PROJECT INFORMATION

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Does a Smartphone App Help Patients with Cancer Take Oral Chemotherapy as Planned?

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What was the research about?

Patients with cancer must often take chemotherapy. Chemotherapy is a treatment that uses medicines to stop the growth of cancer cells. Many patients prefer taking the medicines at home and by mouth, called oral chemotherapy, rather than getting infusions at a medical center. Patients taking oral chemotherapy must remember to take the medicines on time. They must also deal with side effects or symptoms at home.

The research team wanted to learn if a smartphone app could help patients follow oral chemotherapy treatment plans at home. The smartphone app included reminders of when to take the medicines. It also provided information on cancer care and coping with side effects. Patients could use the app to send weekly reports of their side effects or symptoms to their doctors.

What were the results?

The research team found no differences between patients who did and didn't use the smartphone app in

- Taking oral chemotherapy as planned
- Having symptoms or side effects from the chemotherapy
- Improving their quality of life

Who was in the study?

The study included 181 adult patients receiving oral chemotherapy. The patients received care from a

hospital in Boston, Massachusetts. All the patients owned a smartphone.

Of these patients, 54 percent were women, 88 percent were white, and 12 percent were other races. The average age was 53. Patients had different types of cancer, including cancers of the blood (33 percent), lung (18 percent), breast (14 percent), and brain (11 percent).

What did the research team do?

To develop and test the smartphone app, the research team worked with patients, cancer doctors, and health system workers. Then, the team assigned patients to one of two groups by chance. Patients in the first group received chemotherapy and used the app. Patients in the second group received chemotherapy but didn't use the app. All patients used medicine bottles with special caps that recorded the date and time they opened their pill bottles to take medicine. Patients also took a survey before the study and again about 12 weeks later.

The research team compared the results for patients who did and who didn't use the smartphone app. In addition, the team looked at whether the smartphone app might work better for certain types of patients. The study found that patients who had high anxiety, had a history of problems taking oral chemotherapy as planned, or were older than 55 appeared to benefit from the smartphone app. However, researchers need to do more studies to confirm these results.

What were the limits of the study?

The study took place in one hospital system. Most of the patients were white. Results may have been different for other hospital systems or groups of people. Using the special bottle caps that recorded when the patients opened their pill bottles may have made patients more likely to take their medicine, which may have changed the results of the study.

Future research could focus on patients who have a history of problems taking oral chemotherapy as planned, have high anxiety, or are older than 55.

How can people use the results?

Researchers can use these results to further study ways to help support patients who are taking oral chemotherapy.

To learn more about this project, visit pcori.org/Greer077.