic, all needs are shifted to online from offline activities, so our interaction with smartphones or laptop screens is increasing. This study aims to arrange the invention of a new method of family nursing care standards with a Supportive Educative System based on integrating Family Centered Care and family tasks towards family support in adolescents with Smartphone addiction.

**Method:** The study used quantitative design with Quasy Experiments. The sample taken was 24 respondents who were divided into two groups. Data analysis using the Paired t-test it shows that in the treatment group the results of the p value (0.002) < (0.05), meaning that there is a difference between family support before and after being given treatment, namely an increase in the average value of 95 to 97.08. While in the control group the statistical.

**Result:** The results of the p value (0.028) < (0.05), meaning that there is a difference between family support before and after being given treatment, namely an increase in the average value of 94, 75 becomes 96.

**Conclusion:** There is change to the treatment of inventions new methods of standardized family nursing care with a Supportive Educative System based on the integration of Family Centered Care and family duties towards family support in adolescents with Smartphone education to families is expected to be the basis for members to support each other in Addiction.

**Keywords:** Family Support, Family Centered Care, Supportive Educative System.

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## INTRODUCTION

The 21st century is known as the century of information technology. Communication via wireless and the internet is an extraordinary necessity resulting in revolutionary changes in the field of communication.<sup>1</sup> A smartphone is a communication tool that is very commonly used today. Smartphones are a very practical communication medium for children and adults. Almost all people have used smartphones in daily activities, especially during the current Covid-19 pandemic which requires all activities to be carried out online, causing an increase in smartphone use in all circles.

In high-income countries throughout North America and Europe, over 80% of the population owns a smartphone.

Meanwhile in middle and low income countries the population will continue to grow. The use of smartphones will be problematic when smartphones interfere with daily life. In general, it is related to the duration of smartphone use (looking at the smartphone screen) but the duration of smartphone use (looking at the screen) only not necessarily a negative effect. While smartphone use has positive effects, some people may benefit from calling their friends for several hours per day, while others use social networking apps for just a few minutes while trying to study or sleep can have negative effects. The use of smartphones also has a negative effect, namely cognitive impairment, lower sleep, and depression; limiting smartphone use can reduce depression and improve sleep quality; However, researchers continue to

debate about the exact relationship between smartphone use and various aspects of well-being and whether problematic smartphone use is a behavioral addiction.<sup>2</sup> In anything cases, many people reported wanting to reduce their smartphone use. Nearly half of smartphone users in developed countries believe that they use smartphones excessively mobile phones and many prefer to spend their time doing other things. Still, only half of them try to reduce cell phone use reported successfully doing so.<sup>3</sup>

The results of a survey conducted by Kominfo from the number of respondents as many as 6,246 showed that more than half of Indonesians (66.31%) already have smartphones. The male gender dominates smartphone ownership more, which is 67.41%. The age of smartphone ownership

is the most in the range of 20-29 years, which is 75.95%.<sup>4</sup>

With the above exposure and the increasing use of smartphones that cause negative things, an intervention is needed that involves family members in implementing family health care as a preventive, promotive and rehabilitative effort in smartphone addiction. The approach that can be used is an integrative-based supportive educative system between family centered care and family tasks. Where in the theory of family centered care the family is an entry point in the provision of health services in the community, to determine the risk of disruption due to the influence of lifestyle and the environment, family members are more receptive to information, if other family members support the information, the family is also a support system for individuals. From the previous explanation, it is necessary to do a literature review of family nursing strategies to improve health status that can be applied accordingly in Indonesia. This literature review aims to apply actions in family nursing to improve health status, and overcome health problems that occur in the family to achieve family independence.<sup>5</sup>

## MATERIALS AND METHODS

### Materials

The study used a quantitative design with a quasi-experimental design. The population in this study were all families with teenage children (12-25 years). This research was conducted in the working area of the Kebonsari Public Health Center, Surabaya, East Java. The research sample obtained the treatment group of 12 families and the control group of 12 families. Inclusion criteria include: adolescents have smartphones, family type is nuclear family and patrilocal/patrilineal family structure. Exclusion criteria included smartphones being used interchangeably with other family members and teenagers living with other than their parents.

### Data collection procedures

The independent variable is the supportive educational system. The treatment group was given home visits by being given a module containing 5 topics according to family assignments according to<sup>6</sup>, namely:

(1) recognizing health problems; (2) decide on family care; (3) caring for family members; (4) environmental modification; and (5) utilizing health services. The control group carried out a home visit and was given a module containing 3 topics, namely (1) support; (2) guidance; and (3) teaching.

The dependent variable is family support. Measurement using a questionnaire consisting of 4 components: (1) emotional support; (2) assessment support; (3) instrumental support; and (4) informational support.

The questionnaire on family support was modified from the study<sup>7</sup> and consisted of 32 statements. The validity test results for the family support questionnaire showed that 5 statements had a significance value of  $>0.05$  and the researcher omitted 5 statements so that there were 27 statements in total. The reliability value on the family support questionnaire is 0.9400 so that the measurement items in each statement are said to be reliable.

### Data analysis

The results of the study carried out normality and homogeneity tests. Using the Shapiro-Wilk test in the treatment and control groups,  $p > \alpha$  (0.05) was obtained to declare the data normally distributed. Using the Laven's test to test the homogeneity,  $p > \alpha$  (0.05) was obtained so that it was stated that all data were homogeneous. Based on this, the analysis test uses paired t-test

## RESULTS

Based on [table 1](#), the highest age of parents (66.7%) is in the late old age category of the treatment group. Those who filled out the most questionnaires (75%) were fathers of teenagers in the control group. The most parental education (58.3%) is in the treatment group in the middle education category. Most of the parents' occupations (58.3%) are in the treatment group in the private worker category. Most teenagers (58.3%) were in the treatment group in the early teens category. All respondents (100%) have wifi facilities at home. The use of smartphones in one day in the treatment and control groups, the highest number is in the category  $> 7$  hours.

From the results of the paired samples test statistic in [table 2](#), it shows that in the treatment group the results of the p value (0.002)  $<$  (0.05), meaning that there is a difference between family support before and after being given treatment, namely an increase in the average value of 95 to 97.08. While in the control group the statistical. the results of the p value (0.028)  $<$  (0.05), meaning that there is a difference between family support before and after being given treatment, namely an increase in the average value of 94, 75 becomes 96.

Based on the independent t-test analysis test showed that family support in the treatment and control groups after being given a supportive educative system based on family centered care, the results obtained were p value (0.513)  $>$  (0.05) which means there is no significant difference between family support in the treatment group and the control group after being given a supportive educative system based on family centered care.

## DISCUSSION

Based on the results of the study, it is known that the characteristics of respondents based on the age of parents in the intervention group and the control group are mostly at the age of 56-65 years (late elderly), namely 8 people (66.7%) and 6 people (50%), where increasing age will affect a person's process and mindset. This follows the research before that parents' age affects the level of maturity of one's mind and psychological maturity.<sup>8</sup> The level of parental education also affects a person's mindset, because education motivates families in caring for other family members. From the results of the study, it was found that most of the parents in the treatment group and the control group had secondary education 7 people (58.3%) and 6 people (50%), this is following research the higher a person's education, the easier it is to accept the information provided. by someone else. Because education affects a person's grasping power and to understand the information provided.<sup>9</sup>

Characteristics of adolescents based on age in the treatment group and control group showed that most of the adolescents aged 12-16 years (early teens) were 7 people (58.3%) and 6 people (50%). aware of technological advances and consider it a

**Table 1. Frequency distribution of respondents**

No.	Variable	Category	Frequency	Percentage (%)			
1.	Parents age	a. Treatment group	Late adulthood (36-45)	0	0		
			Early elderly (46-55)	3	25		
			Middle old age (56-65)	8	66.7		
			Late old age (>65)	1	8.3		
		b. Control Group	Late adulthood (36-45)	1	8.3		
			Early elderly (46-55)	4	33.3		
			Middle old age (56-65)	6	50		
2.	Gender	a. Treatment group	Men	8	66.7		
			Women	4	33.3		
		b. Control Group	Men	9	75		
			Women	3	25		
		3.	Level of education	a. Treatment group	Basic	1	8.3
					Middle	7	58.3
					Higher	4	33.3
b. Control group	Basic			1	8.3		
	Middle			6	50		
	Higher			5	41.7		
	4.			Profession	a. Treatment group	Private	7
Self employed		2	16.7				
Civil servant		3	25				
b. Control group		Private	6		50		
		Self employed	2		16.7		
		Civil servant	4		33.3		
		5.	Teenage age		a. Treatment group	Early teens (12-16)	7
Late teens (17-25)	5			41.7			
b. Control group	Early teens (12-16)			6	50		
	Late teens (17-25)			6	50		
	6.			Wifi at home	a. Treatment group	Yes	12
No						0	0
b. Control group					Yes	12	100
		No	0		0		
		7.	Length of smartphone use		a. Treatment group	≤2 hours	0
3-4 hours						5	41.7
5-6 hours						0	0
≥7 hours	7			58.3			
b. Control group	≤2 hours			0		0	
	3-4 hours			0	0		
	5-6 hours			5	41.7		
	≥7 hours			7	58.3		
				24	100		

luxury so that they spend a lot of time using smartphones, so that teenagers are easier to experience smartphone addiction.<sup>10</sup> According to research before that teenagers

tend to experience smartphone addiction than early adulthood with an average value of 160.35 and 140.65, this happens because a teenager is still searching for his

identity with explore new things.<sup>11</sup>

The time needed by adolescents to use smartphones every day was mostly in the treatment and control groups, namely >7 hours/day as many as 7 people (58.3%). Especially with the wifi facility at home, a teenager is more comfortable and can use a smartphone for a long time. During that time, some teenagers used to play social media, games, read news, chat, do assignments, etc. These results follow the results of research<sup>10</sup> that the habit of using smartphones in a teenager is to play social media (facebook, twitter, instagram), communicate, chat with friends and for educational needs (doing assignments). Apart from communicating, teenagers use smartphones for other things because they are more prone to changing their lifestyle, especially in appearance, so they know more about technology that causes certain behavioral disorders, one of which is smartphone addiction.<sup>11</sup>

The results of the paired samples test statistic show that in the treatment group the results of the p value (0.002) < (0.05), meaning that there is a difference between family support before and after being given treatment during, namely an increase in the average value of 95 to 97.08. While in the control group the statistical test results of the paired samples test obtained the results of the p value (0.028) < (0.05), meaning that there is a difference between family support before and after being given treatment, namely an increase in the average value of 94, 75 to 96. This is supported by research<sup>8</sup> which shows a significant increase in the value of family support after being given a supportive educative system based on family centered care with an average pre-test of 74,6250 and post-test of 93,5833. Although there was an increase in family support before and after being given treatment in both groups, the results of the Independent Samples T-Test test in table 5. show the results of p value (0.513) > (0.05) which means there is no significant difference between support family in the treatment group and the control group after being given treatment.

In both groups there was an increase in family support for adolescents with smartphone addiction after a supportive educative system was carried out, due to family awareness to reduce smartphone

**Table 2. The effect of a supportive educative system based on family centered care and family tasks on family support**

No.	Variable	Mean	SD	Min-Max	p
1.	Treatment group				
	a. Pre-Test	95	3,643	88-102	0.002
	b. Post-Test	97,08	3,579	88-102	
2.	Control group				
	a. Pre-Test	94,75	4,673	91-105	0,028
	b. Post-Test	96	4,369	88-102	

addiction behavior in adolescents, so that the need for family support for adolescents to reduce smartphone addiction so as not to have a negative impact on a teenager.<sup>12-14</sup>

The supportive educative system method is an activity to provide or tell all the problems faced and related to family members who have problems, families can also exchange effective experiences to overcome problems and in this activity all family members can be empathetic towards other family members. In this case, the family support provided is emotional support, empathy from parents, and caring about the problems faced by teenagers.<sup>15</sup> And parents will provide emotional support to teenagers to overcome smartphone addiction.

This follows research<sup>16</sup> because parents have an important role in adolescents with smartphone addiction. Because at the early adolescent stage, their behavior and life are more likely to be indirectly influenced by parental support. If the family does not function effectively, it can become an obstacle to the development of the family, so that some teenagers who are not comfortable in their family will try to find comfort in other places, such as the virtual world, the internet. And in the end, smartphone addiction will become an affordable option for them in this digital era. So that the function of the family has an important role in the formation of several aspects of the formation of adolescent behavior. Therefore, with the application of a supportive educative system based on family centered care, it is hoped that families will be able to form strong and independent family characters in dealing with problems in the stage of family development with adolescents, especially adolescents with smartphone addiction. However, there were no significant differences between the two groups after treatment.

## CONCLUSION

Based on the discussion above, it was concluded that there was no significant difference between family support in the treatment and control groups after being given a supportive educative system based on family centered care in adolescents with smartphone addiction. However, there was an increase in family support in the treatment and control groups before and after being given supportive education. system based on family centered care in adolescents with smartphone addiction.

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## CONFLICT OF INTEREST

This study does not cause a conflict of interest because all procedures use informed consent

## ETHICAL CONSIDERATION

This research passed the ethical approval as evidenced by issuing an ethics approval certificate by the Health Research Ethics Committee of Chakra Brahmada Lentera Institution No. 013/027/V/EC/KEP/Lemg. Candle/2022.

## AUTHOR CONTRIBUTION

- **Nety Mawarda Hatmanti** determine the concept, determine the design, create a definition of intellectual content, searching literature, data analysis, manuscript editing, manuscript review, experimental studies and guarantor.
- **Ratna Yunita Sari** determine the design, doing the clinical studies, experimental studies, data acquisition,

manuscript editing, manuscript review, experimental studies and guarantor.

- **Yurike Septianingrum** doing the literature search, clinical studies, doing the experimental studies, statistical analysis, manuscript preparation, manuscript review.
- **Eppy Setiyowati** doing the experimental studies, doing the data analysis, statistical analysis and manuscripts preparation, searching literature and manuscripts editing
- **Siti Maimunah** doing the experimental studies, data analysis, manuscripts preparation, manuscript editing, manuscript review and literature research.

## REFERENCES

1. Ratan ZA, Parrish AM, Zaman S Bin, Alotaibi MS, Hosseinzadeh H. Smartphone addiction and associated health outcomes in adult populations: A systematic review. *Int J Environ Res Public Health*. 2021;18(22).
2. Yani MVW, Pratiwi MSA, Putra AIYD, Diniari NKS. Depression, Anxiety, and Stress due to Changes in Employment Status during COVID-19 Pandemic: A Study in Badung Districts, Bali, Indonesia. *Int J Integr Heal Sci*. 2022;10(1):12-9.
3. Olson JA, Sandra DA, Colucci ÉS, Al Bikaii A, Chmoulevitch D, Nahas J, et al. Smartphone addiction is increasing across the world: A meta-analysis of 24 countries. *Comput Human Behav*. 2022;129:1-35.
4. KOMINFO. *Survey Penggunaan TIK 2017*. 2017;
5. Nuriyanto A, Rahayuwati L. Family Nursing as an Improvement Strategy of Family Health Index in Indonesia: A Literature Review. *Asian Community Heal Nurs Res*. 2019;1(3):7.
6. Friedman MM, Bowden VR, Jones EG. *BUKU AJAR KEPERAWATAN KELUARGA: Riset, Teori & Praktik*. 5th ed. Hamid AYS, Sutarna A, Subekti NB, Yulianti D, Herdina N, editors. Jakarta: EGC; 2010. 664 p.
7. Melizza N. Pengaruh Intervensi Supportive Educative System Berbasis Integrasi Self Care dan Family Centered Nursing Model Terhadap Dukungan Keluarga Dalam Meningkatkan Status Gizi Penderita Tuberkulosis. Tesis, Progr Stud magister keperawatan Univ Airlangga Surabaya. 2018;1-109.
8. Setiyaningrum T, Sulastri T, Purwanti H. The Intervention of Supportive Educative System Based on Family Centered Care Toward Family Support In Caring For Children With Leukemia In RSUD Tangerang. *J Educ Nursing(Jen)*. 2020;3(2):82-7.
9. Astuti Purnamawati D, Arofiati F, Relawati A. Pengaruh Supportive-Educative System terhadap Kualitas Hidup pada Pasien Gagal Jantung. *Mutiara Med J Kedokt dan Kesehat*. 2018;18(2).

10. Kibona L, Mgya G. Smartphones' Effects on Academic Performance of Higher Learning Students. *J Multidiscip Eng Sci Technol*. 2015;2(4):3159–40.
11. Mawarpury M-, Maulina S, Faradina S, Afriani A. Kecenderungan Adiksi Smartphone Ditinjau Dari Jenis Kelamin Dan Usia. *Psikoislamedia J Psikol*. 2020;5(1):24.
12. Pakpahan M, Kartika L, Sampepadang M. Factors related to family resilience during the COVID-19 pandemic. *Bali Med J*. 2022;11(3 SE-ORIGINAL ARTICLE):1603–7. Available from: <https://www.balimedicaljournal.org/index.php/bmj/article/view/3703>
13. Rina Kurniawati, Mahendro Prasetyo Kusumo. Integrated care: Health Promotion Hospital Model to Improve Family Support for Patients with Chronic Disease. *Bali Med J*. 2023;12(1 SE-ORIGINAL ARTICLE):753–60. Available from: <https://www.balimedicaljournal.org/index.php/bmj/article/view/2991>
14. Trisnadewi NW, Adiputra IMS, Oktaviani NPW, Suapriyanti PA, Intan Saraswati NLG. Correlation between stress level and family support towards fasting and postprandial glucose level in type 2 diabetes mellitus. *Bali Med J*. 2020;9(3 SE-ORIGINAL ARTICLE):811–5. Available from: <https://www.balimedicaljournal.org/index.php/bmj/article/view/2006>
15. Widayati D, Nuari NA, Setyono J. Peningkatan Motivasi dan Penerimaan Keluarga dalam Merawat Pasien GIK dengan Terapi Hemodialisa melalui Supportive Educative Group Therapy. *J Kesehat*. 2018;9(2):295.
16. Doo E-Y, Kim J-H. Parental smartphone addiction and adolescent smartphone addiction by negative parenting attitude and adolescent aggression: A cross-sectional study. *Front Public Heal*. 2022;10.



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