Original Article

Patterns of Use of Medical Cannabis Among Israeli Cancer Patients: A Single Institution Experience

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Abstract

Context. The use of the cannabis plant (*Cannabis sativa* L.) for the palliative treatment of cancer patients has been legalized in multiple jurisdictions including Israel. Yet, not much is currently known regarding the efficacy and patterns of use of cannabis in this setting.

Objectives. To analyze the indications for the administration of cannabis among adult Israeli cancer patients and evaluate its efficacy.

Methods. Efficacy and patterns of use of cannabis were evaluated using physician-completed application forms, medical files, and a detailed questionnaire in adult cancer patients treated at a single institution.

Results. Of approximately 17,000 cancer patients seen, 279 (<1.7%) received a permit for cannabis from an authorized institutional oncologist. The median age of cannabis users was 60 years (range 19–93 years), 160 (57%) were female, and 234 (84%) had metastatic disease. Of 151 (54%) patients alive at six months, 70 (46%) renewed their cannabis permit. Renewal was more common among younger patients and those with metastatic disease. Of 113 patients alive and using cannabis at one month, 69 (61%) responded to the detailed questionnaire. Improvement in pain, general well-being, appetite, and nausea were reported by 70%, 70%, 60%, and 50%, respectively. Side effects were mild and consisted mostly of fatigue and dizziness.

Conclusion. Cannabis use is perceived as highly effective by some patients with advanced cancer and its administration can be regulated, even by local authorities. Additional studies are required to evaluate the efficacy of cannabis as part of the palliative treatment of cancer patients. J Pain Symptom Manage 2015;49:223–230.

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Cannabis, cancer, palliative care, pain, chemotherapy

Introduction

An increasing number of countries, including Israel, have legalized the use of the cannabis plant (*Cannabis sativa* L.) for the treatment of a wide range of cancer-related symptoms.[1] The cannabis plant contains more than 70 cannabinoids, with Δ^{-9}-tetrahydrocannabinol (THC), cannabinol, and cannabidiol (CBD) being considered the most active and clinically relevant.[2] These compounds are primarily found in the dried flowering tops and leaves of the female plant. These dried parts are known as marijuana, and the content of THC in these parts may exceed 10%.[3] The cannabinoids mediate their action through two kinds of G-protein-coupled receptors, CB1 and CB2, found in membranes of nerve cells. The CB1 receptor is found predominantly in the central and peripheral nervous systems and suppresses neuronal excitability,[4] whereas the CB2 receptor is found predominantly in immune tissue and is not related to psychoactive effects.[5,6]

Several studies have tested the efficacy of either synthetic or purified cannabinoids in the treatment of cancer-related symptoms. Thus, synthetic cannabinoids were found to reduce chemotherapy-induced nausea and vomiting (CINV) compared with either placebo or older generations of antiemetic medications[6,7] but did not increase appetite compared with placebo or megestrol.[8,9] Two recent Phase III trials noted a modest effect of either THC/CBD extract or the synthetic cannabinoid nabilone compared with placebo for the treatment of intractable cancer-related pain.[10–12] To our knowledge, no controlled trials have tested the efficacy of the cannabis plant in cancer patients. Despite lack of evidence-based data, cannabis use has been legalized in several Western countries or jurisdictions, including The Netherlands[13] and the U.S.[14]

In 2010, the Israeli Ministry of Health authorized five oncologists to issue permits for cannabis use in oncology patients being treated at their institution. Permits were valid for a period of six months and could be issued for any symptom attributed to the disease itself or to treatment (e.g., pain, CINV, weight loss, depression). Permits were granted following a formal request by the treating oncologist, who was required to specify the clinical condition of the patient and the precise indications for prescribing cannabis. The cannabis was supplied to the patients by a legal distributor.

We aimed to analyze the indications for the administration of cannabis among adult Israeli cancer patients and evaluate the efficacy of cannabis both directly, using a detailed questionnaire, and indirectly, by examining the prescription renewal pattern among these patients.

Methods

Participants

The Sheba Medical Center is an academic medical center, affiliated with Tel Aviv University in Israel, serving as a regional and a tertiary center for cancer patients. All consecutive adult patients (≥18 years old) who were treated at the Oncology and Gynecology Oncology Departments of Sheba Medical Center and received a permit for medical cannabis between October 2010 and September 2011 were included in the study. Symptoms were managed by the treating oncologist according to best practice, with a dedicated palliative care team consisting of a trained nurse and physician being available for consultation. Per national guidelines, all cancer patients receiving either active oncology treatment or supportive care, as well as patients receiving adjuvant chemotherapy, were eligible for a permit. The use of cannabis in the adjuvant setting was limited, per institutional guidelines, only for the treatment of severe side effects refractory to conventional treatment. All requests for eligible patients by the treating oncologists were approved by the institutional authorizing oncologist (I. W.). Patients with hematological malignancies and children were excluded. The study was approved by the local research ethics board.