



Anti-Tumour Treatment

Adherence enhancing interventions for oral anticancer agents: A systematic review



Tim Mathes^{*}, Sunya-Lee Antoine¹, Dawid Pieper², Michaela Eikermann³

Institute for Research in Operative Medicine, Faculty of Health – School of Medicine, Witten/Herdecke University, Ostmerheimer Str. 200, Building 33, D-51109 Cologne, Germany

ARTICLE INFO

Article history:

Received 8 May 2013

Received in revised form 5 July 2013

Accepted 8 July 2013

Keywords:

Patient compliance
Medication adherence
Oral anticancer agents
Oral chemotherapy
Neoplasms
Oncology

ABSTRACT

Background: The use of oral anticancer agents has increased in the last decades. Adherence is a crucial factor for the success of oral anticancer agent therapy. However, many patients are non-adherent.

Objective: The objective was to evaluate the effectiveness of adherence interventions in patients taking oral anticancer agents.

Methods: A systematic literature search was performed in Medline and Embase. Titles and abstracts and in case of potential relevance, full-texts were assessed for eligibility according to the predefined inclusion criteria. The study quality was evaluated. Both process steps were carried out independently by two reviewers. Relevant data on study design, patients, interventions and results were extracted in standardized tables by one reviewer and checked by a second reviewer.

Results: Six controlled studies were included. Only one study was randomized. The study quality was moderate to low. One study showed statistically significant results in favor of the adherence intervention, two studies showed a tendency in favor of the intervention, one study showed an inconsistent result depending on the adherence definition and one study showed almost identical adherence rates in both groups. One study showed a tendency in favor of the control group.

Conclusions: Although most of the interventions are not very effective, it appears that certain adherence enhancing interventions could have a promising effect. One crucial point is the consideration of the baseline adherence when choosing patients to avoid ceiling effects. The evidence is limited due to lack of sufficient studies and partly inconsistent results. Further high quality studies are needed.

© 2013 Elsevier Ltd. All rights reserved.

Introduction

The use of oral anticancer agents (OACA) has increased in the last decades. It is assumed that one quarter of newly developed anticancer agents could be taken orally [1] and the amount of oral therapy in cancer treatment will probably increase further. Adherence, defined as “the extent to which a patient acts in accordance with the prescribed interval and dose of a dosing regimen [2],” is lower in patients taking OACA compared to patients taking intravenous chemotherapy [3]. Adherence rates in cancer patients range from less than 20–100%, depending on patient characteristics, therapy and adherence measurement/definition [4,5]. Most patients prefer to take their medication orally [6]. Adherence is one predis-

posing factor for the success of OACA [7,8], in particular when considering the long period in which OACA have to be taken correctly. Thus, adherence has become an important issue in modern oncology treatment.

However, several factors (patient characteristics, treatment characteristics, disease characteristics, setting) exist, for which an influence on patient adherence in patients taking OACA has been shown [9]. The factors can be roughly divided in the following five dimensions: Social and economic, health care system, health condition, therapy and patient [10].

Social and economic factors are all factors concerning the social and economic status of a person. For example, poverty and income can result in conflicting priority-setting regarding the use of limited resources. The consequence can be that adherence is reduced because the priority for other demands than medications (e.g., food) is perceived higher.

Health care system factors are all factors that relate to the organizational structures of the health care system/services and characteristics of the health care professionals. This includes e.g., the coverage of health insurance, patient-provider relationship or medication distribution.

^{*} Corresponding author. Tel.: +49 (0)221 98957 47; fax: +49 (0)221 98957 30.

E-mail addresses: Tim.Mathes@uni-wh.de (T. Mathes), Sunya-Lee.Antoine@uni-wh.de (S.-L. Antoine), Dawid.Pieper@uni-wh.de (D. Pieper), Michaela.Eikermann@uni-wh.de (M. Eikermann).

¹ Tel.: +49 (0)221 98957 49; fax: +49 (0)221 98957 30.

² Tel.: +49 (0)221 98957 42; fax: +49 (0)221 98957 30.

³ Tel.: +49 (0)221 98957 40; fax: +49 (0)221 98957 30.

Health condition related factors are all factors that affect the patient regarding certain disease. These include the severity of disease, severity of symptoms, prognosis or availability of effective treatments.

Therapy related factors are factors that relate to a certain therapy like the regime complexity or adverse events.

Patient factors are related to the patient attitudes, knowledge, beliefs, perceptions and expectations. For example the health literacy or beliefs about cure [10].

Different types of interventions to enhance patient adherence can be applied that target one or multiple of the five described adherence influencing dimensions. The potential of interventions to enhance adherence is probably raised by simultaneously targeting several of the influencing dimensions. But the effectiveness of an adherence enhancing intervention depends not only on the intervention itself but also on the applicability for a specific patient group.

On the one hand, many adherence interventions exist for chronic conditions for which a statistically significant influence on patient adherence as well as on clinical outcomes was proven. On the other hand, there are many ineffective interventions [11].

To the best of our knowledge only one review investigating interventions to enhance patient adherence for OACA exists [12]. This review was not prepared systematically. Furthermore as adherence is meanwhile an often discussed issue in OACA therapy, it could be expected that the review don't cover all relevant studies on this topic that have been probably published in the last five years.

The objective of this systematic review was to identify and summarize all controlled studies examining the effectiveness of adherence enhancing interventions for adult patients taking OACA.

Methods

Search strategy

A systematic literature search was performed in the databases Medline (via Pubmed) and Embase (via Embase excluding Medline records). The search strategy combined various synonyms, antonyms, acronyms and medical subject headings related to adherence, oncology as well as OACA and was adapted for each database (the full search strategies are available in Appendix I). The search was performed in December 2012. We did not limit the publication date and language in the search strategy.

Study selection

To be eligible for this review the studies had to meet all the following inclusion criteria:

1. Patients with malignant neoplasms.
2. Patients taking OACA.
3. Patients ≥ 16 years.
4. Interventions including a component to enhance patient adherence (no different dosages or different types of application of the same substance, intake without the presence of a health care professional).
5. Outcome: Adherence (not persistence).
6. Study type: Controlled studies.
7. Publication language: English or German.

Adherence interventions including different dosages and application types were excluded because it implicates different pharmacodynamics and pharmacokinetics and are associated with different adverse events and effectiveness that have an impact on adherence. Titles and abstracts of all hits in electronic databases

were screened. The full-texts of potentially eligible articles were obtained and screened. Two independent reviewers assessed the fulfillment of the review inclusion criteria in both steps. Differences between the reviewers were discussed until consensus was reached. We hand-searched the reference lists of all included publications. The authors were contacted in case of any unclear inclusion criteria.

Assessment of methodological study quality

The RCT (randomized controlled trial) and non-RCT (definition non-RCT: investigators had direct control over study conditions but interventions were not randomly assigned, e.g., quasi RCT [13]) were assessed using the nine items of the Cochrane Effective Practice and Organization of Care Group tool [14]. However, the tool is not designed to assess cohort studies. For the methodological quality assessment of cohort studies a tool provided by the National Institute for Health Clinical Excellence (NICE) was applied (evaluation questions for both instruments are available in Appendix II). All questions were rated as fulfilled and not fulfilled (low risk of bias/high risk of bias). The quality assessment was performed independently by two reviewers. Disagreements were resolved in a discussion or by involving a third person. Due to the obvious nature of adherence enhancing interventions blinding of patients and the personnel involved in the adherence intervention is not feasible. All corresponding quality criteria were therefore generally not applied to investigators performing the adherence intervention and participants but referred to personal that measured or assessed the adherence and personnel delivering cancer care.

Data extraction and synthesis

The data were extracted in standardized tables tested beforehand. Information about the study period, region/setting of the study, cancer type, OACA, demographic and clinical inclusion criteria, intervention/s and control, the definition and measurement of adherence, and the study results for adherence at last follow-up were summarized in these tables. Data were extracted by one reviewer and checked by a second for accuracy. Available data on other outcomes were also extracted and are presented additionally. All values in the tables are means unless otherwise indicated. A *p*-value below 0.05 was regarded as statistically significant.

High study heterogeneity was expected because of the diversity of adherence enhancing interventions and different populations taking OACA. Thus, a quantitative data synthesis using a meta-analysis was not planned a priori.

Results

The literature search resulted in 2309 hits after electronic removal of duplicates. Ninety-five titles and abstracts were rated as potentially relevant for and the full-texts were screened. In this process step 88 publications were rated as irrelevant. Seven publications satisfied all inclusion criteria. Two studies seemed to be based in great part on the same participants [15,16]. The authors were contacted and confirmed the assumption. Thus, six studies (seven publications) were included. A hand-search of references of the included studies revealed no further relevant publications. The selection process is illustrated in the flow-chart (see Fig. 1).

RCT, non-RCT and cohort studies were identified. The overall methodological quality of the studies was moderate to low (results of the quality assessment for RCT, non-RCT see Table 1 and cohort studies Table 2). At least three quality criteria were not met in each

Download English Version:

<https://daneshyari.com/en/article/6190644>

Download Persian Version:

<https://daneshyari.com/article/6190644>

[Daneshyari.com](https://daneshyari.com)