BAASIS

The Basel Assessment of Adherence to immunoSuppressive medIcations Scale©

Version 19.02.25

Basel Assessment of Adherence to Immunosuppressive Medications Scale (BAASIS©)

– EXPLANATION OF SCALE, SCORING & VALIDITY

The Basel Assessment of Adherence to Immunosuppressive Medication Scale (BAASIS©) was developed to assess adherence to immunosuppressive drugs in adult and adolescent transplant recipients. The BAASIS© can also be easily adapted to assess medication adherence in other chronically ill patient populations. This can be done by replacing 'anti-rejection medications' by 'medications' or a specific name of drug or drug class under study.

As a validated measure of medication adherence, the BAASIS© is listed as a valuable instrument for use in clinical practice and research projects in transplantation or other patient populations (Cleemput et al., 2007; Dobbels et al., 2010; De Geest et al., 2020; Leino et al. 2024). The BAASIS© is recommended in the COMMIT transplant guidelines (Neuberger et al., 2017) as a medication adherence self-report instrument, meeting the need for the use of patient-reported outcomes in research to improve patient outcomes (Tong et al., 2022). The BAASIS© psychometric properties have been assessed in transplant populations (Denhaerynck et al., 2023; Haupenthaler et al. 2024 & submitted) *(see also below)*.

BAASIS© items have been integrated within the nation-wide prospective Swiss Transplant Cohort Study, thereby demonstrating its applicability in large system-wide multi-centre studies (De Geest et al., 2014). Real-world use of the BAASIS© was demonstrated by Gustavsen et al. (2019) & Sharma et al. (2021) as a measure for annual routine capture of adherence data in renal transplant recipients. The BAASIS© has been integrated in clinical settings worldwide to assess medication adherence in routine practice.

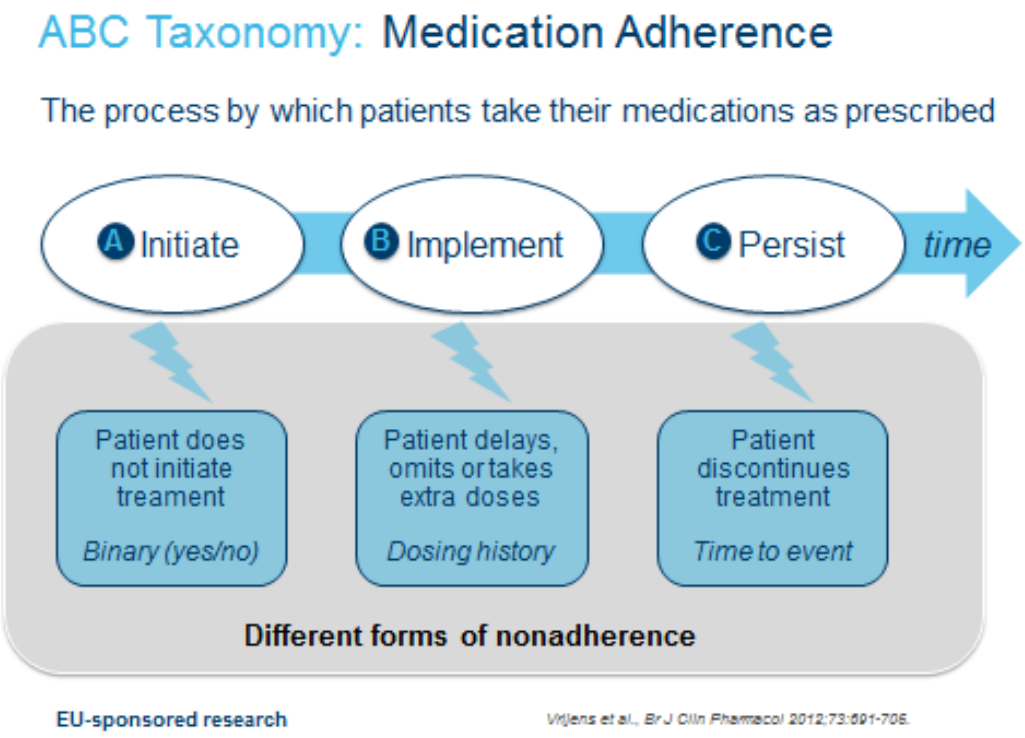

Figure 1: The ABC taxonomy for describing and defining adherence to medications

Conceptual basis of the BAASIS©

The BAASIS© follows the taxonomy of medication adherence (Vrijens et al., 2012) which defines adherence as *"the process by which patients take their medication as prescribed"*. This taxonomy indicates that adherence consists of 3 quantifiable phases: *initiation, implementation and persistence*" (see Figure 1). (Vrijens et al., 2012)

- *Initiation* starts when a patient takes his/her first dose of medication. This is a binary event (yes/no).
- *Implementation* of the dosing regimen refers to "the extent to which a patient's actual dosing corresponds to the prescribed dosing regimen, from initiation until the last dose is taken" and implies a dosing history.
- *Discontinuation* refers to "the moment that the patient discontinues his/her medication regimen" and is assessed as a time to event. *Persistence* is thus the duration between time of initiation and the moment the last dose is taken.

NON-ADHERENCE TO MEDICATIONS refers to those situations when issues with *initiation* (i.e. not redeeming a prescription or not starting to take the medication), *implementation* (e.g., dose not taken, problems with timing of medication intake, missing consecutive doses of medication, dose reduction) or *persistence* (i.e., stopping medication intake completely on own initiative) occur.

The latest version of the BAASIS© (2020 and beyond) assesses all three 3 phases of medication adherence as conceptualized by the ABC taxonomy:

- **initiation *(item 5** (new since 2020))*
- **implementation (items 1A, 1B, 2, 3)**
- **persistence (item 4).**

Initiation

Initiation is assessed via 1 item with a YES/NO answer (*item 5 – last item in the BAASIS©)*.

Patients have to indicate first whether any new medication has been prescribed in the past year (YES/NO). If so, they are asked to answer the initiation item (YES/NO).

Implementation

The implementation phase is assessed via 4 items (Items 1a, 1b, 2 and 3). Each focuses on a different aspect of medication taking: respectively, taking; drug holidays; timing or regularity of medication intake; and dose reduction. All items start with a YES/NO question. For items 1a, 1b and 2, if the patient answers "YES", this is followed by five response categories to document the frequency of implementation problems, i.e., once, twice, 3 times, 4 times and more than 4 times.

The BAASIS© can also be used to assess different types of implementation issues separately (e.g., issues with taking, timing, drug holidays and/or dose reduction).

Persistence / Discontinuation

Persistence / discontinuation is assessed by 1 item (Item 4) with a YES/NO answer.

BAASIS© Versions

There are two versions of the *BAASIS©:*

1. *The 'BAASIS© Interview (self-report)' (recommended),* which is completed as an interview between the healthcare professional and the transplant recipient.

2. The *'BAASIS© Written self-report', which* can be completed by transplant recipients on their own.

We recommend using the '*BAASIS© Interview (self-report)',* as the interview approach provides a more information-intensive data collection approach and more effectively supports a truthful answer pattern.

Both versions of the BAASIS© (*'BAASIS© Interview (self-report)' and 'BAASIS© Written self-report')* consist of the same items, although they are worded slightly differently depending on how they are completed (i.e., interview or written format).

BAASIS© Interview (self-report)

The '*BAASIS© interview (self-report)*' should be conducted in a non-threatening, non-judgmental manner to encourage patients to provide truthful answers (e.g., "*Most patients have difficulties taking their medications correctly. We would be surprised if this never happened to you…*").

The '*BAASIS© interview (self-report)*' begins with a table that should be completed by the healthcare professional/interviewer and the patient together, documenting which (immunosuppressive) medications the patient is currently taking, how many tablets/pills of each medication, and at what time the patient takes the medication in his daily life (this can deviate from the times prescribed by the clinician). This is to encourage recipients to take all (immunosuppressive) medications into account when answering the questions, while helping the interviewer to personalize the questions.

BAASIS© Written self-report

The '*BAASIS© Written self-report*' is self-explanatory and can be given to recipients to complete on their own. The items are simplified versions of those described for the '*BAASIS© interview (self-report)*' above. No medication table is included in the '*BAASIS© written self-report*'.

Translations of the BAASIS©

The 2021 BAASIS© version has been translated into into Arabic, Brazilian Portuguese, Chinese (simplified), Czech, Dutch, French, German, Hungarian, Italian, Japanese, Korean, Norwegian, Persian, Spanish, Swedish and Turkish by native speakers using a forward-backward translation approach based on standard translation protocols (e.g. ISPOR translation guidelines – Wild et al. 2005).

Chinese (traditional), Croatian, Danish, Hebrew, Polish, Tamil, Thai and Urdu translations are currently in preparation.

Please contact us for further translation requests.

How to score the BAASIS©?

The scoring of the BAASIS© (in view of the *initiation, implementation* and *persistence phases of medication* adherence) is explained below.

Initiation

If a patient indicates having been prescribed a new drug (i.e. is answering "YES" to the 1st part of item 5) and then answers "NO" on the second part of item 5, non-initiation of the prescribed medication is identified for this patient.

The proportion of a sample showing non-initiation is calculated only on patients reporting to have been prescribed a new drug.

Implementation

Any YES on any of items 1a, 1B, 2 or 3 indicates an issue with implementation.

The BAASIS© can also be used to assess different types of implementation issues (e.g., issues with taking, timing, drug holidays and/or dose reduction) separately by calculating the proportion of patients scoring YES for each of these items.

Persistence

"YES" on item 4 indicates non-persistence of immunosuppressive medication use.

Psychometric properties of the BAASIS©

The BAASIS© has been analysed psychometrically in **a meta-analysis of individual patient data** (Denhaerynck et al., 2023; *commentary:* Elias et al., 2023) and other studies showing its validity (Tielen, 2016; Haupenthal et al. 2024 & submitted).

The meta-analysis of Denhaerynck et al. (2013) included total of **12109 transplant recipients included in 26 studies.** Twenty of 26 studies provided individual participant data (n=11474 recipients). Three validity aspects of the BAASIS©'s implementation scoring were examined: *1) relationships with other variables* (i.e., electronic medication monitoring, other self-report instruments,

tacrolimus blood level variability, collateral report by clinicians, self-reported depressive symptoms, self-reported psycho-behavioural constructs and adherence-enhancing interventions); *2) response processes*; and *3) internal structure*. *Reliability* was examined by testing scoring stability over time. 4) *Predictive validity* was assessed by Tielen et al (2016) and Haupenthal et al. (work in progress, University Hospital Vienna, Austria, Research Group Professor Dr. Gregor Bond). Findings on validity are presented below.

1) relationships with other variables

Testing of the relationships with the above-mentioned variables showed that non-adherence assessed with the BAASIS© was significantly associated with: electronically monitored non-adherence ($p<.03$); other self- and collaterally-reported non-adherence ($p<.0001$); higher variability in tacrolimus concentrations ($p=.02$); higher barriers ($p<.0001$); lower self-efficacy ($p<.0001$); lower intention ($p<.0001$); and higher worries ($p=.02$). Non-adherence also decreased after regimen change interventions ($p=.03$) (Denhaerynck et al., 2023).

2) response processes

Evaluation of response processes indicated good readability and detected a slightly higher non-adherence level with the written version (Denhaerynck et al., 2023).

3) internal structure / Reliability

Structurally (3), the two items on medication taking and its correct timing correlated. Furthermore, about half of the variability in scoring over time could be attributed to the recipients, indicating that the BAASIS© captures more than merely measurement error (Denhaerynck et al., 2023)

4) *predictive validity*

A sample of kidney transplant recipients (Tielen, 2014), followed up prospectively (Tielen, 2016) supported the overall **predictive validity of the BAASIS©** regarding graft loss, as non-adherence to the immunosuppressive regimen shortly after transplantation predicted graft loss two years later. Haupenthal et al. (2024 & submitted) showed the predictive validity of repeated medication adherence assessments with the BAASIS© over the first two years after renal transplantation in view of allograft rejections.

5) As mentioned above, the instrument had been recommended on *content validity* arguments in the COMMIT transplant guidelines (Neuberger et al., 2017).

Summarized, psychometric analyses indicate good validity and reliability of the BAASIS© as a self-report instrument to assess medication non-adherence in transplantation. Thus far only the implementation and (to a lesser extent) persistence phases were evaluated. No psychometric evaluation on the initiation phase (which was added in the 2020 and beyond BAASIS© versions) is currently available.

Language-specific validation studies were performed in Brazilian-Portuguese, Japanese and Turkish (2024 & submitted). The Brazilian-Portuguese BAASIS© (BAASIS© version <2020 without initiation item), demonstrating concurrent validity with another self-report instrument (Marsicano et al., 2013), and in Japanese kidney transplant recipients, where its validity was supported by comparison with another self-report instrument and electronic medication monitoring (Kosoku et al., 2023).

Copyright of BAASIS©

Please note that the BAASIS© copyright is held by the University of Basel. If you would like to use the BAASIS© be it for a clinical or research project permission should be requested via the BAASIS© website https://baasis.nursing.unibas.ch/how-to-obtain/ . The copyright of the BAASIS© also implies that neither the entire BAASIS© questionnaire nor individual BAASIS© items can be published verbatim.

All projects receiving permission to use the BAASIS© are required to send all abstracts and publications of their work to baasis-nursing@unibas.ch and will be invited to participate in ongoing validation studies.

Publishing medication adherence findings

For the reporting of medication adherence studies, we advise researchers to follow the ESPACOMP Medication Adherence Reporting Guideline (EMERGE), which is designed specifically to report medication adherence research. EMERGE also builds on the ABC taxonomy that is the conceptual basis of the BAASIS© (see De Geest et al., 2018). A copy of the EMERGE guidelines is sent alongside this copy of the BAASIS© explanations.

References (alphabetically)

Cleemput I, Dobbels F. Measuring patient-reported outcomes in solid organ transplant recipients: an overview of instruments developed to date. *Pharmacoeconomics* 2007; 25: 269–86.

De Geest S, Zullig LL, Dunbar-Jacob J, Helmy R, Hughes DA, Wilson IB, Vrijens B. ESPACOMP Medication Adherence Reporting Guideline (EMERGE). *Ann Intern Med.* 2018; 169: 30-35.

De Geest S, Burkhalter H, Bogert L, Berben L, Glass TR, Denhaerynck K *for the Psychosocial Interest Group, Swiss Transplant Cohort Study*. Describing the evolution of medication non-adherence from pre-transplant until 3 years post-transplant and determining pre-transplant medication non-adherence as risk factor for post-transplant non-adherence to immunosuppressives: *The Swiss Transplant Cohort Study. Transplant International* 2014 ;27 :657-66.

De Geest S, Ribaut J, Denhaerynck K, Dobbels F. Adherence management in transplantation: Creating impact in real world settings based on state-of-the-art evidence. In: Cukor D, Cohen S, Kimmel PL. Psychosocial Aspects of Chronic Kidney Disease. Elsevier, Academic Press. 2020, pp. 409-448.

Denhaerynck K, Dobbels F, Košťálová B, De Geest S, on behalf of the BAASIS consortium. Psychometric properties of the Basel Assessment of Adherence with Immunosuppressive Medications Scale (BAASIS©): a meta-analysis of individual participant data. *Transplantation* 2023 Mar 23. doi: 10.1097/TP.0000000000004574. Online ahead of print.

Elias C, Cherukuri A, BAASIS for Monitoring Therapy Nonadherence in Clinical Transplantation: Are We There Yet? Transplantation Transplantation 2023 Mar 23. doi: 10.1097/TP.0000000000004575. Online ahead of print.

Dobbels F, Berben L, De Geest S, Drent G, Lennerling A, Whittaker C, Kugler C and the Transplant360 Task Force. The psychometric properties and practicability of self-report instruments to identify medication non-adherence in adult transplant patients to date: a systematic review. *Transplantation* 2010; 90:205-219.

Gustavsen MT, Midtvedt K, Lønning K, Jacobsen T, Reisæter AV, Hartmann A, Andersen MH, De Geest S, Åsberg A. Evaluation of Tools for Annual Capture of Adherence to

Immunosuppressive Medications After Renal Transplantation - A Single-Centre Open Prospective Trial. *Transpl Int.* 2019;32: 614-625.

Haupenthal F, Doberer K, Bauernfeind F, Gober B, Ebenberger K, Kainz A, de Geest S, Bond G, #3028 Predictive validity of the Basel Assessment of Adherence to Immunosuppressive Medication Scale (BAASIS©) after renal transplantation, Nephrology Dialysis Transplantation, Volume 39, Issue Supplement_1, May 2024, gfae069–0966–3028.

Kosoku A, Iwai T, Hiroo M, Kabei K, Nishide S, Maeda K, Yoshikawa Y, Nakamura Y, De Geest S, Uchida J. Reliability and validity of the Japanese version of the Basel assessment of adherence to immunosuppressive medications scale (J-BAASIS) in kidney transplant recipients. *Transplant Direct.* 2023 Feb 24;9(3):e1457.

Leino AD, Kaiser TE, Khalil K, Mansell H, Taber DJ. Electronic health record-enabled routine assessment of medication adherence after solid organ transplantation: the time is now. Am J Transplant. 2024 May;24(5):711-715.

Marsicano E, da S. Fernandes N, dos S. Grincenkov FR, da S. Fernandes NM, De Geest S, Sanders-Pinheiro H. Validation of Brazilian-portuguese version of Basel Assessment of Adherence to Immunosuppressives Scale (BAASIS©) in kidney transplants. *BMC Nephrology* 2013;14: 108.

Neuberger J, Bechstein W, Kuypers D, Burra P, Citterio F, De Geest S, Duvoux C, Jardine A, Kamar N, Krämer B, Metselaar H, Nevens F, Pirenne J, Rodríguez-Perálvarez M, Samuel D, Schneeberger S, Serón D, Trunečka P, Tisone G, van Gelder T. Practical recommendations on long-term management of modifiable risks in kidney and liver transplant recipients: a guidance report and clinical checklist by the Consensus On Managing Modifiable risk In Transplantation (COMMIT) group. *Transplantation* 2017; 101(4S Suppl 2): S1-S56.

Sharma A, Verma S, Mirzai S, Viswanathan V, Kapoor S, Hariharan S, Dew MA, Puttarajappa CM. Implementing a self-reported immunosuppression adherence questionnaire to screen for non-adherence in routine care of kidney transplant recipients. Clin Transplant. 2024 Jan;38(1):e15157.

Tong A, Oberbauer R, Bellini M.I., Budde K, Caskey F.J., Dobbels F, Pengel L, Rostaing L, Schneeberger S, Naesens M. Patient-Reported Outcomes as Endpoints in Clinical Trials of Kidney Transplantation Interventions. *Transplant International* 2022; 35: 10134.

Tielen M, van Exel J, Laging M, Beck DK, Khemai R, van Gelder T, Betjes MG, Weimar W, Massey EK. Attitudes to medication after kidney transplantation and their association with medication adherence and graft survival: a 2-year follow-up study. *J Transplant* 2014: 675301

Tielen M, Laging M, Beck DK, van Gelder T, Betjes MG, Weimar W, Massey EK. Importance of early medication adherence for long-term graft survival: A prospective, single-centre cohort study. *Transplantation* 2016; 100: S431

Vrijens B, De Geest S, Hughes D, Kardas P, Demonceau J, Ruppar T, Dobbels F, Fargher E, Morrison V, Lewek P, Matyjaszczyk M, Mshelia C, Clyne W, Aronson JK, Urquhart J for the ABC project team. A new taxonomy for describing and defining adherence to medications. *British Journal of Clinical Pharmacology* 2012; 73: 691-705.

Wild D, Grove A, Martin M, Eremenco S, McElroy S, Verjee-Lorenz A, Erikson P. Principles of Good Practice for the Translation and Cultural Adaptation Process for Patient-Reported Outcomes (PRO) Measures: Report of the ISPOR Task Force for Translation and Cultural Adaptation. *Value in Health* 2005; 8: 94-104.

Published articles that used the BAASIS©

(status 19.02.2025, Pubmed database, sorted by publication date)

121. Vidnes TK, Wahl AK, Larsen MH, Meyer KB, Hermansen Å, Andersen MH. Two-Year Follow-Up of a Communication Intervention on Medication Adherence and Health Literacy in Kidney Transplanted Recipients-A Randomised Controlled Study. J Ren Care. 2025 Mar;51(1):e70010. doi: 10.1111/jorc.70010. PMID: 39930983; PMCID: PMC11811744. [Link]

120. Ortiz F, Salonsalmi A, Helanterä I. Associations between dialysis modality and adherence to immunosuppression after kidney transplantation-A single-center study. PLoS One. 2025 Jan 24;20(1):e0317435. doi: 10.1371/journal.pone.0317435. PMID: 39854428; PMCID: PMC11760586. [Link]

119. Zhi-Yu Z, Lin-Rui D, Chen-Zhen Y, Ren-Jie C, Fei-Hong Y, Song C, Sheng C, Wei-Jie Z. Immunosuppressant nonadherence profile in kidney transplant recipients and the impact of medication adherence on transplant outcomes. Front Pharmacol. 2024 Dec 18;15:1493166. doi: 10.3389/fphar.2024.1493166. PMID: 39744122; PMCID: PMC11688411. [Link]

118. Mansell H, Rosaasen N, Wichart J, West-Thielke P, Blackburn D, Liu J, Mainra R, Shoker A, Groot B, Wen K, Wong A, Bateni B, Luo C, Trivedi P. Video Education and Behavior Contract to Improve Outcomes After Renal Transplantation (VECTOR): A Randomized Controlled Trial. Patient Prefer Adherence. 2024 Jul 31;18:1589-1602. doi: 10.2147/PPA.S467142. PMID: 39100428; PMCID: PMC11298174. [Link]

117. Derejie MN, Dereje EN, Alemu DM, Tesfay YG, Hunduma F, Temie NM. Medication non-adherence and its associated factors among kidney transplant patients in a large teaching hospital in Ethiopia. BMC Nephrol. 2024 Jun 1;25(1):187. doi: 10.1186/s12882-024-03620-z. PMID: 38824513; PMCID: PMC11144307. [Link]

116. Rekk K, Arnet I, Dietrich F, Polymeris AA, Lyrer PA, Engelter ST, Schaedelin S, Allemann SS. Relationship between electronically monitored adherence to direct oral anticoagulants and ischemic or hemorrhagic events after an initial ischemic stroke-A case control study. PLoS

One. 2024 Apr 25;19(4):e0301421. doi: 10.1371/journal.pone.0301421. PMID: 38662779; PMCID: PMC11045050. [Link]

115. de Medeiros Oliveira LCL, Martins RR, de Oliveira RB, da Nóbrega ÍMF, de Medeiros Batista L, Moreira FSM, de Andrade CC, Tavares RPM, de Vasconcelos AL, Oliveira AG. Nonadherence to Immunosuppressant Therapy of Kidney Transplant Candidate Patients: External Validation of the KATITA-25 Scale. Transplantation. 2024 Mar 29. doi: 10.1097/TP.0000000000004994. Epub ahead of print. PMID: 38548683. [Link]

114. Vidnes TK, Wahl AK, Larsen MH, Meyer KB, Engebretsen E, Hermansen Å, Urstad KH, Dahl KG, Borge CR, Andersen MH. Effectiveness of a health communication intervention on health literacy in the first year following kidney transplantation – A randomized controlled study. Patient Educ Couns. 2024 Jun;123:108207. doi: 10.1016/j.pec.2024.108207. Epub 2024 Feb 29. PMID: 38447477. [Link]

113. Streichart L, Felldin M, Ekberg J, Mjörnstedt L, Lindnér P, Lennerling A, Bröcker V, Mölne J, Holgersson J, Daenen K, Wennberg L, Lorant T, Baid-Agrawal S. Tocilizumab in chronic active antibody-mediated rejection: rationale and protocol of an in-progress randomized controlled open-label multi-center trial (INTERCEPT study). Trials. 2024 Mar 22;25(1):213. doi: 10.1186/s13063-024-08020-0. PMID: 38519988; PMCID: PMC10958896. [Link]

112. Zhao Q, Dong L, Wang L, Zhao H, Zhu X, Zhang Z, Liu J. Immunosuppressant medication behaviours in solid organ transplant recipients: a cross-sectional study from south-central China during COVID-19 reopening period. BMJ Open. 2024 Mar 5;14(3):e080998. doi: 10.1136/bmjopen-2023-080998. PMID: 38448078; PMCID: PMC10916083. [Link]

111. Hias J, Defieuw L, Vanassche T, Verhamme P, Van der Linden L. Therapy and guideline adherence at a multidisciplinary hypertension clinic: A prospective, observational study. Vascul Pharmacol. 2023 Dec 28;154:107271. doi: 10.1016/j.vph.2023.107271. Epub ahead of print. PMID: 38159830. [Link]

110. Al-Saleh S, Conley S, Pace T, Insel KC. A Cross-Sectional Study of Cognitive Function, Illness Perceptions, and Immunosuppression Medication Adherence After Heart Transplantation. West J Nurs Res. 2023 Dec 26:1939459231220283. doi: 10.1177/01939459231220283. Epub ahead of print. PMID: 38146266. [Link]

109. De Pasquale C, Barbagallo N, Veroux M, Pistorio ML, Zerbo D, Giaquinta A, Ekser B, Veroux P. Nonadherence to Immunosuppressants Among Transplant Recipients: Emotional Intelligence as a Predictive Factor During COVID-19 Pandemic. Patient Prefer Adherence. 2023 Nov 27;17:3083-3092. doi: 10.2147/PPA.S426358. PMID: 38045111; PMCID: PMC10691268. [Link]

108. Russell CL, Chesnut SR, Bartlett Ellis RJ, Freiburghaus M, Madison M, Ruggeri SY, Stephens MB, Yerram P, Wakefield MR. A Descriptive, Correlational Study of Perceptions of Adult Kidney Transplant Recipients and Those Waiting for a Kidney Transplant About Managing Their Medications During a Pandemic. Prog Transplant. 2023 Dec;33(4):318-327. doi: 10.1177/15269248231212906. Epub 2023 Nov 14. PMID: 37964572. [Link]

107. Sharma A, Verma S, Mirzai S, Viswanathan V, Kapoor S, Hariharan S, Dew MA, Puttarajappa CM. Implementing a self-reported immunosuppression adherence questionnaire to screen for non-adherence in routine care of kidney transplant recipients. Clin Transplant. 2023 Oct 4:e15157. doi: 10.1111/ctr.15157. Epub ahead of print. PMID: 37792310. [Link]

106. Kindem IA, Åsberg A, Midtvedt K, Bjerre A. Optimizing medication adherence with home-monitoring – A feasibility study using capillary microsampling and mHealth in solid organ-transplanted adolescents. Pediatr Transplant. 2023 Nov;27(7):e14590. doi: 10.1111/petr.14590. Epub 2023 Aug 5. PMID: 37543722. [Link]

105. Xie X, Wang X, Li A, Yan Y, Lu T, Wu Y, Lin Z. A Study of the Effectiveness of Mobile Health Application in A Self-management Intervention for Kidney Transplant Patients. Iran J Kidney Dis. 2023 Sep;17(5):263-270. PMID: 37838936. [Link]

104. Marston MT, Berben L, Dobbels F, Russell CL, de Geest S. Prevalence and Patient-Level Correlates of Intentional Non-Adherence to Immunosuppressive Medication After Heart-Transplantation-Findings From the International BRIGHT Study. Transpl Int. 2023 Jul 10;36:11308. doi: 10.3389/ti.2023.11308. PMID: 37492859; PMCID: PMC10363605. [Link]

103. Oruç A, Ersoy A, Can FE, et al. Transculturally adaptation and validation of the basel assessment of adherence to immunosuppressive medication scale (BAASIS©) interview questionnaire among Turkish kidney transplant recipients. Turk J Nephrol. 2023;32(3):235-240. [Link]

102. Magalhães, A.L.P.; Campos, T.S.; Lima, V.G.K.; Lins, S.M.S.B.; Souza, E.; Adesão à terapia imunossupressora de transplantados renais de um hospital universitário. saúdecoletiva 2019; 51; 1892-1898. [Link]

101. Wagner-Skacel J, Fink N, Kahn J, Dalkner N, Jauk E, Bengesser S, Mairinger M, Schüssler G, Pieh C, Stadlbauer V, Kirsch AH, Zitta S, Rosenkranz AR, Fickert P, Schemmer P. Improving adherence to immunosuppression after liver or kidney transplantation in individuals with impairments in personality functioning – A randomized controlled single center feasibility study. Front Psychol. 2023 Mar 9;14:1150548. doi: 10.3389/fpsyg.2023.1150548. PMID: 36968754; PMCID: PMC10033957. [Link]

100. Denhaerynck K, Dobbels F, Košťálová B, De Geest S; BAASIS consortium. Psychometric Properties of the BAASIS: A Meta-analysis of Individual Participant Data. Transplantation. 2023 Mar 23. doi: 10.1097/TP.0000000000004574. Epub ahead of print. PMID: 36949037. [Link]

99. Elias C, Cherukuri A. BAASIS for Monitoring Therapy Nonadherence in Clinical Transplantation: Are We There Yet? Transplantation. 2023 Mar 23. doi: 10.1097/TP.0000000000004575. Epub ahead of print. PMID: 36949031. [Link]

98. Shafiekhani M, Shahabinezhad F, Tavakoli Z, Tarakmeh T, Haem E, Sari N, Nasirabadi S, Dehghani M. Quality of life associated with immunosuppressant treatment adherence in liver transplant recipients: A cross-sectional study. Front Pharmacol. 2023 Feb 24;14:1051350. doi: 10.3389/fphar.2023.1051350. PMID: 36909168; PMCID: PMC9998979. [Link]

97. Kosoku A, Iwai T, Masuda H, Kabei K, Nishide S, Maeda K, Yoshikawa Y, Nakamura Y, De Geest S, Uchida J. Reliability and Validity of the Japanese Version of the Basel Assessment of Adherence to Immunosuppressive Medications Scale in Kidney Transplant Recipients. Transplant Direct. 2023 Feb 24;9(3):e1457. doi: 10.1097/TXD.0000000000001457. PMID: 36860659; PMCID: PMC9970284. [Link]

96. Bartlett Ellis RJ, Andrews A, Elomba CD, Remy LM, Ruggeri SY, Russell CL, Ruppar TM. Managing Medications and Medication Adherence Among US Adults During the Early Phase of the COVID-19 Pandemic. Patient Prefer Adherence. 2023 Feb 11;17:369-383. doi: 10.2147/PPA.S393749. PMID: 36819643; PMCID: PMC9930569. [Link]

95. Verma M, Zaki R, Sadeh J, Knorr JP, Gallagher M, Parsikia A, Navarro V. Improved Medication Adherence with the Use of Extended-Release Tacrolimus in Liver Transplant Recipients: A Pilot Randomized Controlled Trial. J Transplant. 2023 Jan 4;2023:7915781. doi: 10.1155/2023/7915781. PMID: 36642992; PMCID: PMC9833930. [Link]

94. Vaisbourd Y, Dahhou M, Zhang X, Sapir-Pichhadze R, Cardinal H, Johnston O, Blydt-Hansen TD, Tibbles LA, Hamiwka L, Urschel S, Birk P, Bissonnette J, Matsuda-Abedini M, BScPhm JH, Schiff J, Phan V, De Geest S, Allen U, Avitzur Y, Mital S, Foster BJ. Differences in medication adherence by sex and organ type among adolescent and young adult solid organ transplant recipients. Pediatr Transplant. 2022 Dec 7:e14446. doi: 10.1111/petr.14446. Epub ahead of print. PMID: 36478059. [Link]

93. Kostalova B, Mala-Ladova K, Sulkova SD, Denhaerynck K, De Geest S, Maly J. Comparison of different methods to assess tacrolimus concentration intra-patient variability as potential marker of medication non-adherence. Front Pharmacol. 2022 Oct 13;13:973564. doi: 10.3389/fphar.2022.973564. PMID: 36313323; PMCID: PMC9609782. [Link]

92. Chen T, Wang Y, Tian D, Zhang J, Xu Q, Lv Q, Li X, Wang J. Follow-Up Factors Contribute to Immunosuppressant Adherence in Kidney Transplant Recipients. Patient Prefer Adherence. 2022 Oct 19;16:2811-2819. doi: 10.2147/PPA.S383243. PMID: 36284546; PMCID: PMC9588292. [Link]

91. De Geest S, Valenta S, Ribaut J, Gerull S, Mielke J, Simon M, Bartakova J, Kaier K, Eckstein J, Leppla L, Teynor A; SMILe team. The SMILe integrated care model in allogeneic SteM cell TransplantatIon faciLitated by eHealth: a protocol for a hybrid effectiveness-implementation randomised controlled trial. BMC Health Serv Res. 2022 Aug 20;22(1):1067. doi: 10.1186/s12913-022-08293-8. PMID: 35987671; PMCID: PMC9392360. [Link]

90. Vengadessane S, Viglietti D, Sauvageon H, Glotz D, Lefaucheur C, Madelaine I, Deville L. Adhésion médicamenteuse en greffe rénale: évaluation, facteurs prédictifs et impact sur l'allo-réactivité humorale [Medication adherence in renal transplantation: evaluation, predictive factors and impact on humoral alloreactivity]. Ann Pharm Fr. 2022 Jul 2:S0003-4509(22)00085-2. French. doi: 10.1016/j.pharma.2022.06.011. Epub ahead of print. PMID: 35792151. [Link]

89. Yang G, Liu J, Zhao H, Yan J, Wu X. Characteristic of medication compliance behavior in renal transplantation patients. Zhong Nan Da Xue Xue Bao Yi Xue Ban. 2022 Jun 28;47(6):762-770. English, Chinese. doi: 10.11817/j.issn.1672-7347.2022.210666. PMID: 35837776. [Link]

88. Tong A, Oberbauer R, Bellini MI, Budde K, Caskey FJ, Dobbels F, Pengel L, Rostaing L, Schneeberger S, Naesens M. Patient-Reported Outcomes as Endpoints in Clinical Trials of Kidney Transplantation Interventions. Transpl Int. 2022 May 20;35:10134. doi: 10.3389/ti.2022.10134. PMID: 35669971; PMCID: PMC9163311. [Link]

87. Zachciał J, Uchmanowicz I, Czapla M, Krajewska M, Banasik M. The Association between Psychosocial and Age-Related Factors with Adherence to Immunosuppressive Therapies after Renal Transplantation. J Clin Med. 2022 Apr 24;11(9):2386. doi: 10.3390/jcm11092386. PMID: 35566514; PMCID: PMC9105664. [Link]

86. Ali A, Al-Taee HA, Jasim MS. Adherence to Immunosuppressive Medication in Iraqi Kidney Transplant Recipients During the First Year of Transplant. A Single-Center Experience. Exp Clin Transplant. 2022 Mar;20(Suppl 1):107-112. doi: 10.6002/ect.MESOT2021.P44. PMID: 35384818. [Link]

85. Wang Y, Veltkamp DMJ, van der Boog PJM, Hemmelder MH, Dekker FW, de Vries APJ, Meuleman Y. Illness Perceptions and Medication Nonadherence to Immunosuppressants After Successful Kidney Transplantation: A Cross-Sectional Study. Transpl Int. 2022 Feb 7;35:10073. doi: 10.3389/ti.2022.10073. PMID: 35185376; PMCID: PMC8842226.

84. Wessels-Bakker MJ, van de Graaf EA, Kwakkel-van Erp JM, Heijerman HG, Cahn W, Schappin R. The relation between psychological distress and medication adherence in lung transplant candidates and recipients: A cross-sectional study. J Clin Nurs. 2022 Mar;31(5-6):716-725. doi: 10.1111/jocn.15931. Epub 2021 Jul 2. PMID: 34216066; PMCID: PMC9292052. [Link]

83. Maurer MM, Ibach M, Plewe J, Winter A, Ritschl P, Globke B, Öllinger R, Lurje G, Schöning W, Pratschke J, Eurich D. Reducing the Pill Burden: Immunosuppressant Adherence and Safety after Conversion from a Twice-Daily (IR-Tac) to a Novel Once-Daily (LCP-Tac) Tacrolimus Formulation in 161 Liver Transplant Patients. Biomedicines. 2022 Jan 26;10(2):272. doi: 10.3390/biomedicines10020272. PMID: 35203481; PMCID: PMC8869578. [Link]

82. Kostalova B, Mala-Ladova K, Kubena AA, Horne R, Dusilova Sulkova S, Maly J. Changes in Beliefs About Post-Transplant Immunosuppressants Over Time and Its Relation to Medication

Adherence and Kidney Graft Dysfunction: A Follow-Up Study. Patient Prefer Adherence. 2021 Dec 31;15:2877-2887. doi: 10.2147/PPA.S344878. PMID: 35002225; PMCID: PMC8725840. [Link]

81. Pourrat X, Berthy E, Dupuis A, Barbier L, Buchler M, Guillon LG, Monmousseau F, Ruspini E, Salamé E, Houdard SB, Giraudeau B. Implementing a personalized pharmaceutical plan in kidney or liver transplant patients: study protocol for a stepped-wedge cluster randomized trial (GRePH). Trials. 2021 Nov 8;22(1):782. doi: 10.1186/s13063-021-05749-w. Erratum in: Trials. 2022 May 24;23(1):438. PMID: 34749777; PMCID: PMC8573912. [Link]

80. van Zanten R, de Weerd A, Betjes M, Boer-Verschragen M, Massey EK. Is simplification of immunosuppressive medication a way to promote medication adherence of kidney transplant recipients? Findings from a randomized controlled trial. Transpl Int. 2021 Sep;34(9):1703-1711. doi: 10.1111/tri.13993. PMID: 34448273. [Link]

79. Cheung CY, Chan KM, Tang G, Cheung A, Chak WL. Immunosuppressive medication adherence in kidney transplant recipients during COVID-19 pandemic: a cross sectional study in Hong Kong. Transplant Proc. 2021 Aug 16. doi: 10.1016/j.transproceed.2021.08.018. Epub ahead of print. PMCID: PMC8364813. [Link]

78. Dabirzadeh A, Dahhou M, Zhang X, Sapir-Pichhadze R, Cardinal H, White M, Johnston O, Blydt-Hansen TD, Tibbles LA, Hamiwka L, Urschel S, Birk P, Bissonnette J, Matsuda-Abedini M, Harrison J, Schiff J, Phan V, De Geest S, Allen U, Mital S, Foster BJ. Care processes and structures associated with higher medication adherence in adolescent and young adult transplant recipients. Pediatr Transplant. 2021 Aug 2:e14106. doi: 10.1111/petr.14106. Epub ahead of print. PMID: 34339090. [Link]

77. Herblum J, Dacouris N, Huang M, Zaltzman J, Prasad GVR, Nash M, Chen L. Retrospective Analysis of Tacrolimus Intrapatient Variability as a Measure of Medication Adherence. Can J Kidney Health Dis. 2021 Jun 15;8:20543581211021742. doi: 10.1177/20543581211021742. PMID: 34188946; PMCID: PMC8209833. [Link]

76. Marsicano-Souza EO, Colugnati F, Geest S, Sanders-Pinheiro H. Nonadherence to immunosuppressives and treatment in kidney transplant: ADHERE BRAZIL Study. Rev Saude Publica. 2021 May 31;55:33. doi: 10.11606/s1518-8787.2021055002894. PMID: 34076208; PMCID: PMC8139843. [Link]

75. Zhang P, Zhu X, Yan J, Liu J. Identification of Immunosuppressive Medication Nonadherence Factors Through a Combined Theory Model in Renal Transplant Recipients: 6-12. Front Pharmacol. 2021 May 26;12:655836. doi: 10.3389/fphar.2021.655836. PMID: 34122077; PMCID: PMC8187913. [Link]

74. Krause AV, Bertram A, Nöhre M, Bauer-Hohmann M, Schiffer M, de Zwaan M. Use of an electronic medication monitoring device to estimate medication adherence in kidney transplant patients. Transl Behav Med. 2021 Apr 7;11(3):842-851. doi: 10.1093/tbm/ibaa122. PMID: 33710349. [Link]

73. Godinas L, Dobbels F, Hulst L, Verbeeck I, De Coninck I, Berrevoets P, Schaevers V, Yserbyt J, Dupont LJ, Verleden SE, Vanaudenaerde BM, Ceulemans LJ, Van Raemdonck DE, Neyrinck A, Verleden GM, Vos R. Once daily tacrolimus conversion in lung transplantation: A prospective study on safety and medication adherence. J Heart Lung Transplant. 2021 Jun;40(6):467-477. doi: 10.1016/j.healun.2021.02.017. Epub 2021 Feb 27. PMID: 33840608. [Link]

72. Liu J, Zhu X, Yan J, Gong L, Wu X, Liu M, Mao P. Association Between Regulatory Emotional Self-Efficacy and Immunosuppressive Medication Adherence in Renal Transplant Recipients:Does Medication Belief Act as a Mediator? Front Pharmacol. 2021 Mar 8;12:559368. doi: 10.3389/fphar.2021.559368. PMID: 33762931; PMCID: PMC7982474. [Link]

71. Bonani M, Balaphas A, Bedino G, Bühler L, Dutkowski P, Fausch K, Gluderer S, Graf N, Hirt-Minkowski P, Müllhaupt B, Schönholzer C, Schulz MM, Venzin R, Wüthrich RP. Adherence to, and patient convenience of, prolonged-release tacrolimus in stable kidney and liver transplant recipients after conversion from immediate-release tacrolimus in routine clinical practice in Switzerland. Swiss Med Wkly. 2021 Feb 18;151:w20453. doi: 10.4414/smw.2021.20453. PMID: 33638353. [Link]

70. Forsberg A, Kisch AM, Paulsson A, Ragntoft C, Dalvindt M, Lennerling A. Fear of graft rejection after heart transplantation – a nationwide cross-sectional cohort study. Eur J Cardiovasc Nurs. 2021 Jan 1;20(1):71-79. doi: 10.1177/1474515120937838. PMID: 33570598. [Link]

69. Poltronieri NVG, Moreira RSL, Schirmer J, Roza BA. Medication non-adherence in heart transplant patients. Rev Esc Enferm USP. 2020 Dec 7;54:e03644. Portuguese, English. doi: 10.1590/S1980-220X2019009203644. PMID: 33295526. [Link]

68. Fellström B, Holmdahl J, Sundvall N, Cockburn E, Kilany S, Wennberg L. Adherence of Renal Transplant Recipients to Once-daily, Prolonged-Release and Twice-daily, Immediate-release Tacrolimus-based Regimens in a Real-life Setting in Sweden. Transplant Proc. 2020 Dec;52(10):3238-3245. doi: 10.1016/j.transproceed.2020.06.002. Erratum for: Transplant Proc. 2018 Dec;50(10):3275-3282. PMID: 33218668. [Link]

67. Maximo Silva AC, Sanders-Pinheiro H, Leite RF, Joseph MPC, Pestana JOM, Schirmer J, Bartira de Aguiar R. Nonadherence to Immunosuppressive Medications Following Pediatric Kidney Transplantation Within Full Cost Coverage Health System: Prevalence and Correlates. Exp Clin Transplant. 2020 Oct;18(5):577-584. doi: 10.6002/ect.2020.0101. PMID: 33143602. [Link]

66. Guldager TB, Hyldgaard C, Hilberg O, Bendstrup E. An E-Learning Program Improves Patients' Knowledge After Lung Transplantation. Telemed J E Health. 2020 Oct 9. doi: 10.1089/tmj.2020.0101. Epub ahead of print. PMID: 33035148. [Link]

65. Aladwan S, Harrison JJ, Blackburn DF, Taylor J, Blydt-Hansen TD, Mansell H. A Canadian Survey on Adverse Symptoms Experienced by Solid Organ Transplant Recipients. Prog Transplant. 2020 Sep;30(3):254-264. doi: 10.1177/1526924820933821. Epub 2020 Jun 29. PMID: 32597328. [Link]

64. Lieb M, Hepp T, Schiffer M,Opgenoorth M, Erim Y. Accuracy and concordance of measurement methods to assess non-adherence after renal transplantation – a prospective study. BMC Nephrol. 2020 Mar 31;21(1):114. doi: 10.1186/s12882-020-01781-1. [Link]

63. Sanders-Pinheiro H, Colugnati FAB, Denhaerynck K, Marsicano EO, Medina JOP, De Geest S; ADHERE BRAZIL Study Team. Multilevel Correlates of Immunosuppressive Nonadherence in Kidney Transplant Patients the Multicenter ADHERE BRAZIL Study. Transplantation. 2020 Mar 2. doi: 10.1097/TP.0000000000003214. [Link]

62. Pacleb A, Lowres N, Randall S, Neubeck L, Gallagher R. Adherence to Cardiac Medications in Patients With Atrial Fibrillation: A Pilot Study. Heart Lung Circ. 2019 Dec 17. pii: S1443-9506(19)31539-2. doi: 10.1016/j.hlc.2019.11.012. [Link]

61. Zhang M, Zhou H, Nelson RS, Han Y, Wang Y, Xiang H, Cai J, Zhang J, Yuan Y. Prevalence and Risk Factors of Immunosuppressant Nonadherence in Heart Transplant Recipients: A Single-Center Cross-Sectional Study. Patient Prefer Adherence. 2019 Dec 20;13:2185-2193. doi: 10.2147/PPA.S223837. [Link]

60. Han A, Min S, Ahn SI, Min AK, Hong HJ, Han N, Kim YS, Ahn C, Ha J. Mobile medication manager application to improve adherence with immunosuppressive therapy in renal transplant recipients: A randomized controlled trial. PLoS One. 2019; 14(11): e0224595. doi: 10.1371/journal.pone.0224595. [Link]

59. Ganjal Ri, Sabbagh MG, Nazemiyan F, Mamdouhi M, Aval SB, Taherzadeh Z, Nabavi FH, Golmakani R, Tohidinezhad F, Eslami S. Factors Associated With Adherence To Immunosuppressive Therapy And Barriers In Asian Kidney Transplant Recipients. Immunotargets Ther. 2019; 8: 53–62. doi: 10.2147/ITT.S212760. [Link]

58. Moradi O, Karimzadeh I, Davani-Davari D, Shafiekhani M, Sagheb MM. Pattern and associated factors of adherence to immunosuppressive medications in kidney transplant recipients at a referral center in Iran. Patient Prefer Adherence. 2019 May 8;13:729-738. doi: 10.2147/PPA.S198967. [Link]

57. Kobayashi S, Tsutsui J, Okabe S, Hideki I, Akaho R, Nishimura K. Medication nonadherence after kidney transplantation: an internet-based survey in Japan. Psychol Health Med. 2019 May 30:1-11. doi: 10.1080/13548506.2019.

56. Low JK, Manias E, Crawford K, Walker R, Mulley WR, Toussaint ND, Dooley M, Kennedy E, Smith CL, Nalder M, Yip D, Williams A. Improving medication adherence in adult kidney transplantation (IMAKT): A pilot randomised controlled trial. Sci Rep. 2019 May 22;9(1):7734. doi: 10.1038/s41598-019-44002-y. [Link]

55. Xia M, Yan J, Liu S, Liu J. Beliefs of Immunosuppressive Medication Among Chinese Renal Transplant Recipients, as Assessed in a Cross-Sectional Study With the Basel Assessment of Adherence to Immunosuppressive Medications Scale. Transplant Proc. 2019 Apr;51(3):742-748. doi: 10.1016/j.transproceed.2018.10.029. [Link]

54. Mansell H, Rosaasen N, West-Thielke P, Wichart J, Daley C, Mainra R, Shoker A, Liu J, Blackburn D. Randomised controlled trial of a video intervention and behaviour contract to

improve medication adherence after renal transplantation: the VECTOR study protocol. BMJ Open. 2019 Mar 13;9(3):e025495. doi: 10.1136/bmjopen-2018-025495. [Link]

53. Helmy R, Scalso de Almeida S, Denhaerynck K, Berben L, Dobbels F, Russell CL, de Aguiar Roza B, De Geest S; BRIGHT study team. Prevalence of Medication Nonadherence to Co-medication Compared to Immunosuppressants in Heart Transplant Recipients: Findings From the International Cross-sectional BRIGHT Study. Clin Ther. 2019 Jan;41(1):130-136. doi: 10.1016/j.clinthera.2018.11.007. [Link]

52. Michaud V, Achille M, Chainey F, Phan V, Girardin C, Clermont MJ. Mixed-methods evaluation of a transition and young adult clinic for kidney transplant recipients. Pediatr Transplant. 2019 Jun;23(4): e13450. doi: 10.1111/petr.13450. [Link]

51. Van Gaal L., Hermans M.P., Daci E., Denhaerynck K., De Meester L., MacDonald K., Abraham I., Vancayzeele S., Maris M. Effectiveness and Tolerability of Vildagliptin and the Single Pill Combination of Vildagliptin and Metformin in "Real-World" Management of Type 2 Diabetes Mellitus: The G-FORCE Study. Diabetes Ther. 2019 Jun;10(3):965-979. doi: 10.1007/s13300-019-0601-y. [Link]

50. Ganjali R, Taherzadeh Z, Ghorban Sabbagh M, Nazemiyan F, Mamdouhi F, Tabesh H, Badiee Aval S, Golmakani R, Mostafavi S M, Eslami S. Effect of an interactive voice response system on self- management in kidney transplant recipients: Protocol for a randomized controlled trial. Medicine (Baltimore) 2019;98(6): e14291. [Link]

49. Gustavsen MT, Midtvedt K, Lonning K, Jacobsen T, Reisaeter AV, De Geest S, Andersen MH, Hartmann A, Asberg A. Evaluation of tools for annual capture of adherence to immunosuppressive medications after renal transplantation. Transpl Int. 2019. 1. [Link]

48. Cossart AR, Staatz CE, Campbell SB, Isbel NM, Cottrell WN. Investigating barriers to immunosuppressant medication adherence in renal transplant patients. Nephrology (Carlton, Vic). 2019;24(1):102-10. [Link]

47. Scheel JF, Schieber K, Reber S, Stoessel L, Waldmann E, Jank S, Eckardt K-U, Grundmann F, Vitinius F, de Zwaan M, Bertram A, Erim Y. Psychosocial Variables Associated with Immunosuppressive Medication Non-Adherence after Renal Transplantation. Frontiers in psychiatry. 2018;9(23). [Link]

46. Lehner LJ, Reinke P, Horstrup JH, Rath T, Suwelack B, Kramer BK, Budde K, Banas B. Evaluation of adherence and tolerability of prolonged-release tacrolimus (Advagraf) in kidney transplant patients in Germany: A multicenter, noninterventional study. Clin Transplant. 2018;32(1). [Link]

45. Leader A, Gafter-Gvili A, Benyamini N, Dreyer J, Calvarysky B, Amitai A, Yarchovsky-Dolberg O, Sharf G, Tousset E, Caspi O, Ellis M, Levi I, Raanani P, De Geest S. Identifying Tyrosine Kinase Inhibitor Nonadherence in Chronic Myeloid Leukemia: Subanalysis of TAKE-IT Pilot Study. Clin Lymphoma Myeloma Leuk. 2018;18(9):e351-e62. [Link]

44. Jesus-Nunes AP, Morais-de-Jesus M, Dantas-Duarte A, Moreira TM, Argolo FC, Castro AO, Evangelista MA, Codes L, Bittencourt PL, Quarantini LC. The Portuguese Version of the Immunosuppressant Therapy Adherence Scale (ITAS) among Liver Transplant Recipient Patients: Translation and Psychometric Properties. Annals of hepatology. 2018;17(1):104-9. [Link]

43. Fellstrom B, Holmdahl J, Sundvall N, Cockburn E, Kilany S, Wennberg L. Adherence of Renal Transplant Recipients to Once-daily, Prolonged-Release and Twice-daily, Immediate-release Tacrolimus-based Regimens in a Real-life Setting in Sweden. Transplant Proc. 2018;50(10):3275-82. [Link]

42. Drick N, Seeliger B, Fuge J, Tudorache I, Greer M, Welte T, Haverich A, Gottlieb J. Self-reported non- adherence to immunosuppressive medication in adult lung transplant recipients-A single-center cross- sectional study. Clin Transplant. 2018;32(4):e13214. [Link]

41. Denhaerynck K, Berben L, Dobbels F, Russell CL, Crespo-Leiro MG, Poncelet AJ, De Geest S. Multilevel factors are associated with immunosuppressant nonadherence in heart transplant recipients: The international BRIGHT study. Am J Transplant. 2018;18(6):1447-60. [Link]

40. Abedini S, Goransson L, Cockburn E, Kilany S, Holdaas H. Immunosuppression Adherence in Stable Kidney Transplant Patients Converted From Immediate- to Prolonged-Release Tacrolimus in Clinical Practice: A Norwegian Study. Transplantation direct. 2018;4(2):e338. [Link]

39. da Rocha D.F., Canabarro S.T., Figueiredo A.E., Sudbrack A.W. Evaluation of adherence to immunosuppressive therapy by self-report of patients submitted to renal transplantation

(Avaliacao da adesao a terapia imunossupressora por autorrelato de pacientes submetidos ao transplante renal). Scientia Medica 2017 27:4. [Link]

38. Shemesh Y, Peles-Bortz A, Peled Y, HarZahav Y, Lavee J, Freimark D, Melnikov S. Feelings of indebtedness and guilt toward donor and immunosuppressive medication adherence among heart transplant (HTx) patients, as assessed in a cross-sectional study with the Basel Assessment of Adherence to Immunosuppressive Medications Scale (BAASIS). Clin Transplant. 2017;31(10). [Link]

37. Scheel J, Reber S, Stoessel L, Waldmann E, Jank S, Eckardt KU, Grundmann F, Vitinius F, de Zwaan M, Bertram A, Erim Y. Patient-reported non-adherence and immunosuppressant trough levels are associated with rejection after renal transplantation. BMC Nephrol. 2017;18(1):107. [Link]

36. Hefner J, Csef EJ, Kunzmann V. Adherence and Coping Strategies in Outpatients With Chronic Myeloid Leukemia Receiving Oral Tyrosine Kinase Inhibitors. Oncology nursing forum. 2017;44(6):E232-e40. [Link]

35. Gresch B, Kirsch M, Fierz K, Halter JP, Nair G, Denhaerynck K, De Geest S. Medication nonadherence to immunosuppressants after adult allogeneic haematopoietic stem cell transplantation: a multicentre cross-sectional study. Bone Marrow Transplant. 2017;52(2):304-6. [Link]

34. Silva AN, Moratelli L, Tavares PL, Marsicano EO, Pinhati RR, Colugnati FA, Lucchetti G, Sanders- Pinheiro H. Self-efficacy beliefs, locus of control, religiosity and non-adherence to immunosuppressive medications in kidney transplant patients. Nephrology (Carlton, Vic). 2016;21(11):938-43. [Link]

33. Reber S, Morawa E, Stossel L, Jank S, Vitinius F, Eckardt KU, Erim Y. Prevalence and Modifiable Determinants of Non-Adherence in Adult Kidney Transplant Recipients in a German Sample. Zeitschrift fur Psychosomatische Medizin und Psychotherapie. 2016;62(3):270-83. [Link]

32. Hermans M, Van Gaal L, Rezette I, Daci E, MacDonald K, Denhaerynck K, Vancayzeele S, De Meester L, Clemens A, Yee B, Abraham I. Patient engagement impacts glycemic management with vildagliptin and vildagliptin/metformin (single pill) regimens in type 2 diabetes mellitus (the GLORIOUS study). Primary care diabetes. 2016;10(6):425-33. [Link]

31. Brito DC, Marsicano EO, Grincenkov FR, Colugnati FA, Lucchetti G, Sanders-Pinheiro H. Stress, coping and adherence to immunosuppressive medications in kidney transplantation: a comparative study. Sao Paulo Med J. 2016;134(4):292-9. [Link]

30. Bessa AB, Felipe CR, Hannun P, Sayuri P, Felix MJ, Ruppel P, Ferreira AN, Cristelli MP, Viana L, Mansur JB, Basso G, Aguiar WF, Tedesco-Silva H, Medina-Pestana J. Prospective Randomized Trial Investigating the Influence of Pharmaceutical Care on the Intra-Individual Variability of Tacrolimus Concentrations Early After Kidney Transplant. Ther Drug Monit. 2016;38(4):447-55. [Link]

29. Villa L, Sun D, Denhaerynck K, Vancayzeele S, Brie H, Hermans C, Aerts A, Levengood M, MacDonald K, Abraham I. Predicting blood pressure outcomes using single-item physician-administered measures: a retrospective pooled analysis of observational studies in Belgium. The British journal of general practice: the journal of the Royal College of General Practitioners. 2015;65(630):e9-15. [Link]

28. Ruppar TM, Dobbels F, Lewek P, Matyjaszczyk M, Siebens K, De Geest SM. Systematic Review of Clinical Practice Guidelines for the Improvement of Medication Adherence. Int J Behav Med. 2015;22(6):699-708. [Link]

27. Pabst S, Bertram A, Zimmermann T, Schiffer M, de Zwaan M. Physician reported adherence to immunosuppressants in renal transplant patients: Prevalence, agreement, and correlates. Journal of psychosomatic research. 2015;79(5):364-71. [Link]

26. Massey EK, Tielen M, Laging M, Timman R, Beck DK, Khemai R, van Gelder T, Weimar W. Discrepancies between beliefs and behavior: a prospective study into immunosuppressive medication adherence after kidney transplantation. Transplantation. 2015;99(2):375-80. [Link]

25. Massey EK, Meys K, Kerner R, Weimar W, Roodnat J, Cransberg K. Young Adult Kidney Transplant Recipients: Nonadherent and Happy. Transplantation. 2015;99(8):e89-96. [Link]

24. Marsicano EO, Fernandes NS, Colugnati FA, Fernandes NM, De Geest S, Sanders-Pinheiro H. Multilevel Correlates of Non-Adherence in Kidney Transplant Patients Benefitting from Full Cost Coverage for Immunosuppressives: A Cross-Sectional Study. PLoS One. 2015;10(11):e0138869. [Link]

23. Glass TR, Sterne JA, Schneider MP, De Geest S, Nicca D, Furrer H, Gunthard HF, Bernasconi E, Calmy A, Rickenbach M, Battegay M, Bucher HC. Self-reported nonadherence to antiretroviral therapy as a predictor of viral failure and mortality. Aids. 2015;29(16):2195-200. [Link]

22. Tielen M, van Exel J, Laging M, Beck DK, Khemai R, van Gelder T, Betjes MG, Weimar W, Massey EK. Attitudes to medication after kidney transplantation and their association with medication adherence and graft survival: a 2-year follow-up study. Journal of transplantation. 2014;2014:675301. [Link]

21. Tang HY, Sayers SL, Weissinger G, Riegel B. The role of depression in medication adherence among heart failure patients. Clinical nursing research. 2014;23(3):231-44. [Link]

20. Kirsch M, Gotz A, Halter JP, Schanz U, Stussi G, Dobbels F, De Geest S. Differences in health behaviour between recipients of allogeneic haematopoietic SCT and the general population: a matched control study. Bone Marrow Transplant. 2014;49(9):1223-30. [Link]

19. De Geest S, Burkhalter H, Bogert L, Berben L, Glass TR, Denhaerynck K. Describing the evolution of medication nonadherence from pretransplant until 3 years post-transplant and determining pretransplant medication nonadherence as risk factor for post-transplant nonadherence to immunosuppressives: the Swiss Transplant Cohort Study. Transpl Int. 2014;27(7):657-66. [Link]

18. Burkhalter H, Wirz-Justice A, Cajochen C, Weaver TE, Steiger J, Fehr T, Venzin RM, De Geest S. Daytime sleepiness in renal transplant recipients is associated with immunosuppressive non- adherence: a cross-sectional, multi-center study. Clin Transplant. 2014;28(1):58-66. [Link]

17. Valente G, Rinaldi L, Sgambato M, Piai G. Conversion from twice-daily to once-daily tacrolimus in stable liver transplant patients: effectiveness in a real-world setting." Transplant Proc. 2013;45(3): 1273-1275. [Link]

16. Wang C, Wang G, Yi H, Tan J, Xu C, Fang X, Yang Y, Li H, Chen Q, Chen G. Symptom experienced three years after liver transplantation under immunosuppression in adults. PLoS One. 2013;8(11):e80584. [Link]

15. Swimberghe S, Ghislain PD, Daci E, Allewaert K, Denhaerynck K, Hermans C, Pacheco C, Vancayzeele S, Macdonald K, Abraham I. Clinical, Quality of Life, Patient Adherence, and Safety Outcomes of Short- Course (12 Weeks) Treatment with Cyclosporine in Patients with Severe Psoriasis (the Practice Study). Annals of dermatology. 2013;25(1):28-35. [Link]

14. Massey EK, Tielen M, Laging M, Beck DK, Khemai R, van Gelder T, Weimar W. The role of goal cognitions, illness perceptions and treatment beliefs in self-reported adherence after kidney transplantation: a cohort study. Journal of psychosomatic research. 2013;75(3):229-34. [Link]

13. Marsicano Ede O, Fernandes Nda S, Colugnati F, Grincenkov FR, Fernandes NM, De Geest S, Sanders-Pinheiro H. Transcultural adaptation and initial validation of Brazilian-Portuguese version of the Basel assessment of adherence to immunosuppressive medications scale (BAASIS) in kidney transplants. BMC Nephrol. 2013;14:108. [Link]

12. Gebbia V, Bellavia M, Banna GL, Russo P, Ferrau F, Tralongo P, Borsellino N. Treatment monitoring program for implementation of adherence to second-line erlotinib for advanced non-small-cell lung cancer. Clinical lung cancer. 2013;14(4):390-8. [Link]

11. Doesch AO, Mueller S, Akyol C, Erbel C, Frankenstein L, Ruhparwar A, Ehlermann P, Dengler TJ, Katus HA. Increased adherence eight months after switch from twice daily calcineurin inhibitor based treatment to once daily modified released tacrolimus in heart transplantation. Drug design, development and therapy. 2013;7:1253-8. [Link]

10. Abraham I, Van Camp Y, Villa L, Denhaerynck K, Sun D, Vancayzeele S, Brie H, Aerts A, Hermans C, MacDonald K. Hierarchical modeling of patient and physician determinants of blood pressure outcomes in adherent vs nonadherent hypertensive patients: pooled analysis of 6 studies with 14,646 evaluable patients. Journal of clinical hypertension (Greenwich, Conn). 2013;15(9):663-73. [Link]

9. Lennerling A, Forsberg A. Self-reported non-adherence and beliefs about medication in a Swedish kidney transplant population. The open nursing journal. 2012;6:41-6. [Link]

8. Riegel B, Moelter ST, Ratcliffe SJ, Pressler SJ, De Geest S, Potashnik S, Fleck D, Sha D, Sayers SL, Weintraub WS, Weaver TE, Goldberg LR. Excessive daytime sleepiness is associated with poor medication adherence in adults with heart failure. J Card Fail. 2011;17(4):340-8. [Link]

7. Pape L, Heidotting N, Ahlenstiel T. Once-daily tacrolimus extended-release formulation: 1 year after conversion in stable pediatric kidney transplant recipients. International journal of nephrology. 2011;2011:126251. [Link]

6. De Bleser L, Dobbels F, Berben L, Vanhaecke J, Verleden G, Nevens F, De Geest S. The spectrum of nonadherence with medication in heart, liver, and lung transplant patients assessed in various ways. Transpl Int. 2011;24(9):882-91. [Link]

5. Beckebaum S, Iacob S, Sweid D, Sotiropoulos GC, Saner F, Kaiser G, Radtke A, Klein CG, Erim Y, de Geest S, Paul A, Gerken G, Cicinnati VR. Efficacy, safety, and immunosuppressant adherence in stable liver transplant patients converted from a twice-daily tacrolimus-based regimen to once-daily tacrolimus extended-release formulation. Transpl Int. 2011;24(7):666-75. [Link]

4. Doesch AO, Mueller S, Konstandin M, Celik S, Erbel C, Kristen A, Frankenstein L, Koch A, Dengler TJ, Ehlermann P, Zugck C, De Geest S, Katus HA. Increased adherence after switch from twice daily calcineurin inhibitor based treatment to once daily modified released tacrolimus in heart transplantation: a pre-experimental study. Transplant Proc. 2010;42(10):4238-42. [Link]

3. Dobbels F, Berben L, De Geest S, Drent G, Lennerling A, Whittaker C, Kugler C. The psychometric properties and practicability of self-report instruments to identify medication nonadherence in adult transplant patients: a systematic review. Transplantation. 2010;90(2):205-19. [Link]

2. Van der Niepen P, Woestenburg A, Brie H, Vancayzeele S, MacDonald K, Denhaerynck K, Lee C, Hermans C, Abraham I. Effectiveness of valsartan for treatment of hypertension: patient profiling and hierarchical modeling of determinants and outcomes (the PREVIEW study). The Annals of pharmacotherapy. 2009;43(5):849-61. [Link]

1. Noens L, van Lierde MA, De Bock R, Verhoef G, Zachee P, Berneman Z, Martiat P, Mineur P, Van Eygen K, MacDonald K, De Geest S, Albrecht T, Abraham I. Prevalence, determinants, and outcomes of nonadherence to imatinib therapy in patients with chronic myeloid leukemia: the ADAGIO study. Blood. 2009;113(22):5401-11. [Link]