



Parental Insights on Children's Screen Time: Knowledge, Attitudes and Practices in Rural Maharashtra.

Shreeja D Nayak¹, Swati Jain², Jenny Lalduhawmi Ralte³, Latha S P⁴, Anaya A Kamalapurkar⁵.

^{1,4}MBBS, MD pediatrics, Assistant professor, Subbaiah institute of medical sciences and research Centre, Shimoga, Karnataka.

²MBBS, MD pediatrics, Professor, SMTB institute of medical science and research Centre, Dhamangaon, Nashik, Maharashtra.

³MBBS, MD pediatrics, Assistant professor, Zoram medical College, Falkawn, Mizoram.

⁵MBBS, Junior resident General medicine, NKPSIMS and LMH, Nagpur, Maharashtra.

*Corresponding author:

DR Latha S P, MBBS, MD pediatrics, Assistant professor, Subbaiah institute of Medical Sciences and Research Centre, Shimoga, Karnataka. Email ID – lathasp29@gmail.com.

Abstract

Objective: To study parent's knowledge, attitude and practice towards screen time in children between 1 year- 5 years of age, To identify the common screen based device used, number of such devices and duration of use and identify the association between sociodemographic variables with screen time.

Methods: This is a cross-sectional observational study conducted on 210 parents of children between the ages of 1 year -5 yrs who present to tertiary care hospital in rural Maharashtra over a period of 5 months between May 2022 to September 2022. Data was collected from the parents using a predesigned interview administered questionnaire and analyzed with a suitable statistical method.

Results: Majority of parents agreed that an increase in a child's screen time, likely to decrease their effort in physical activity (81.4%) and disrupt a child's sleep pattern and quality (85.7%). Whereas 94.8% believed that Uncontrolled child's screen time can lead to addiction to the device. Majority of parents (93.3%) felt the need to limit the screen time of their children. Most parents (77.6%) agreed to have encouraged children to play with toys or talk face to face rather than spending time using screen based devices. When we investigated the screen time in early childhood we found that the majority of children (96.6%) of age group below 2 yrs exceeded the WHO recommendation, Whereas in the 2 years- 5 years age group the many kids had screen time as recommended 93(51.6%). Screen time exceeding recommendation was slightly higher in male children(57%), also slight increase in screen time was seen in nuclear family(60.6%) and if it is a single child(56.8%).

Conclusion: digital media use among rural children has increased significantly. While parents generally have a positive outlook on screen time, most children under five exceed recommended limits. Further research into socio-demographic factors and the negative effects of excessive screen time is needed for better understanding.

KeyWords: Key words- Screen time, children under 5 years, parental knowledge attitude and practice, post Covid 19 pandemic.

DOI Number: 10.48047/nq.2024.22.5.nq25020

NeuroQuantology 2024; 22(5):196-206



1. Introduction:

"Screen time" is defined by the World Health organization (WHO) as the amount of sedentary time spent passively on screen-based devices without active physical activity (1). Children spend a lot of time watching screen-based devices which includes smartphones, television, computers, tablets which has significantly increased during covid 19 pandemic (2). Increase in screen time especially during early years of life has a negative impact on intellectual, emotional, social and physical wellbeing of children(3).

Parental screen time habits and their attitudes towards screen time significantly influence screen time behavior in young children(4).The exposure of young children to screen-based media is a global concern, but its burden has not been thoroughly investigated among young children in rural India (5). Some data suggest that low income children of ethnically / racially diverse backgrounds who over consume media are at greater risk of negative development outcomes(6).

The current study investigates parent's knowledge, attitude and practice towards screen time in children in rural Nashik and identifies the association between sociodemographic variables with screen time.

Methodology:

This is a cross-sectional observational study that was conducted on 210 parents of children between the ages of 1 year -5 yrs who present to tertiary care hospital in rural Maharashtra . The study was conducted over

5 months between May 2022 to September 2022.

❖ Inclusion criteria :

- 1) Individual with parental responsibility for a child such as a mother or a father
- 2) Parents of children between the ages of 1 year -5 yrs who presented to tertiary care hospital.

❖ Exclusion criteria:

- 1) Parents of children with physical disability, developmental delay, intellectual disability, behavioral problems, visual impairment, hearing impairment and chronic illness.
- 2) Parents belonging to urban areas.

❖ After obtaining informed consent, data was collected from the parents using a predesigned interview administered questionnaire. Demographic details were collected. Modified Kuppasamy's socioeconomic status scale was used to find the education and occupation of parents. A predesigned interview administered questionnaire was used to test the knowledge, attitude and practice of the parents towards screen time in children. Data collected were analyzed with suitable statistical methods using SPSS 25 software.

RESULTS

Of the 210 participants,115(54.8%) were fathers and 95(45.2%) mothers. Majority (88.6%) were in the age group of 20 to 39 years followed by 40 to 49 years (11.4%).

Table1:Demographic profile of the participants(Based on age, gender, education and occupation).



Agegroup	20-39years	186(88.6%)
	40-49years	24(11.4%)
Gender ofparent	Male	115(54.8%)
	female	95(45.2%)
Education ofrespondent	Illiterate	15(7.1%)
	Primaryschool	19(9%)
	Middleschool	42(20%)
	HighSchool	61(29%)
	Puc/Diploma	48(22.9%)
	Graduate	25(11.9%)
Occupation ofrespondent	Unskilled	8(3.8%)
	Semi-SkilledWorker	138(65.7%)
	Skilledworker	17(8%)
	Clerk/Shopkeeper	23(10.9%)
	Semi-professional	21(10%)
	Professional	3(1.4%)
Familytype	Nuclear	104(49.5%)
	Joint/Threegeneration	106(50.5%)

198

As per Modified Kuppasamy Socioeconomic status scale, the demographic distribution of participant's education and occupation is shown in Table 1. In this study 104 (49.5%) of the participants belonged to the nuclear family and 106 (50.5%) of the participants belong to the Joint/ Three generation family (Table 1).

In this study, out of 210 children, 114 (54.3%) were males and 96(45.7%) were females. Age distribution showed 30 (14.3%) children were less than 2 years and 180 (85.7%) children were of age between 2-5 years (Table 2).



Table2-demographic profile of children with respect to age, gender and total no. of children.

Ageofchildren	Less than 2years	30	(14.3%)
	2years-5years	180	(85.7%)
Gender ofchildren	Male	114	(54.3%)
	Female	96	(45.7%)
No.ofchildren	1	44	(21%)
	Morethan1	166	(79%)

In terms of household screen-based devices 158 (75.2%) had 1-3 screen-based devices at home whereas 52 (24.8%) had 4-6 screen-based devices. Majority of them had both TV and smart phones 156 (74.3%), 11

(5.2%) participants had only TV, 43 (20.5%) were having only smart phones. Only 9 (4.3%) children had zero hours of screen time (Table -3).

Table- 3- Distribution based on number and type of screen-based devices and total screen time.

No.ofscreenbaseddevices	1-3	158(75.2%)
	4-6	52(24.8%)
Typeofscreenbase ddevices	Television	11(5.2%)
	Smartphones	43(20.5%)
	Both TV and smartphones	156(74.3%)
Totalscreentime	ZeroMinutes	9(4.3%)
	<30minutes	47(22.4%)
	30min1-hour	56(26.7%)
	1hour-2hour	74(35.2%)
	>2hour	24(11.4%)



Majority of parents agreed that an increase in a child's screen time, likely to decrease their effort in physical activity (81.4%) and disrupt a child's sleep pattern

and quality (85.7%). Whereas 94.8% believed that Uncontrolled child's screen time can lead to addiction to the device (Table-4).

Table4- Knowledge of parents on screen time behavior of their child.

Q no	Knowledge of parents towards screen time of their children	Agree n (%)	Don't know n (%)	Disagree n (%)
1	Increase in child's screen time likely to decrease their effort in physical activity	171 (81.4)	22 (10.5)	17 (8.1)
2	A child's sleep pattern and quality can be disrupted by increased screen time.	180 (85.7)	21 (10)	9 (4.3)
3	Increase in child's screen time may increase risk of child being overweight/obese.	159 (75.7)	38 (18.1)	13 (6.2)
4	Children that spend more screen time are at risk of emotional, mental and behavioral problems.	177 (84.3)	27 (12.9)	6 (2.9)
5	Uncontrolled child's screen time can lead to addiction to the device	199 (94.8)	7 (3.3)	4 (1.9)
6	Young children who never watch screen based devices miss a lot that is of value	132 (62.9)	36 (17.1)	42 (20.0)

Majority of parents (93.3%) felt the need to limit the screen time of their children. Most of the participants believed that they need to control the content of the screen time (92.9%) and

designate screen-based device free time (91.0%). The percentage of participants who believed in various reasons for increase in their child's screen time is given in table 5.

Table5-Attitude of parents on screen time behavior of their child.

Q no	Attitude of parents towards screen time of their children	Agree n (%)	Don't know n (%)	Disagree n (%)



1	I feel there is a need to limit the duration of screen time for children.	196 (93.3)	10 (4.8)	4(1.9)
2	I feel there is a need to control the content of screen time	195 (92.9)	12 (5.7)	3(1.4)
3	I feel there is a need to designate screen based device free time	191 (91.0)	15 (7.1)	4(1.9)
4	I feel there is a need to designate screen based device free places at home.	167 (79.5)	25 (11.9)	18(8.6)
5	I feel there is a need to co-view the screen based device with the child.	142 (67.6)	23 (11.0)	45(21.4)
6	It is challenging to manage our child's screen time when there are a lot of screen based devices available in and out of the household	175 (83.3)	13 (6.2)	22(10.5)
7	It is difficult to constantly supervise our child's screen time when there is increased work demand	177 (84.3)	17 (8.1)	16(7.6)
8	I should not be concerned about our child's screen time and they can engage for as long as they want.	96 (45.7)	26 (12.4)	88(41.9)
9	I would not consider my child's screen time duration to be a serious matter if he/she is active, healthy and well behaved	116 (55.2)	29 (13.8)	65(31.0)
10	I am aware that our child's screen time is influenced by our use of screen-based devices.	147 (70.0)	38 (18.1)	25(11.9)
11	I have observed that our child's use of screen based devices interferes with our family time.	164 (78.1)	22 (10.5)	24(11.4)

Most parents (77.6%) agreed to have encouraged children to play with toys or talk face to face rather than spending time using screen based devices. Few parents agreed that they give screen based

devices to children as a reward for good behavior (42.4%), to keep them occupied (44.8%) or to babysit the child (36.2%). The practices of parents regarding screen time of their child is shown in table-6



Table6-practice of parents on screen time behavior of their child

Q no	Practiceofparentstowardsscreentimeoftheirchildren	Always n(%)	occasional n(%)	Nevern (%)
1	I encourage my child to play with toys or talk face to face rather than spending time every waking hour using screen based devices.	163 (77.6)	44 (21.0)	3(1.4)
2	I ensure that I take away my child's screen based device at home when they play or have social activities	150 (71.4)	56 (26.7)	4(1.9)
3	I try to limit or not use screen based devices whenever I am with my child	131 (62.4)	70 (33.3)	9(4.3)
4	I give screen based devices to my child to keep them temporarily occupied and quiet especially when I am busy and when he/she gets fussy.	94 (44.8)	88 (41.9)	28 (13.3)
5	I usually stop my child's screen time at least an hour before bed time to get him/hertofall asleep.	139 (66.2)	59 (28.1)	12 (5.7)
6	I offerscreentimetomychildasarewardfor good behavior and remove it as a punishmentforbadbehavior.	89 (42.4)	80 (38.1)	41 (19.5)
7	I dontallowmychildtohaveanykindofscreenbaseddevice duringfamilytime.	134 (63.8)	68 (32.4)	8(3.8)
8	I usescreenbaseddevicestobabysitthechild.	134 (63.8)	68 (32.4)	8(3.8)
9	I letmychilddecidehowmuchtimetobespentonscreen	63 (30.0)	44 (21.0)	103 (49.0)
10	I letmychildwatchscreenbaseddeviceswhileeating	71 (33.8)	67 (31.9)	72 (34.3)
11	I willswitchoffthescreenbaseddevicesifIthinkmychildis watchingtoomuch	152 (72.4)	47 (22.4)	11 (5.2)



When we investigated the screen time in early childhood we found that the majority of children (96.6%) of age group below 2 years exceeded the WHO recommendation(1) (which is zero hours of screen time for children

less than 2 year and 1 hour of screen time for children between 2 years-5 years). Whereas in the 2 years- 5 years age group the many kids had screen time as recommended 93(51.6 %).

Table 7-shows distribution of recommended screen time in different age group

Age of Child	Screen time as Recommended	Screen time exceeding recommended screen time	total
Below 2 Years	01(3.3%)	29(96.6%)	30(14%)
2 years-5 Years	93(51.6%)	87(48.3%)	180(86%)
Total	94(45%)	116(55%)	210(100%)



Screen time exceeding recommendation was slightly higher in male children(57%), also slight increase in

screen time was seen in nuclear family (60.6%) and if it is a single child (56.8%)

Table8-Shows risk factor for increased screentime.

Riskfactors	Screen timeasRecommen ded	Screen timeexceedingre commended	ChiSquare	p.value
Gender			0.319	0.572
Female	45(46.9%)	51(53.1%)		
Male	49(43%)	65(57%)		
No ofdevices			2.878	0.09
1-3	76(48.1%)	82(51.9%)		
4-6	34(65.4%)	18(34.6%)		
No ofChildren			0.056	0.8126
1	19(43.2%)	25(56.8%)		
morethan1	75(45.2)	91(54.8%)		
Typeoffamily			2.375	0.1233
Nuclear	41(39.4%)	63(60.6%)		
Joint /Threegenerati on	53(50%)	53(50%)		



Discussion

Digital media has found its way to children even in rural areas, especially under five years of age. To our best knowledge, this is the first study on knowledge, attitude and practice of parents on screen time of children less than 5 years in rural India.

The 2019 WHO guidelines on physical activity, sedentary behavior, and sleep for children under 5 years old recommend no screen time for children under 2 years and limiting screen time for children aged 2 to 5 years to a maximum of 1 hour per day (1).

We found that television and smartphones were the main screen based devices. This finding supported earlier research done by Pinky Meena (2020), Shah RR in rural western India and NurFatin in Universiti Brunei Darussalam (3,5,7). Our study has revealed that smartphone usage has surpassed television as the primary source of screen exposure, likely due to its convenience and ease of accessibility which is in par with study done by Pinky Meena in Delhi India (3).

In our study only 4.3% of children aged 1-5 years had screen time of zero hours. Many of them had screen time of more than 1 hour (46.6%). In India, an earlier study reported screen time in preschoolers (2 to 6 years) to be a mean (SD) of 2.7 (1.7) hours, with average (SD) daily TV screen time of 1.6 (1.1) hours (5).

Numerous studies have shown that parental attitudes and perceptions significantly affect children's screen time. In our study the majority

of parents had good knowledge on the negative effects of increased screen time on a child's physical activity, sleep, physical, mental and emotional wellbeing. This finding is not in par with previous study done in University Brunei Darussalam and Mansoura University, Egypt where they found parents to have poor knowledge (7,8). Our study found that the majority of parents (44.8%) would provide screen-based devices to their children to keep them temporarily occupied and quiet, particularly when the parents are busy or when the child becomes fussy which is in par with study done in Darussalam and in Tamil Nadu India (7,4).

In our study, we found that nearly all children under the age of 2 years (96.6%) were exposed to screen-based devices, surpassing the WHO recommendations. This finding aligns with previous research, such as Pinky Meena's 2020 study on screen time in Indian children aged 15-18 months and an Australian study where only 2% of children under 2 years of age had no screen time at all (3,9). Our study also showed that approximately half of the kids of age 2-5 years had screen time that exceeded the recommendation which is the same as the study done by Shah RR in rural western India (5).

When it comes to gender difference in screen time, our study showed that boys had exceeded screen time recommendation slightly more than girls also. Slight increase in screen time was seen in nuclear family (60.6%) and if it is a single child (56.8%) which is in par with a Malaysian study by Lee et al in 2016 (10).



In conclusion, digital media has rapidly reached rural children, particularly after the COVID-19 pandemic. Despite parents generally having positive knowledge and attitudes regarding their children's screen time, most children under the age of five exceed the recommended limits. Further research into the socio-demographic factors influencing screen time and its negative impact on children will offer deeper insights into this issue.

References

1. World Health Organization. Guidelines on physical activity, sedentary behavior and sleep for children under 5 years of age. Geneva: World Health Organization; 2019. Available from: <https://www.who.int/publications/i/item/9789241550536>(1. Ansari, M. (2019). WHO guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age. Geneva: World Health Organization; 2019. Licence: CC BY-NC-SA 3.0 IGO).
2. Nagata JM, Abdel Magid HS, Pettee Gabriel K. Screen time for children and adolescents during the COVID-19 pandemic. *Obesity (Silver Spring)*. 2020;28(9):1582-1583. Available from: <https://doi.org/10.1002/oby.22917>
3. Meena P, Gupta P, Shah D. Screen Time in Indian Children by 15-18 Months of Age. *Indian Pediatr*. 2020 Nov 15;57(11):1033-1036. Epub 2020 Aug 9. PMID: 32788425.
4. Shirley SA, Kumar SS. Awareness and attitude among parents of primary school students towards screen time in children. *Int J Contemp Pediatr* 2020;7:107-111.
5. Shah RR, Fahey NM, Soni AV, Phatak AG, Nimbalkar SM. Screen time usage among preschoolers aged 2-6 in rural Western India: A cross-sectional study. *J Family Med Prim Care* 2019;8:1999-2002.
6. Njoroge WFM, Elenbaas LM, Garrison MM, Myaing M, Christakis DA. Parental Cultural Attitudes and Beliefs Regarding Young Children and Television. *JAMA Pediatr*. 2013;167(8):739-745.
7. doi:10.1001/jamapediatrics.2013.75
8. Arippin N, Mahmud M, Abdul Rahman H, Aliy-Yuin KY, Lai S, Mumin K. Children's Screen Time At Home: A Study of Parents' Knowledge, Attitude and Practice. 2021 May 30. Available from: <https://doi.org/10.21203/rs.3.rs-574122/v1>
9. Mohamed N, Soliman S, El-Mouty A. Mothers' knowledge and practice regarding electronic media used by their children. *Mansoura Nurs J [Internet]*. 2021 Jan 1;8(1):145-65. Available from: https://mnj.journals.ekb.eg/article_180676_0ba6dbd16bfe7102df278a_a2e7638691.pdf.
10. Brushe ME, Lynch JW, Melhuish E, Reilly S, Mittinty MN, Brinkman SA. Objectively measured infant and toddler screen time: Findings from a prospective study. *SSM Popul Health*. 2023 Apr 8;22:101395. doi: 10.1016/j.ssmph.2023.101395. PMID: 37096246; PMCID: PMC10122061.
11. Lee ST, Wong JE, Ong WW, Ismail MN, Deurenberg P, Poh BK. Physical Activity Pattern of Malaysian Preschoolers: Environment, Barriers, and Motivators for Active Play. *Asia Pacific J Public Health*. 2016;28:21S-34S.

