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# Enablers and barriers of online learning among adolescents visiting outpatient pediatric clinics of secondary and tertiary care hospitals in Karachi, Pakistan

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## ABSTRACT

**Background and Objective:** To determine the enablers and barriers of online learning in adolescents visiting secondary and tertiary care hospitals in Karachi.

**Methods:** A descriptive cross-sectional study was conducted over 6 months (September 2022-February 2023) in pediatric outpatient clinics of two secondary and one tertiary care hospital in Karachi. Using non-probability convenience sampling, 370 children aged 11-17 years, enrolled in school or hybrid/online learning programs and proficient in Urdu or English, were recruited. Children with physical or mental disabilities affecting online tool use were excluded. Data were collected via a structured questionnaire in Urdu/English covering socio-demographics, online learning experience, technical skills, equipment availability, and learning behaviors. Responses on enablers and barriers were recorded using a 3-point Likert scale. Data were analyzed in SPSS v21, reporting frequencies and percentages for all variables.

**Results:** The study showed that students were having 5-6 hours of online schooling every day (195, 52.7%). Enabling factors included frequent class participation (200, 54.1%), finding online teaching software easy to use (327, 88.4%), having sufficient technological skills (315, 85.1%), getting sufficient technological assistance from teachers (270, 73.0%), good internet connection (219, 59.2%), backup electricity (255, 68.9%), the availability of a backup device (307, 83.0%), availability of a family member for assistance in understanding a lesson (287, 77.6%), and addressing any disruptions during online classes (304, 82.2%). Factors that were identified as barriers to online learning included fatigue/sleepiness (249, 67.3%), back or neck pain (203, 54.9%), headaches (180, 48.5%), struggling to concentrate during lessons (225, 60.8%), and feeling distracted (170, 45.9%) during online classes.

**Conclusion:** A conducive and supportive home environment and online learning space, coupled with adequate technology and IT skills, were found to be the major enablers of online learning. Major barriers identified were feeling distracted, neck or back pain, fatigue, sleepiness, headaches and a feeling of disconnection from their teachers and peers.

**Keywords:** Adolescents, online learning, classroom-based learning, enablers, barriers.

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