

Title: Visual aids used to improve medication adherence in adults with chronic conditions: a scoping review

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Background: Adherence to medication is one of the primary determinants of treatment success. Yet only 50% of patients adhere to recommended long-term therapies. Studies have shown visual aids can increase attention, comprehension, and recall to health provider instructions.

Purpose: This review aims to explore the role and potential effects of visual aids on medication adherence.

Methods: Using the Arksey and O'Malley framework (2005), PubMed, Ovid EMBASE, Scopus, and IPA were searched for English publications from inception to July 2020. Studies that focused on pediatric populations, providing reminders for medication taking (i.e.: text messages), as well as review articles and abstracts were excluded.

Results: Thirty-one full-text articles were selected for analysis. A wide range of visual aids have been used for medication education (i.e.: calendar, illustrated daily medication schedule, label on packaging, photovoice, illustrated booklet, pictorial pamphlet, infographics, and pictograms) and disease-based education (i.e.: images, pictographic decision aid, 3-D models, visualized profile and history, and motivational posters). Effectiveness of medication education aids on adherence was mixed, however, the use of visual aids positively impacted low health literacy or disadvantaged populations. Visualization used for disease-based education were found to improve adherence. Overall, effectiveness was improved when visual aids were designed with pretesting to ensure understanding by the intended audience. A multi-modal approach using visual aids complemented by other strategies like scheduled education sessions had higher rates of success. Studies were limited by small sample sizes and varying methods for evaluating adherence.

Conclusion: A wide range of visual aids are used for medication and disease education to improve medication adherence. Visual aids are more effective when designed with pretesting by the target audience and when complemented by other components as part of a multi-modal approach. Visual aids appear to improve adherence in low health literacy or disadvantaged populations but larger studies with standardized methodology will be needed to fully understand their impact.