Switzerland - A pharmacist-led interprofessional medication adherence program improved adherence to oral anticancer therapies: The OpTAT randomized controlled trial

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Overview

Identification

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NOTES

Overview

ABSTRACT
Background : Oral anticancer therapies such as protein kinase inhibitors (PKIs) are increasingly prescribed in cancer care. We aimed to evaluate the impact of a pharmacist-led interprofessional medication adherence program (IMAP) on patient implementation (dosing history), persistence (time until premature cessation of the treatment) and adherence to 27 PKIs prescribed for various solid cancers, as well as the impact on patients' beliefs about medicines (BAM) and quality of life (QoL).

Methods : Patients (n=118) were randomized 1:1 into two arms. In the intervention arm, pharmacists supported patient adherence through monthly electronic and motivational feedback, including educational, behavioral and affective components, for 12 months. The control arm received standard care plus EM without intervention. All PKIs were delivered in electronic monitors (EMs). Medication implementation and adherence were compared between groups using generalized estimating equation models, in which relevant covariables were included; persistence was compared with Kaplan–Meier curves. Information on all treatment interruptions was compiled for the analysis. Questionnaires to evaluate BAM and QoL were completed among patients who refused and those who accepted to participate at inclusion, 6 and 12 months post-inclusion or at study exit.

Results : Day-by-day PKI implementation was consistently higher and statistically significant in the intervention arm (n=58) than in the control arm (n=60), with 98.1% and 95.0% (Δ3.1%, 95% confidence interval (CI) of the difference 2.5%; 3.7%) implementation at 6 months, respectively. The probabilities of persistence and adherence were not different between groups, and no difference was found between groups for BAM and QoL scores. No difference in BAM or QoL was found among patients who refused versus those who participated. The intervention benefited mostly men (at 6 months, Δ4.7%, 95% CI 3.4%; 6.0%), those younger than 60 years (Δ4.0%, 95% CI 3.1%; 4.9%), those who had initiated PKI more than 60 days ago before inclusion (Δ4.5%, 95% CI 3.6%; 5.4%), patients without metastasis (Δ4.5%, 95% CI 3.4%; 5.7%), those who were diagnosed with metastasis more than 2 years ago (Δ5.3%, 95% CI 4.3%; 6.4%) and those who had never used any adherence tool before inclusion (Δ3.8%, 95% CI 3.1%; 4.5%).

Conclusions : The IMAP, led by pharmacists in the context of an interprofessional collaborative practice, supported adherence, specifically implementation, to PKIs among patients with solid cancers. To manage adverse drug events, PKI transient interruptions are often mandated as part of a strategy for treatment and adherence optimization according to guidelines. Implementation of longer-term medication adherence interventions in the daily clinic may contribute to the improvement of progression-free survival.

KIND OF DATA
Clinical data [cli]

UNITS OF ANALYSIS
Each patient provides longitudinal dates and times of openings of their digital pillbox containing their oncology treatment

during a maximal period of 12-13 months. Empirical adherence is defined on each day by the proportion of patients with a correct medication intake (outcome=1) among all patients initially included in this study, corresponding to the product between the probabilities of protein kinase inhibitor implementation and persistence on each day of the monitoring period.

KEYWORDS
medication adherence, medication implementation, medication adherence program, oral oncology, cancer, protein kinase inhibitors, interprofessional collaboration

Coverage

UNIVERSE
Cancer patients over 18 years old. Pharmacy, clinical oncology, interpofessional collaboration, outpatient setting

Producers and Sponsors

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FUNDING

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Swiss Cancer Research Foundation		Grant HSR-4077-11-2016

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Center for Primary Care and Public Health (Unisanté), University of Lausanne, Switzerland	Unisanté		Data publisher

Sampling

Sampling Procedure

The sample size calculation (n=120 patients, 60 in each group) is presented in the publication (protocol): Bandiera, C., et al., Optimizing Oral Targeted Anticancer Therapies Study for Patients With Solid Cancer: Protocol for a Randomized Controlled Medication Adherence Program Along With Systematic Collection and Modeling of Pharmacokinetic and Pharmacodynamic Data. JMIR Res Protoc, 2021. 10(6): p. e30090. Eligible patients were adults treated with at least one oral PKI for solid cancers. Patients were excluded if they did not self-manage their treatment (i.e., benefited from home care services or caregivers or were under tutelage) or if they were diagnosed with major cognitive impairments.

Deviations from Sample Design

Response Rate

Weighting

Questionnaires

Overview

Digital monitor called the Medication Event Monitoring System, MEMS and MEMS AS, AARDEX Group, Sion, Switzerland.
RedCAP for data collection.
Validated questionnaires (EORTC-QLQ for quality of life and BMQ: Belief about Medicines Questionnaire)

Data Collection

Data Collection Dates

Start	End	Cycle
2015/07/24	2022/05/03	N/A

Data Collection Mode

PKIs (protein kinase inhibitors) adherence data were collected by electronic monitoring (Medication Event Monitoring System, MEMS and MEMS AS, AARDEX Group, Sion, Switzerland). Sociodemographic and clinical data were extracted from the CHUV Soarian database. Questionnaires were filled in by patients (quality of life and beliefs about medicines).

Data Collection Notes

Questionnaires

Digital monitor called the Medication Event Monitoring System, MEMS and MEMS AS, AARDEX Group, Sion, Switzerland.
RedCAP for data collection.
Validated questionnaires (EORTC-QLQ for quality of life and BMQ: Belief about Medicines Questionnaire)

Supervision

Data Processing

Data Editing

Other Processing

Data Appraisal

Estimates of Sampling Error

Other forms of Data Appraisal