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**Stosowanie leków przeciwbólowych i/lub
przeciwzapalnych u osób z niewydolnością nerek**

Nonsteroidal Anti-Inflammatory Drugs and/or Analgesics Use in Patients
with Kidney Failure

Rozprawa doktorska na stopień doktora
w dziedzinie nauk medycznych i nauk o zdrowiu
w dyscyplinie nauki o zdrowiu
przedkładana Radzie Dyscypliny Nauk o Zdrowiu
Warszawskiego Uniwersytetu Medycznego

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Warszawa 2023 r.

3. Streszczenie w języku angielskim

Introduction. One of the most widely used drugs in the world are non-steroidal anti-inflammatory drugs (NSAIDs) and over the counter (OTC) analgesics. This is due to their efficacy, availability, and relatively low price. Due to possible side effects, in selected groups of patients, which include e.g., those with chronic kidney disease (CKD) before as well as after kidney transplantation (KTx), their use is associated with a higher risk of complications. Adverse effects include e.g.: gastrointestinal bleeding, bone marrow toxicity, hepatotoxicity, allergic reactions, drug interactions or increased blood pressure. It is well known that majority of patients with end-stage renal disease (ESRD) do not consult the use of these drugs with a doctor or nurse.

The purpose of this study was to investigate the frequency of use of NSAIDs and/or analgesics, factors that influence the choice of a particular preparation, and awareness of potential side effects among patients with renal insufficiency.

Material and methods. The study was conducted in 2 independent stages: 1st (2018['] publication), concerned patients with ESRD who were after kidney transplantation; 2nd (2022['] publication), concerned patients with ESRD of different etiology under the care of our outpatient Nephrology Clinic. The complete methodology is detailed in the aforementioned publications that constitute the dissertation.

1) The results published in 2018 included 94 randomly selected kidney transplant recipients, which at the time represented 5% of KTx recipients under the care of our outpatient transplant clinic. The survey consisted of 23 closed questions.

2) The study published in 2022 included 226 patients with ESRD of various etiologies under the care of the outpatient nephrology clinic and 345 patients without renal failure under the care of the primary doctor, who constituted the control group. The questionnaire for people with ESRD contained 31 closed questions, while the questionnaire for healthy control contained 25 closed questions. Finally, 12 questions were identical for both groups

In both groups, the questionnaire was administered with an appendix, i.e., a photo album showing NSAIDs and painkillers available in pharmacies, so that in cases of doubt, the person surveyed would have a chance to correctly identify the drug.

Results. In the 2018' publication - 63% of KTX recipients confirmed taking pain medications, with 22% of patients taking these medications at least several times a week and 4% taking them daily. For 38% of those surveyed, these medications were the only way to manage pain. One out of three patients were unaware of possible complications, even though at the same time 89% of patients considered the doctor to be the best source of information.

In the 2022' publication - 89% of ESRD patients and 97% of general population patients - regardless of age - use NSAIDs or analgesics. Every 3rd ESRD patients and 60% of general population patients do not consult with a physician the use of these medications. For 70% of patients with ESRD, joint and muscle pain was the main reason for taking these medications, while 69% of those in the general population indicated infection or fever. The patient's previous experience with a particular preparation was the main argument in favor of its use.

Conclusions. The use of NSAIDs and/or analgesics by patients with ESRD at various stages is common. It is important to note that at least 30% of patients with ESRD do not consult a physician about their intake, regardless of whether they are pre- or post-transplant. The patient's own experience with the use of NSAIDs and/or pain medications, is a more important factor than consulting a doctor or nurse. Taking all of this into account, continued patient education regarding the use of NSAIDs and/or pain medications is necessary.