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Introduction	Study	Intervention	Study Design	Age/years	Population	Outcomes	Results
<p>- Colorectal cancer (CRC) continues to be one of the most prevalent cancers in the United States</p> <p>- CRC costs during the first year of diagnosis range from 12,757\$ to 58,704\$</p> <p>- Colonoscopy reduces CRC's incidence and mortality.</p> <p>- A mobile app can instruct patients and guide them through appointments, bowel preparation, having a better understanding conditions, and possible outcomes</p> <p>- The aim of this scoping review is to evaluate the impact of smartphone application (SPA) in patients undergoing elective colonoscopy to measure compliance with appointments, cost- effectiveness, bowel preparation, and quality of life compared to standard instructions (Verbal or/and written).</p>	Sharara et al., 2017	Smart phone app-based instruction	RCT	>18	160	Primary outcome (PO): Adherence with instructions Secondary outcome (SO): Quality of Preparation	No statistical difference in overall adherence (P=0.40) or bowel cleanliness (P=0.68).
	Walter et al., 2020	Smart phone app-based instruction	RCT	>18	500	PO: Quality of preparation (BPPS) SO: Compliance with diet, laxative	The Smartphone application (SPA) vs. Standard instructions: BPPS: 7.6±0.1 vs. 6.7±0.1, P<0.0001. Insufficient bowel preparation: 8% vs. 17%, P=0.0023. Adenoma detection rate: 35% vs. 27%, P=0.0324. Adherence and decreasing level of discomfort: P<0.0001.
	Denizard-Thompson et al. 2020	Smart phone app-based instruction	RCT	>18	408	PO: completion of a CRC screening test within 24 weeks SO: intent to screen within 30 days	The SPA (mPATH-CRC) vs Control group: Completing of CRC screening: 30% vs. 15%. Ordering the test: 69% vs. 32%. Overall, patients in both the mPATH and Control arms were equally likely to complete colorectal cancer tests once they were ordered (43% and 46% respectively, P=0.70)
	Lorenzo-Zuniga et al. 2015	Smart phone app-based instruction	RCT	>18	260	PO: Bowel preparation assessment with the Harefield Cleansing Scale. SO: Patient satisfaction with a specific Questionnaire at the time of colonoscopy	The SPA vs. Control group: Number of Optimum bowel preparation: 100% vs. 96.1%, P=0.037. Also, patient-reported tolerability and overall experience with the prescribed bowel preparation was significantly higher for the SPA group.
Methods and Materials	<p>This scoping review was performed according to the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews. Ovid Medline, Web of Science, Science Direct, Scopus, Cochrane Library, and PubMed were screened up to Oct 14, 2020, and bibliographies of the retrieved articles were included. Based on pre-specified inclusion and exclusion criteria, 8 primary studies were included in the final analysis from a total of 3,979 non-duplicate articles.</p>						
Results	Cho et al. 2017	Smart phone app-based instruction	RCT	>18	142	PO: The quality of bowel cleansing using the BBPS. SO: Patient satisfaction with a Questionnaire	The SPA vs Control group: BBPS: 7.70±1.1 vs. 7.24±0.8, P=0.007. The mean score of the satisfaction questionnaire: 7.62±2.2 vs. 5.97±2.2, P<0.001.
Walter et al. 2017	Smart phone app-based instruction	RCT	>18	50	PO: Stable function of the developed mobile app during Colonoscopy preparation time.SO: The quality of bowel cleansing using the BBPS.	The SPA was sufficiently working with stable function during the time of colonoscopy preparation in the SPA group. For bowel cleanliness assessment, mean BBPS scores was 8.1±0.25 vs. 7.1±0.41, P=0.02	
Guo et al. 2019	Smart phone app-based instruction	RCT	>18	293	PO: Rate of adequate bowel preparation With BBPS scale SO: Compliance with instructions, side Effects and rates of adenoma detection	The SPA vs. Control group: Rate of adequate bowel preparation: 77.2% vs. 56.8%, P<0.001. The adenoma detection rate: 21.4% vs. 12.8%, P=0.029). The rates of incomplete compliance with instructions: 15.17% vs. 33.11%, P<0.001).The overall adverse events: 23.45% and 37.84%, P=0.008The SPA was sufficiently working with stable function during the time of colonoscopy preparation in the SPA group. For bowel cleanliness assessment, mean BBPS scores was 8.1±0.25 vs. 7.1±0.41, P=0.02.	
Brief et al. 2020	Smart phone app-based instruction	RCT	<18	46	PO: Bowel preparation quality BBPS score SO: Patient arrival time to endoscopy suite, calls to gastroenterology service, subjects with improved knowledge after receiving materials	The SPA vs. Control group: BBPS: 7.2 (range 3-9) vs.5.9 (range 3-9), P=0.02. Arrival time average: 46 mins vs. 44 mins, P=0.56. Calls to gastroenterology service: 6 vs. 2, P=0.27. Subjects with improved knowledge after receiving materials: 50% vs 36%, P=0.37.	
Conclusions	<p>Conclusion: SPAs can increase patients' satisfaction, improve bowel preparation, and improve adherence to colonoscopy, diet, and laxatives.</p>						