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Telemedicine and ADHD Management in Pediatric Patients in Southern New Jersey: A Retrospective Chart Review

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Objectives

1. Investigate whether there is a relationship between use of telemedicine and improvement of symptoms of pediatric patients with ADHD.
2. To see if further study can be done on the use of telemedicine in treating pediatric ADHD patients.

Background

Attention-deficit/hyperactivity disorder (ADHD) is a common childhood disorder that can interfere with pediatric development and cause continued issues into adulthood. The COVID-19 pandemic has increased use of telemedicine for ADHD patients. However, there is limited data on telemedicine's effect on patient outcome, compared to use of traditional in-person office appointments.

Purpose: Retrospectively review EMR reports and evaluate:

- Change in ADHD symptoms over time for telemedicine and traditional office patients.
- Relationship between other dependent variables such as age, sex, ethnicity, and number of appointments and improvement.

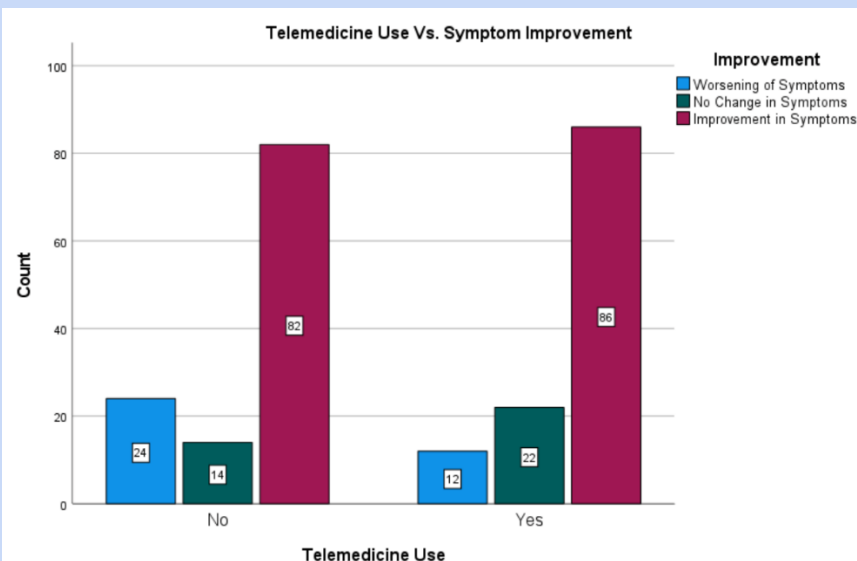
Hypothesis: I hypothesize that ADHD patients who utilize telemedicine will see a higher rate of improvement of their symptoms due to the convenience factor of being able to consult a physician without needing to travel to an office.

Methods

A retrospective chart review was conducted through the electronic medical records (EMR) system, followed by anonymized data analysis. 240 total cases were identified, 120 pediatric ADHD cases who utilized telemedicine and 120 who attended traditional in-person appointments. Patient data such as age, ethnicity, number of appointments, telemedicine use and physician notes were extracted from the EMR. The collected data was converted into quantifiable variables on SPSS. Statistical tests used include:

1. Pearson correlation analysis through chi-square: Telemedicine use, improvement.
2. Basic correlation between variables

Results



		Worsened Sx		Improvement		Improved Sx		Total	
		# of pts	%	# of pts	%	# of pts	%	# of pts	%
Telemedicine	No	24	66.7%	14	38.9%	82	48.8%	120	50.0%
	Yes	12	33.3%	22	61.1%	86	51.2%	120	50.0%
Total		36	100.0%	36	100.0%	168	100.0%	240	100.0%

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.873 ^a	2	.053
Likelihood Ratio	5.966	2	.051
Linear-by-Linear Association	1.940	1	.164
N of Valid Cases	240		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 18.00.

Frequency [Telemedicine Vs. Improvement]:
 - For patients using telemedicine:
 86 reported improvement in sx
 22 reported no change
 12 reported worsening sx
 - For patients without telemedicine
 82 reported improvement in sx
 14 reported no change
 24 reported worsening of sx

Pearson correlation:
 - Telemedicine Use Vs. Improvement
 Overall correlation of $p = 0.053$ (0.05), fail to reject null hypothesis but may indicate need for further study.
 - Ethnicity (Caucasian vs. Non-Cauc) Vs. Improvement
 Overall correlation of $p = 0.226$, fail to reject null hypothesis, statistically insignificant
 - Gender Vs. Improvement
 Overall correlation of $p = 0.429$, fail to reject null hypothesis, statistically insignificant

Conclusion

- Little correlation was found between gender and improvement, as well as ethnicity and improvement.
- While use of telemedicine vs. improvement is statistically insignificant, a p value of 0.053 suggests that this relationship may benefit from further study.
- Therefore, my hypothesis was not fully supported. However, further study with a larger subject pool could offer more insight into the relationship between telemedicine use and improvement in symptoms.

Acknowledgements

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