The Importance of Long- and Short-Acting Pharmacological Treatment Options for Time Use and Quality of Life in Individuals with Opioid Use Disorder

An Observational, Cross-Sectional, Survey-Based Study

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Date: ~~September 13~~October 25, 2024
Word count: ~~3296~~3853

Abstract

Background. ~~Receiving p~~Pharmacological treatment for opioid use disorder with new, long-acting medications (e.g., injectable and implantable buprenorphine) frees up a considerable amount of patients' time ~~compared~~otherwise spent ~~to~~seeking illicit opioids~~use~~ or collecting daily opioid substitution medications~~treatment~~. How much of this time patients treated with long-acting medications spend ~~this time~~ on activities related to recovery, substance use, and treatment is however currently unclear. Based on patients' hopes for and concerns about long-acting medications, ~~W~~we hypothesized that there is a relationship between medication type and ~~rehabilitative~~ time use, and between ~~rehabilitative~~ time use and well-being, experienced stigma and life satisfaction, in individuals with opioid use disorder.

Methods. In this cross-sectional study, individuals with opioid use disorder completed a short survey about their treatment status, time use, and experience of well-being, experienced stigma and life satisfaction. Latent profile analysis was used to identify common time use profiles among the participants. Next, we modeled the relationship between medication type and time use profile, and between time use profile and well-being, experienced stigma and life satisfaction with multinomial and ordinal logistic regression, respectively. We also used multimodel inference to identify the most important aspects of time use for predicting well-being, experienced stigma and life satisfaction.

Results.

Conclusion.

Introduction

The time spent seeking and using opioids in opioid use disorder (OUD) is considered excessive[1,2]. Prioritization of opioids often reduces engagement in other activities that are key to quality of life (e.g., socialization, education, work, recreation, exercise, or personal care), and persists in spite of negative consequences for the individual and the community[1–3]. Pharmacological treatment of opioid use disorder therefore represents an important means of harm reduction[3,4]. The availability of different treatment options varies between countries, but the most common options include oral formulations of methadone, buprenorphine and buprenorphine/naloxone[3,5]. Most drugs used in treatment of opioid use disorder require administration at least once daily. Since they are highly addictive, access is restricted to prevent diversion. Consequently, patients often travel daily to collect and self-administer restricted medications under surveillance[6]. Patients report experiencing these requirements as a contributor to stigmatization and a barrier to rehabilitation[7].

Opioid use disorder is a chronic relapsing condition, and adherence to daily treatment is low (< 50% after 6 months)[3]. Long-acting medications promote abstinence from illicit opioids by providing prolonged protection against withdrawal symptoms and/or blockade of rewarding opioid effects[3–5]. The treatment burden is also reduced as patients only collect/refill their medication weekly, monthly, or even every 6 months. A range of long-acting buprenorphine formulations have now been approved for use in treatment of opioid use disorder both in the US and Europe[3,5].

Interest in long-acting medications is high among patients with opioid use disorder[8–10]. Because of the drastically lower travel and supervision requirements, ~~S~~some patients are hopeful that treatment with long-acting medications will ~~improve their quality of life~~give them a more satisfactory life by reducing the ~~experienced~~ stigma they experienced from frequently collecting medications and enabling them to ~~engage in~~spend more time on social, physical, educational, occupational and recreational activities[11]. These activities are known to protect against the many mental and somatic health problems[12–16] that often accompany opioid use disorder and that contribute to poor well-being (e.g., depression[17], anxiety[17], and chronic pain[18]). However, patients have also voiced concerns about potentially reduced ~~quality of life~~life satisfaction due to reduced contact with the healthcare system and difficulties adapting to the increase in spare time[11]. The monitoring and social support offered by healthcare workers may encourage patients to stay abstinent and make positive lifestyle choices that benefit their well-being and life satisfaction[19,20]. However, since the use of long-acting formulations obviates the need for frequent patient contact to administer medications, patients could potentially find themselves spending more time in social isolation and/or on previously discouraged activities (e.g., illicit substance use)[21]. In turn, this might help to

maintain the experience of stigma, contribute to poor well-being, and ultimately reduce life satisfaction[22].

The effectiveness of pharmacological treatments for opioid use disorder is typically judged based on their ability to promote treatment adherence and deter illicit opioid use[23]. Patients' experience of stigma, opportunities to rehabilitate, well-being and overall life satisfaction during treatment have received much less attention[23–25].

It is currently unclear how patients on long-acting medications adapt their daily life to the increase in spare time and whether this in turn affects their well-being, experience of stigma, and overall life satisfaction. We therefore conducted an observational study of individuals with opioid use disorder in and outside the opioid substitution treatment program and tested the hypothesis that their time use is best represented by a set of multiple distinct time use patterns (i.e., latent profiles; hypothesis 1). Next, we tested the non-directional hypotheses that there is a relationship between *medication group* and *time use pattern* (hypothesis 2), and between *time use pattern* and *well-being* (hypothesis 3), *experienced stigma* (hypothesis 4) and *life satisfaction* (hypothesis 5). Finally, we used multimodel inference to explore the importance of specific ways to spend time for *well-being*, *experienced stigma*, and *life satisfaction*.

Increased engagement in rehabilitative activities is a critical component of opioid addiction management and recovery and is actively encouraged in in- and outpatient treatment programs. This study aims to determine whether different pharmacological treatment options are associated with more or less engagement in rehabilitative activities, and in turn whether there is an association between time spent on such activities and patients' experiences of well-being, stigma and life satisfaction.

Methods

This was a cross-sectional observational study conducted in Norway between [insert date] and [insert date] in collaboration with Rusmisbrukernes Interesseorganisasjon (RIO; The Brønnøysund Register Centre Org. No. 983096077)—a nationwide Norwegian non-profit, politically independent interest organization for individuals with substance use problems. The study was approved by the Regional Committees for Medical Research Ethics South East Norway (REK South East case No. 777516) and Sikt – Norwegian Agency for Shared Services in Education and Research ([insert case number]), and preregistered as a Stage 1 registered report prior to data collection (see **Table 1** for the study design template). Participation was voluntary and based on signed informed consent. The reporting of this study follows recommendations by the EQUATOR Network[26] and is in accordance with the STROBE guidelines (**eAppendix I**; osf.io/za7en)[27].

Participants, sample size and procedure

Potential participants were recruited ~~via~~at local sites of services and organizations that they were already interacting with (e.g., clinics, other treatment providers, interest groups, and low-threshold services) to maintain their privacy. Individuals were eligible to participate if they 1) were able to read and understand Norwegian; 2) reported being 18 years or older; and 3) had an ongoing opioid use disorder, as indicated by either reporting enrollment in the Norwegian opioid substitution treatment program, or if untreated, having a score of ≥ 1 out of 2 points on a combined and abbreviated self-report version of the heroin and prescription opioid subscales of the brief Tobacco, Alcohol, Prescription Medication, and Other Substances screening tool part 2 (TAPS-2)[28,29].

All participants were informed that the study was conducted independently of the opioid substitution treatment program and that their confidential responses would have no direct consequences for their current treatment situation. They were also told that participation was voluntary and that they could withdraw from the study at any point without providing justification or facing consequences. After verifying eligibility for participation in the study, participants signed the consent form and completed a short survey.

We aimed to collect data from a convenience sample of at least 500 participants (the minimum recommended sample size for latent profile analysis[30,31], although ≥ 300 participants can still be sufficient for latent profile analysis[31,32]), but with no upper limit on the sample size beyond a time limit of data collection duration (one year; **eAppendix II**; osf.io/za7en). The final sample size thus depended on feasibility. In 2023, 91% of the ~8500 patients in the Norwegian opioid substitution treatment program were treated with either oral methadone (30%), oral buprenorphine (37%), oral buprenorphine/naloxone (5%), or injectable buprenorphine (19%)[33]. The number of people with opioid use disorder who are not enrolled in opioid substitution treatment is estimated to be ~1100 in Norway[34,35]. We therefore deemed it feasible to recruit ≥ 300 patients treated with either oral methadone (n ≥ 100), oral buprenorphine (n ≥ 100) or injectable buprenorphine (n ≥ 100), ≥ 100 patients treated with oral buprenorphine/naloxone or other medications (**eAppendix II**), and ≥ 100 individuals with opioid use disorder who are not receiving opioid substitution treatment.

Data collection and measures

To lower the threshold to take part in the current study and minimize the burden of participation, we adopted a minimally disruptive, observational design that minimized interference with participants' daily lives[36]. The digital survey format obviated the need to travel and enabled responses via a smartphone, tablet or computer while patients were situated in a natural and familiar setting (e.g., at home or at the local sites of services and organizations they interact with). Studies of eHealth services for OUD indicate high usability

among patients, but that access to digital devices and network connection are perceived as the main barriers to use[37]. To mitigate sampling bias due to digital exclusion, participants were able to request necessary digital equipment and technical support from staff or visiting study personnel to complete the digital survey. The digital survey was brief, administered at a single time point, and primarily asked participants about their behavior and subjective experiences in the past week. A complete list of items can be found in **eAppendix III** and **IV** (osf.io/za7en).

Demographics

We recorded demographic and clinical characteristics of the participants, including their self-reported age, biological sex, gender identity, height and weight, living situation, ~~and~~ number of psychiatric diagnoses (i.e., diagnostic load), and age of onset of opioid use. Socioeconomic status (SES) was measured on a 10-point numeric rating scale (NRS; 0-10) with the single-item MacArthur Scale of Subjective Social Status – Adult Version (MacArthur SSS Scale)[38].

Treatment characteristics

Participants who were currently receiving pharmacological treatment for opioid use disorder were surveyed about their current treatment medication and formulation, administration frequency, dose per administration, how often they had to collect/refill their medication, and for how long they had been receiving their current medication. Participants also rated their overall satisfaction with either their current treatment or not being in treatment on a 11-point numeric rating scale (NRS; 0 = “Very dissatisfied”, 10 = “Very satisfied”)[39]. We also asked participants which (if any) opioid substitution medications they had been using previously.

Time use

Time use was assessed with a custom 174-item questionnaire asking participants to indicate on how many days during the past week (0-7) they had engaged in various activities (e.g., ~~seeking/using drugs~~substance use-related, ~~collecting medication for opioid use disorder~~treatment-related, and ~~rehabilitative~~recovery-related activities; **Table 2**). The selection of activities was based on existing time use surveys[40], treatment outcomes commonly used in addiction research or considered important by patients[23–25], patients’ hopes for and concerns about pharmacological treatment with long-acting medications[11], and known protective factors for well-being[12–16]. We also asked participants if they would have liked to spend more or less time on any of these activities (“Yes”/”No”).

Well-being

Overall well-being was assessed with the widely used 5-item version of the World Health Organization Well-Being Index (WHO-5)[41]. We reworded the items to ask participants about their experiences in the past week rather than the past two weeks. Responses to the five items were recorded on a 6-point Likert scale (0 = "At no time", ~~3~~ 5 = "All of the time") and averaged to yield an overall well-being score (possible range: 0-~~3~~5).

Depression and anhedonia

We used the 2-item Patient Health Questionnaire (PHQ-2)[42] to measure overall depression severity and anhedonia. PHQ-2 assesses the two core symptoms of depression (i.e., depressed mood and loss of interest or pleasure) and is a shortened version of the PHQ-9 which has been validated in Norwegian[43,44]. The items were modified to ask participants about their experiences in the past week instead of the past two weeks. We recorded responses to the two items on a 4-point Likert scale (0 = "Not at all", 3 = "Nearly every day") and averaged them to obtain an overall depression severity score (possible range: 0-3).

Anxiety and stress

Anxiety severity was measured with the 2-item Generalized Anxiety Disorder (GAD-2) scale[45], which covers the two core symptoms of generalized anxiety disorder (i.e., excessive worry and difficulties controlling the worry). A longer, 7-item version of this scale has been validated in Norwegian[46]. The two items were modified to ask participants about their experiences in the past week rather than the past two weeks, and responses were recorded on a 4-point Likert scale (0 = "Not at all", 3 = "Nearly every day"). We averaged responses across the two items to obtain an overall anxiety severity score (possible range: 0-3).

We used a reworded version of the 2-item scale developed by Littman et al.[47] to measure participants' experience of stress (1 = "I did not experience any stress", 6 = "I experienced a lot of stress") and perceived ability to handle stress (reverse coded, 1 = "I was unable to handle stress", 6 = "I handled stress very well") in the past week on 6-point Likert scales. Responses to the two items were summed to yield an overall stress score (possible range: 2-12).

Pain and pain sensitivity

We used items selected from the Brief Pain Inventory (BPI)[48] and the Oslo University Hospital Pain Registry[49] to evaluate participants' pain symptoms. These items were reworded to ask participants about their experience of pain in the past week. Specifically, participants reported how intense (0 = "No pain", 10 = "Worst imaginable pain")[48] and bothersome (0 = "Not bothersome", 10 = "Pain as bothersome as you can imagine")[49] pain

they had typically been experiencing in the past week on 11-point numeric rating scales (NRS), whether they had experienced pain other than everyday kinds of pain in the past week (e.g., minor headache, sprains, or toothache) on a binary scale ("Yes"/"No")[48], and if so, for how long this pain had lasted ("< 3 months"/"3-6 months"/"> 6 months")[49]. Chronic pain was defined as pain lasting ≥ 3 months[2].

Self-reported pain sensitivity was measured with the 3-item pain subscale of the Sensory Hypersensitivity Scale (SHS)[50]. The items were reworded to ask participants about their sensitivity to pain in the past week, and participants rated each item on a 5-point Likert scale (1 = "Strongly disagree", 5 = "Strongly agree"). We averaged responses across the three items to produce an overall pain sensitivity score (possible range: 1-5).

Life satisfaction

A single item from the Life Satisfaction Questionnaire (LISAT-11)[51] was used to assess participants' satisfaction with life in general in the past week on a 6-point Likert scale (1 = "Very dissatisfying", 6 = "Very satisfying").

Experienced stigma

To measure participants' experience of stigma in the past week, we used a single custom item based on the 9-item Stigma-Related Rejection Scale—Substance Abuse Version (SRS)[52]. Responses to this item were rated on a 7-point Likert scale (1 = "Never", 7 = "Always").

Opioid withdrawal

Past week typical opioid withdrawal severity was assessed with a single custom item rated on a 5-point verbal rating scale ("None", "Mild", "Moderate", "Moderately severe", and "Severe") after presenting participants with a list of 11 opioid withdrawal symptoms (i.e., high resting pulse rate, sweating, restlessness, dilated pupils, bone or joint aches, runny nose or tearing, gastrointestinal problems, tremors, yawning, anxiety or irritability, and gooseflesh skin) based on the 11-item Clinical Opiate Withdrawal Scale (COWS)[53].

Careless responding

To detect careless responders, we included a binary bogus item with one highly improbable response option, and an instructed response item with a single correct response option on a 5-point scale (**eAppendix III** and **IV**). We also recorded the total time it took for participants to complete the survey and divided this by the number of items to obtain the average response time per item.

Statistical analyses

All data processing and statistical analyses were conducted in *R*[54] and, when necessary, other software compatible with the secure server used for data storage.

Primary analysis: Identifying time use patterns with latent profile analysis

Latent profile analysis (LPA) is a person-oriented, data-driven statistical method that enables probabilistic classification of participants into groups (i.e., latent profiles) based on similarities in responses over a set of variables (i.e., indicator variables)[30,31]. We used latent profile analysis implemented in *R*[54] with the package *tidyLPA*[55] to identify time use profiles based on the ~~16~~ 17 time use indicator variables (**Table 2**). Participants were categorized according to their estimated most likely time use profile membership.

We expected time use profiles in the current sample to broadly represent combinations of high and low amounts of time spent on 1) ~~seeking/using drugs~~substance use-related activities, 2) ~~collecting medication for opioid use disorder~~treatment-related activities, and 3) ~~engaging in rehabilitative~~recovery-related activities (possible combinations: 2×2×2 = 8). Consequently, the latent profile analysis was conducted iteratively through a single- to an eight-profile model. We followed current recommendations for determining the optimal number of latent time use profiles in the current sample (**eAppendix II**)[30–32].

Multi-profile models (i.e., models consisting of > 1 profile) were discarded if 1) the smallest profile was comprised of either < 25 participants or < 1% of the total sample size (whichever number was highest), 2) the entropy was < 0.80, or 3) the minimum average profile posterior classification probability was < 0.80. In cases where all multi-profile models qualified for exclusion according to the same criterion, we disregarded this particular exclusion criterion. We then ranked our preference for each remaining multi-profile model according to their entropy and minimum average profile posterior classification probability (higher values are preferred to ensure high profile separation), sample size-adjusted BIC (SABIC; lower values are preferred), and average correlation in estimated profile means across indicator variables (higher positive correlations are less preferred while correlations between 0 and −1 are equally preferred to avoid profiles representing spurious cut-offs along a quantitative gradient, i.e., “salsa effect”[32]). In cases where the smallest profile size was below the described threshold in all remaining multi-profile models, we also ranked our preference for each multi-profile model according to the smallest profile size (higher values are preferred to avoid spurious profiles). Next, we ranked each multi-profile model according to whether they were significantly better fitting to the data (based on Lo-Mendell-Rubin likelihood ratio test[56] with $\alpha = 0.05$) than the next, less complex remaining model (models with non-significant improvement in fit are equally preferred to the next, less complex model). Finally, we selected the multi-profile model with the highest average rank across

these indices and compared its SABIC value to that of the single-profile model to determine the optimal time use profile solution for the sample in the current study (hypothesis 1).

Secondary analysis: Testing the relationships between ~~treatment~~medication group, time use, well-being, experienced stigma and life satisfaction

In the case that the latent profile analysis indicated a multi-profile model as the optimal way of representing participants' time use (hypothesis 1), we used multinomial logistic regression implemented with the *R*[54] package *nnet*[57] to test the association between *medication group* (categorized and dummy-coded according to formulation and active compound; **eAppendix II**) and *time use profile* (dummy-coded), and ordinal logistic regression implemented with the *R*[54] package *MASS*[57] to test the association between *time use profile* (dummy-coded) and *well-being* (rounded to nearest integer), *experienced stigma* and *life satisfaction*. The statistical significance of the main effect of *medication group* on *time use profile* (hypothesis 2), and of *time use profile* on *well-being* (hypothesis 3), *experienced stigma* (hypothesis 4) and *life satisfaction* (hypothesis 5), were each assessed with an omnibus likelihood-ratio (LR) χ^2-test. Depending on the final number of *medication groups* (2-8) and identified latent *time use profiles* (2-8), these LR χ^2-tests have 90% power to detect a statistically significant minimum effect size of Cohen's w = 0.14-0.19 (i.e., a small-to-medium effect size[58]) at α = 0.05 with the target sample size of n = 500. Even with a smaller sample size of n = 300, these tests are still powered to detect small-to-medium effect sizes (minimum Cohen's w = 0.19-0.25; **eAppendix II**).

Planned exploratory analysis: Identifying important aspects of time use for predicting well-being, experiences stigma and life satisfaction by means of multimodel inference

Multimodel inference is a collection of statistical methods that accounts for the uncertainty inherent in model selection by aggregating information from multiple models[59,60]. This enables quantification of individual explanatory variables' tendency to appear in good-performing models and thus their general importance (or usefulness) for predicting an outcome of interest. To identify important specific aspects of time use for predicting *well-being*, *experienced stigma* and *life satisfaction*, we used multimodel inference[59] implemented in *R*[54] with the packages *MuMIn*[61] and *MASS*[57]. This involved first fitting all 131072~~65536~~ possible ordinal logistic regression models of each of the outcomes *well-being* (rounded to nearest integer), *experienced stigma* and *life satisfaction* for the combinations of the ~~16~~ 17 explanatory time use variables (**Table 2**), not including interactions. We then estimated the importance of each time use variable for predicting well-being, experienced stigma and life satisfaction separately by summing the AICc-based Akaike weights (i.e., the probability of each model being the best at predicting the outcome) of all models containing each of these

variables[62]. The overall magnitude and statistical significance of the relationship between each explanatory variable and *well-being*, *experienced stigma* and *life satisfaction* across all possible models were assessed by means of full model averaging and *z*-tests of average model coefficients. With this method, biased estimation of average model coefficients is mitigated by assigning explanatory variables a coefficient of 0 in the models they do not originally appear in prior to averaging[59,63]. We used the Benjamini-Yekutieli procedure to adjust *p*-values for the false discovery rate associated with conducting significance tests of 176 different explanatory time use variables, as these tests were likely correlated[64].

Covariate balance and adjustment for potential confounders

To achieve covariate balance and thereby adjust for potential confounders, we included *age*, *sex*, *BMI*, *SES*, *living situation* (dummy-coded) and *diagnostic load* in the models testing the associations between *medication group* and *time use profile*, and between *time use profile* and *well-being*, *experienced stigma* and *life satisfaction*. *Medication group* (dummy-coded; **eAppendix II**) was also included in the latter models of *well-being*, *experienced stigma* and *life satisfaction*. In the analyses using multimodel inference and model averaging to evaluate the importance of specific aspects of time use for predicting *well-being*, *experienced stigma* and *life satisfaction*, we adjusted for potential confounders by including *age*, *sex*, *BMI*, *SES*, *living situation* (dummy-coded), *diagnostic load* and *medication group* (dummy-coded) as fixed terms across all possible models.

Missing data

We expected minimal missing data in variables included the primary, secondary and exploratory analyses as these were implemented in the digital survey as mandatory items with input validation. To handle missing data, we therefore applied listwise deletion based only on missingness in variables included in the primary, secondary and exploratory analyses and restricted these analyses to complete cases.

Careless responding

We followed current recommendations for dealing with careless responding and used a combination of (moderate) a priori and (minimal) post hoc screening methods prior to data analysis[65]. This involved excluding data from participants who either spent on average < 2 seconds responding to each item, responded incorrectly to the instructed response item or the bogus item, or whose responses to the valid items had a statistically significant robust Mahalanobis-Minimum Covariance Determinant (MMCD) distance[66], calculated with a sub-sample of 0.75 and assessed with a χ^2-test and an α-level of 0.001. Use of invariance and consistency indicators to detect careless responders was considered unfeasible due to the

use of questionnaires with few items, varying numbers of response options and little semantic overlap.

Statistical significance

Results from statistical tests conducted as part of the primary, secondary and exploratory analyses were considered significant if $p < 0.05$ after any planned adjustments for running multiple tests had been made. To quantify the relative degree of evidence for or against the hypotheses tested in the secondary analyses, we computed Bayes factors (BF_{10} and BF_{01}). Bayes factors were approximated from the BIC values of the models of interest (i.e., alternative models) and their corresponding intercept-only models (i.e., null models)[67], and interpreted according to conventions suggested by Lee and Wagenmakers[68].

Generalizability

We followed current recommendations and interpreted the results in light of constraints on generality[69]. To help identify constraints beyond inclusion criteria and material selection, we used χ^2-tests to test for statistically significant divergence in key demographic and clinical characteristics of the current sample from near population-level values for individuals with OUD in Norway (**eAppendix II**).

Results

Discussion

Conclusion

Acknowledgements

Funding

This study was funded by grants from the Foundation Dam (SDAM_FOR558920) to Rusmisbrukernes Interesseorganisasjon (RIO), Martin Trøstheim and Marie Eikemo.

Role of funder

The Foundation Dam required this manuscript to be submitted as a registered report. Otherwise, the funding agency had no role in the design and conduct of the study; collection,

management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Conflicts of interest

The authors of this article declare that they have no financial conflict of interest with the content of this article.

Author contributions

MT led the writing of the Stage 1 report. SL, KKS, MC and ME helped revise the Stage 1 report.

Non-author contributions

Access to data and data analysis

Data sharing statement

Study materials, analysis scripts, and synthetic data generated with the *R*[54] package *synthpop*[70] are publicly available on the Open Science Framework (osf.io/s4ch2). Original raw data are available from the authors upon request.

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Table 1
Study design template.

Question	Hypothesis	Sampling plan	Analysis Plan	Rationale for deciding the sensitivity of the test for confirming or disconfirming the hypothesis	Interpretation given different outcomes
Q1: What is the importance of medication type for time use in individuals with OUD?	H1: Individuals with OUD exhibit multiple distinct time use patterns (i.e., *time use profiles*).	The final sample size for this study will depend on feasibility. Of the ~9600 individuals in Norway with OUD, 27% are being treated with oral MET, 33% with oral BUP, 17% with injectable BUP, 4% with oral BUP/NLX, and 7% with other medications, while 11% are not enrolled in treatment. We therefore deem it feasible to collect data from a minimum of 100 patients treated with oral MET, 100 patients treated with oral BUP, 100 patients treated with injectable BUP (n ≥ 100), 100 patients treated with oral BUP/NLX or other medications, and 100 individuals with OUD who are not receiving opioid substitution treatment, thus meeting the minimum sample	We will use LPA to iteratively estimate single- through eight-profile models from 16 indicator variables[a]. To determine the optimal number of latent *time use profiles* and thus test H1, we will rank the models according to the following model selection criteria: SABIC (lower values are preferred), entropy (higher values are preferred), the minimum average profile posterior classification probability (higher values are preferred), the size of the smallest profile (n > 25 or n > 1% of total n is preferred), the average correlation in estimated profile means across indicator variables (higher positive correlations are less preferred while correlations between 0 and −1 are equally	~~LPA model selection will be based on current recommendations. Simulation studies indicate SABIC as the most accurate index for detecting the optimal number of profiles. Entropy and the minimum average profile posterior classification probability indicate the degree of profile separation and is considered important for model selection because we will use categorical profile membership for testing H2-H5. We will consider the smallest profile size to avoid selecting models with potentially spurious profiles, and the average correlation in estimated profile means across indicator variables to avoid selecting models in which profiles~~	H1 will be accepted if the LPA model selection algorithm indicates a multi-profile model as the optimal model. Given this outcome, we will conclude that individuals with OUD who share the demographic and clinical characteristics of this study sample exhibit multiple distinct time use patterns. H1 will be rejected if the LPA model selection algorithm indicates the single-profile model as the optimal model. Given this outcome, we will conclude that as a group, individuals with OUD exhibit a common time use pattern.

		size of 500 required for LPA.	preferred), and LMR LRT (models with non-significant improvement in fit are equally preferred to the next, less complex model). The single-profile model, or the multi-profile model with the highest average rank across model selection criteria that also has lower SABIC than the single-profile model, will be considered the optimal model.	~~represent spurious cut-offs along a quantitative gradient ("salsa effect"). The LMR LRT will help identify significant improvements in model fit.~~Not applicable.	
See Q1.	H2: There is an association between the type of treatment medication (i.e., *medication group*) individuals with OUD use and their time use pattern (i.e., *time use profile*).	See Q1, H1.	If there is support for H1, we will test H2 by modeling the relationship between medication ~~type~~ group (IV) and time use ~~pattern~~profile (DV) with multinomial logistic regression adjusting for age, sex, BMI, SES, living situation and diagnostic load. We will determine the statistical significance of the main effect of medication ~~type~~group on time use ~~pattern~~profile with a LR χ^2-test. This test statistic will be considered statistically significant if $p < 0.05$, and evidence for or against H2 will be	~~We will follow conventions and use an α-level of 0.05 for testing H2-H5, but we will also supplement the test with quantification of the relative degree of evidence for or against H2-H5 via BF_{10} and BF_{01}, respectively.~~Depending on the final number of *medication groups* (2-8) and identified latent *time use profiles* (2-8), the LR χ^2-tests of H2-H5 have 90% power to detect a statistically significant minimum effect size of Cohen's w = 0.14-0.19 (i.e., a small-to-medium effect	H2 will be accepted if the LR χ^2-test yields $p < 0.05$ and $BF_{10} > 1$. We will interpret this outcome as anecdotal, moderate, strong, very strong, or extreme evidence for an association between *medication* ~~*type*~~*group* and *time use* ~~*pattern*~~*profile* in individuals with OUD who share the demographic and clinical characteristics of this study sample if BF_{10} is between 1-3, 3-10, 10-30, 30-100, or > 100, respectively. H2 will be rejected if the LR χ^2-test yields $p \geq 0.05$ and $BF_{01} > 1$. We

			quantified BF_{10} or BF_{01}, respectively.	size) at α = 0.05 with the target sample size of n = 500, and Cohen's *w* = 0.19-0.25 (small-to-medium effect size) with a smaller sample size of n = 300. The tests were considered sufficiently powered as relatively large effects on *time use profile*, *well-being*, *experienced stigma* and *life satisfaction* *may* be expected due to the great difference in travel and supervision requirements between treatment with daily and long-acting medications.	will interpret this outcome as anecdotal, moderate, strong, very strong, or extreme evidence for no association between *medication* ~~*type*~~*group* and *time use* ~~*pattern*~~*profile* in individuals with OUD who share the demographic and clinical characteristics of this study sample if BF_{01} is between 1-3, 3-10, 10-30, 30-100, or > 100, respectively.
Q2: What is the importance of time use for quality of life in individuals with OUD?	H3: There is an association between *time use* ~~*pattern*~~*profile* and *well-being* in individuals with OUD.	See Q1, H1.	If there is support for H1, we will test H3, H4 and H5 by modeling the relationship between *time use* ~~*pattern*~~*profile* (IV) and *well-being* (DV), *experienced stigma* (DV) and ~~*general*~~ *life satisfaction* (DV) with separate ordinal logistic regressions adjusting for *age*, *sex*, *BMI*, *SES*, *living situation*, *diagnostic load* and *medication* ~~*type*~~*group*. We will determine the	See Q1, H2.	H3/H4/H5 will be accepted if the LR χ^2-test yields $p < 0.05$ and $BF_{10} > 1$. We will interpret this outcome as anecdotal, moderate, strong, very strong, or extreme evidence for an association between *time use* ~~*pattern*~~*profile* and *well-being*/*experienced stigma*/~~*general*~~ *life satisfaction* in individuals with OUD who share the

			statistical significance of the main effect of *time use* ~~*pattern*~~*profile* on *well-being*, *experienced stigma* and ~~*general*~~ *life satisfaction* with LR χ^2-tests. This test statistic will be considered statistically significant if $p < 0.05$, and evidence for or against H3, H4 and H5 will be quantified with BF_{10} or BF_{01}, respectively.		demographic and clinical characteristics of this study sample if BF_{10} is between 1-3, 3-10, 10-30, 30-100, or > 100, respectively. H3/H4/H5 will be rejected if the LR χ^2-test yields $p \geq 0.05$ and $BF_{01} > 1$. We will interpret this outcome as anecdotal, moderate, strong, very strong, or extreme evidence for an no association between *time use* ~~*pattern*~~*profile* and *well-being*/*experienced stigma*/~~*general*~~ *life satisfaction* in individuals with OUD who share the demographic and clinical characteristics of this study sample if BF_{01} is between 1-3, 3-10, 10-30, 30-100, or > 100, respectively.
See Q2.	H4: There is an association between *time use* ~~*pattern*~~*profile* and *experienced stigma* in individuals with OUD.	See Q1, H1.	See Q2, H3.	See Q1, H2.	See Q2, H3.
See Q2.	H5: There is an association between *time use* ~~*pattern*~~*profile* and ~~*general*~~ *life*	See Q1, H1.	See Q2, H3.	See Q1, H2.	See Q2, H3.

	satisfaction in individuals with OUD.				
Q3: Which aspects of time use are most important for predicting quality of life in individuals with OUD?	Not applicable.	See Q1, H1.	To investigate Q3, we will use multimodel inference and separately fit and aggregate all possible ordinal logistic regression models of each of the outcomes *well-being*, *experienced stigma* and *life satisfaction* for the combinations of 16 explanatory time use variables[a], while adjusting for *age*, *sex*, *BMI*, *SES*, *living situation*, *diagnostic load* and *medication ~~type~~group*. Importance scores will be calculated from AICc-based Akaike weights. The statistical significance of the relationships between each explanatory variable[a] and *well-being*, *experienced stigma* and *~~general~~ life satisfaction* were assessed with Benjamini-Yekutieli-adjusted *z*-tests of full-average model coefficients.	~~We will follow conventions and use an α-level of 0.05 for investigating Q3. The Benjamini-Yekutieli procedure will be used to adjust p-values for the false discovery rate associated with conducting *z*-tests of 16 different explanatory time use variables[a], as these tests will likely be correlated. We will also supplement these tests with quantifications of the relative importance of each explanatory time use variables[a] for predicting well-being/experienced stigma/general life satisfaction.~~Not applicable.	We will conclude that explanatory time use variables[a] are more important predictors of *well-being*/*experienced stigma*/*~~general~~ life satisfaction* ~~in individuals with OUD~~ relative to other explanatory time use variables[a] in individuals with OUD who share the demographic and clinical characteristics of this study sample if $p < 0.05$ and their importance score is > 0.80, and less important predictors of *well-being*/*experienced stigma*/*~~general~~ life satisfaction* ~~in individuals with OUD~~ relative to other explanatory time use variables[a] in individuals with OUD who share the demographic and clinical characteristics of this study sample if $p \geq 0.05$ or their importance score is ≤ 0.80.

Note. The column "Theory that could be shown wrong by the outcomes" was removed from this template as this study does not aim to test hypotheses derived from established theories. OUD = Opioid use disorder. MET = Methadone. BUP = Buprenorphine. NLX = Naloxone. LPA = Latent profile analysis. SABIC = Sample size-adjusted

Bayesian information criterion. LMR LRT = Adjusted Lo-Mendell-Rubin likelihood ratio significance test. LR = likelihood ratio. BF = Bayes factor. AICc = Akaike information criterion with correction for small sample size. Q1 = Question 1. Q2 = Question 2. Q3 = Question 3. H1 = Hypothesis 1. H2 = Hypothesis 2. H3 = Hypothesis 3. H4 = Hypothesis 4. H5 = Hypothesis 5. IV = Independent variable. DV = Dependent variable. [a] Time spent on 1) social activities, 2) physical activity, 3) digital entertainment/social media, 4) other recreational activities, 5) educational activities, 6) occupational activities, 7) crime, 8) housekeeping, 9) personal care, 10) caring for others, 11) seeking/using opioids, 12) seeking/using alcohol, 13) seeking/using nicotine, 14) seeking/using other illicit drugs, 15) contact with healthcare system/social services, and 16) collecting opioid substitution medications.

Table 2

Time use variables.

#	Category	Question
	Primarily substance use-related	
1	Seeking/using opioids	How many days in the past week have you used or tried to get hold of opioids/opiates (other than your opioid substitution medication)?
2	Seeking/using alcohol	How many days in the past week have you consumed or tried to get hold of alcohol?
3	Seeking/using nicotine	How many days in the past week have you used or tried to get hold of products containing nicotine, such as cigarettes, snuff or vape?
4	Seeking/using other illicit drugs	How many days in the past week have you used or tried to get hold of drugs other than opioids/opiates, such as benzodiazepines, cocaine, amphetamines, cannabis, hallucinogens, inhalants or other designer drugs?
5	Social activities with people who use illicit substances	How many days in the past week have you participated in social activities or spent time together with family, friends or other people who USE drugs?
6	Crime	How many days in the past week have you engaged in criminal activities, such as theft, burglary, shoplifting, robbery, illicit trade, vandalism or violence?
	Primarily treatment-related	
7	Collecting opioid substitution medications	How many days in the past week have you traveled to collect or refill your opioid substitution medication?
8	Contact with the healthcare system/social services	How many days in the past week have you been in contact with the healthcare system or social services, such as GP/dentist/other doctors, psychologist/psychiatrist, therapists, nurse/nursing assistant, personal assistant, or welfare agencies?
	Primarily recovery-related	
9	Social activities with people who do not use illicit substances	How many days in the past week have you participated in social activities or spent time together with family, friends or other people who DO NOT USE drugs?
10~~2~~	Physical activity	How many days in the past week have you engaged in physical activity such as sports, exercise, walks/runs, biking, or swimming?
4~~11~~	Other recreational activities	How many days in the past week have you engaged in hobbies and pastimes other than social activities, physical activity, digital entertainment and social media?
~~5~~12	Educational activities	How many days in the past week have you engaged in educational activities such as participating in courses, participating in classes at school/university, doing homework/studying, or receiving training?
~~6~~13	Occupational activities	How many days in the past week have you done paid work, voluntary work, or community service?
~~8~~14	Housekeeping	How many days in the past week have you done housekeeping such as cooking food, laundering, gardening, cleaning or doing home maintenance?
~~9~~15	Personal care	How many days in the past week have you done personal care such as washing your body, hair or hands, or brushing your teeth?
16~~0~~	Caring for others	How many days in the past week have you spent time caring for others, such as kids, siblings, parents or other family members?
	Other	
17	Digital entertainment/social media	How many days in the past week have you spent time on digital entertainment or social media, such as watching TV/YouTube/Netflix, browsing the Internet, playing video games, or scrolling on Facebook/Twitter/Instagram/Snapchat/TikTok?

Note. Based on existing time use surveys[40], treatment outcomes commonly used in addiction research or considered important by patients[23–25], patients' hopes for and concerns about pharmacological treatment with long-acting medications[11], and known protective factors for well-being[12–16].

eSupplement for

The Importance of Long- and Short-Acting Pharmacological Treatment Options for Time Use and Quality of Life in Individuals with Opioid Use Disorder

An Observational, Cross-Sectional, Survey-Based Study

Martin Trøstheim, Siri Leknes, Kristin Klemmetsby Solli, Molly Carlyle, Gernot Ernst, Marie Eikemo

Contents

eAppendix I

STROBE Statement—Checklist of items that should be included in reports of ***cross-sectional studies***

	Item No	Recommendation	Page No.
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	1-2
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	3-4
Objectives	3	State specific objectives, including any prespecified hypotheses	4
Methods			
Study design	4	Present key elements of study design early in the paper	4
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	4-5
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants	~~4~~ 5
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	5-8
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	5-8, e10~~7~~-e43~~38~~
Bias	9	Describe any efforts to address potential sources of bias	8, 11-12, e6~~0~~
Study size	10	Explain how the study size was arrived at	5, 10, e4-e5
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	~~9~~8-11, e4~~0~~
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	8-12~~0~~, e5-e6~~4~~
		(*b*) Describe any methods used to examine subgroups and interactions	10~~9~~
		(*c*) Explain how missing data were addressed	11~~0~~
		(*d*) If applicable, describe analytical methods taking account of sampling strategy	12, e6
		(*e*) Describe any sensitivity analyses	
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	

		(b) Give reasons for non-participation at each stage	
		(c) Consider use of a flow diagram	
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	
		(b) Indicate number of participants with missing data for each variable of interest	
Outcome data	15*	Report numbers of outcome events or summary measures	
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	
		(*b*) Report category boundaries when continuous variables were categorized	
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	
Discussion			
Key results	18	Summarise key results with reference to study objectives	
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	
Generalisability	21	Discuss the generalisability (external validity) of the study results	
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	12~~1~~

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

eAppendix II

eMethods

Preregistration

The Stage 1 report was written in past tense as a convenience to minimize text changes at Stage 2. No data were collected prior to in-principle acceptance.

Participants, sample size and procedure

In addition to patients treated with oral methadone, oral buprenorphine, and injectable buprenorphine, we deemed it feasible to recruit ≥ 100 patients treated with oral buprenorphine/naloxone or other medications. Among the ~8500 patients enrolled in the Norwegian opioid substitution treatment program in 2023[1], 8% used medications that are either not currently available outside of research projects (e.g., injectable naltrexone[2]), only available in limited capacity (e.g., injectable heroin[1]), used off-label (e.g., 12-hour oral morphine[2] and oral naltrexone), or have only recently been approved as treatments for opioid use disorder (e.g., oral levomethadone[3], 6-month buprenorphine implant[4], and 24-hour oral morphine[5]).

The decision to conclude recruitment and data collection was not informed by interim statistical analyses of the data and was treated as irreversible to minimize risk of bias due to the variable sample size.

Medication groups

To facilitate statistical analysis without excluding patients who are receiving less common pharmacological treatments (e.g., daily oral levomethadone or long-acting implantable buprenorphine), we categorized participants into *medication groups* according to the formulation (i.e., daily or long-acting) and active compound (i.e., methadone, buprenorphine, morphine, heroin or naltrexone) of the medication they were receiving for opioid use disorder. These *medication groups* included 1) daily buprenorphine (i.e., oral buprenorphine and buprenorphine/naloxone), 2) long-acting buprenorphine (i.e., injectable and implantable buprenorphine), 3) daily methadone (i.e., oral methadone and levomethadone), 4) daily morphine (i.e., 12- and 24-hour oral morphine), 5) daily heroin (i.e., injectable heroin), 6) daily naltrexone (i.e., oral naltrexone), 7) long-acting naltrexone (i.e., injectable naltrexone), and 8) no medication (i.e., currently not in opioid substitution treatment).

Sensitivity power analysis

An adapted version of Cohen's *w* has been proposed as a χ^2-based effect size index for comparisons of nested models as it accounts for both the sample size and the difference in degrees of freedom between the full model (i.e., alternative model) containing the parameter

of interest (i.e., explanatory variable) and the reduced model (i.e., null model) not containing this parameter[6]. We therefore conducted sensitivity power analyses in *R*[7] with the function *pwr.chisq.test* from the *pwr* package[8] to verify that the target sample size of n = 500 would sufficiently power the omnibus likelihood ratio (LR) χ^2-tests of hypotheses 2-5 (i.e., main effects of *medication group* and *time use profile*). For these analyses, we set power to 0.90, α to 0.05, and difference in degrees of freedom to one less than the possible numbers of *medication groups* (i.e., 2-8; Δdf = 1-7) or identified latent *time use profiles* (i.e., 2-8; Δdf = 1-7).

Although our target sample size was n ≥ 500, the final sample size depended on what was feasible to collect within the one-year data collection period. A sample size as small as n = 300 can still be sufficient for latent profile analysis[9,10]. We therefore also conducted similar sensitivity power analyses with n = 300 to verify that the planned LR χ^2-tests would still be sufficiently powered to detect small-to-medium effect sizes (i.e., Cohen's *w* between 0.1-0.3) in the event that the target sample size would not be reached within the limited data collection period.

The sensitivity power analyses indicated that, depending on the degrees of freedom, the LR χ^2-tests would have 90% power at α = 0.05 to detect a statistically significant minimum effect size of Cohens' *w* = 0.14-0.19 with n = 500, and Cohens' *w* = 0.19-0.25 with n = 300 (**eFigure 1**; **eTable 1**). In both cases, these are small-to-medium effect sizes[6]. Considering the stark difference in travel and supervision requirements between daily opioid substitution treatment and treatment with long-acting medications (e.g., once every week, month, or 6 months), it seems reasonable to expect relatively large effects on patients' time use, well-being, experience of stigma, and general life satisfaction. We therefore deemed the study sufficiently powered.

Statistical analyses

Primary analysis: Identifying time use patterns with latent profile analysis

In line with current recommendations for latent profile analysis (LPA)[9,11], we used the following criteria for determining the optimal number of latent time use profiles in the current sample: Sample size-adjusted BIC (SABIC), entropy, the minimum average profile posterior classification probability, the size of the smallest profile, the average correlation in estimated profile means across indicator variables, and the adjusted Lo-Mendell-Rubin (LMR) likelihood ratio significance test (LRT)[12]. Simulation studies indicate SABIC as the most accurate index for detecting the optimal number of profiles[9]. Entropy and the minimum average profile posterior classification probability indicate the degree of profile separation[11] and were considered important for model selection because we intended to use categorical profile membership for further analysis[9]. We considered the smallest profile size to avoid

selecting models with potentially spurious profiles[9,11], and the average correlation in estimated profile means across indicator variables to avoid selecting models in which profiles represent spurious cut-offs along a quantitative gradient (i.e., "salsa effect")[10]. The LMR LRT helped identify significant improvements in model fit.

Generalizability

Near population-level values for demographic and clinical characteristics of individuals with opioid use disorder in Norway were obtained from the Norwegian Centre for Addiction Research's latest yearly survey (see e.g., Nesse et al.[1]) of all patients enrolled in the Norwegian opioid substitution treatment program (i.e., ~89% of all individuals with opioid use disorder in Norway). The characteristics to be compared between the study sample and the overall population with χ^2-tests included 1) the proportion of women, 2) the proportions of individuals aged < 31 years, 31-40 years, 41-50 years and > 50 years, 3) the proportion of individuals who are working or studying (derived from time spent on occupational and educational activities for the study sample; **eAppendix III** and **IV**), 4) the proportion of homeless individuals (derived from *living situation* for the study sample; **eAppendix III** and **IV**), 5) the proportions of individuals experiencing depression, anxiety and psychosis, and 6) the proportions of individuals who are satisfied, dissatisfied and neither satisfied nor dissatisfied with their treatment situation. To account for potential oversampling of patients treated with certain medications, we adjusted the sample proportions used in these tests according to the frequencies of patients receiving each medication in the population according to data from the Norwegian Centre for Addiction Research's latest yearly survey.

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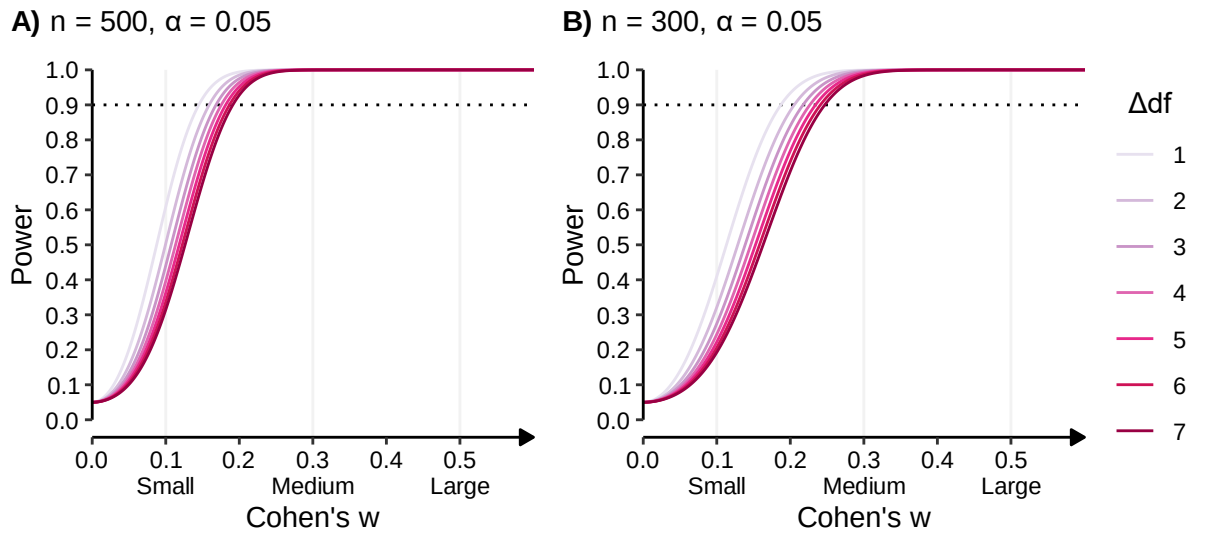

eFigure 1. Sensitivity power analyses. A) Power curves for n = 500. B) Power curves for n = 300. Dotted horizontal line indicates 90% power. Gray vertical lines indicate small (0.10), medium (0.30) and large effect sizes.

eTable 1
Sensitivity power analyses.

n	power	α	Δdf	Cohen's w	Hypothesis
500	0.90	0.05	1	0.14	2-5
			2	0.16	2-5
			3	0.17	2-5
			4	0.18	2-5
			5	0.18	2-5
			6	0.19	2-5
			7	0.19	3-5
300	0.90	0.05	1	0.19	2-5
			2	0.21	2-5
			3	0.22	2-5
			4	0.23	2-5
			5	0.23	2-5
			6	0.24	2-5
			7	0.25	2-5

Note. Cohen's w is the estimated smallest detectable significant χ^2-based effects size given n, power, α and Δdf.

eAppendix III

Spørreskjemaer på norsk

Screening

Aldersgruppe

Er du 18 år eller eldre?
○ Ja
○ Nei

Kombinert og forkortet versjon av subskalaene for heroin og reseptbelagte opioider fra Tobacco, Alcohol, Prescription Medication, and Other Substances screening tool part 2 (TAPS-2), med egendefinert spørsmål om legemiddelassistert rehabilitering

Kryss av på det alternativet/de alternativene som gjelder for deg
☐ Jeg er i LAR (Legemiddelassistert rehabilitering)
☐ Jeg har brukt ulovlige opioider/opiater (f.eks. heroin) i løpet av de 3 siste månedene
☐ Jeg har brukt reseptbelagte opioider/opiater (f.eks. Kodein/Paralgin forte/Pinex forte, Tramadol/Nobligan, Oksykodon/OxyNorm/OxyContin eller Morfin) kun for opplevelsens skyld, i større mengder enn resepten viser, eller som jeg ikke har resept på i løpet av de 3 siste månedene
☐ Ingen av alternativene over

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Spørreundersøkelse

Demografisk og klinisk bakgrunnsinformasjon

Hvor gammel er du?~~Alder~~
Vennligst oppgi alderen din i antall år.

Hva er ditt medfødte kjønn? (Biologisk kjønn)
○ Mann
○ Kvinne

Hvilket kjønn identifiserer du deg som? (Kjønnsidentitet)
○ Mann
○ Kvinne
○ Ikke-binær

Hvor høy er du?~~Høyde~~
Vennligst oppgi høyden din i antall centimeter (cm).

Hvor mye veier du?~~Vekt~~
Vennligst oppgi vekten din i antall kilo (kg).

Hva er din bosituasjon?
○ Jeg bor alene
○ Jeg bor sammen med noen (f.eks. partner, familie, romkamerater eller venner)
○ Jeg har ikke noe sted å bo

Har du noen av de følgende typene diagnoser akkurat nå?
☐ Ja, alkoholavhengighet
☐ Ja, avhengighet av andre rusmidler enn opioider/opiater
☐ Ja, depresjon
☐ Ja, angst eller fobi
☐ Ja, atferdsforstyrrelse (ADHD)
☐ Ja, personlighetsforstyrrelse
☐ Ja, posttraumatisk stresslidelse (PTSD)
☐ Ja, bipolar lidelse
☐ Ja, psykose (schizofreni)
☐ Ja, tvangslidelse (OCD)
☐ Ja, spiseforstyrrelse (anoreksi, bulimi, overspising)
☐ Nei, jeg har ingen av disse typene diagnoser akkurat nå

Hvor gammel var du da du først begynte å bruke opioider/opiater?
Vennligst oppgi alderen din i antall år da du først begynte å bruke opioider/opiater.

MacArthur Scale of Subjective Social Status – Adult Version (MacArthur SSS Scale)

Forestill deg at dette er en stige som viser hvordan det norske samfunnet er inndelt. Øverst på stigen er personer som er best stilt i samfunnet- de som har mest penger, mest utdanning og de mest respekterte jobbene. Nederst på stigen er personer som er verst stilt- de som har minst penger, har lite eller ingen utdannelse, har jobber som er lite respekterte eller er utenfor arbeidslivet. Jo høyere du er på denne stigen, desto nærmere er du dem som er helt på toppen. Jo lavere du er, desto nærmere er dem som er helt på bunnen. Hvor vil du plassere deg selv på en slik stige? Marker det trinnet du tror du står på dette tidspunktet i livet sammenlignet med andre i det norske samfunnet.

- ○ 10 - Best stilt
- ○ 9
- ○ 8
- ○ 7
- ○ 6
- ○ 5
- ○ 4
- ○ 3
- ○ 2
- ○ 1 - Dårligst stilt

Referanser

1. Adler, N. E., Epel, E. S., Castellazzo, G., & Ickovics, J. R. (2000). Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in healthy, White women. Health Psychology, 19(6), 586–592. https://doi.org/10.1037/0278-6133.19.6.586

Life Satisfaction Questionnaire (LISAT-11)

Den siste uka har livet generelt vært
- ○ 1 - Veldig utilfredsstillende
- ○ 2 - Utilfredsstillende
- ○ 3 - Ganske utilfredsstillende
- ○ 4 - Ganske tilfredsstillende
- ○ 5 - Tilfredsstillende
- ○ 6 - Veldig tilfredsstillende

Referanser

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Egendefinerte spørsmål om LAR-behandling

Hvilken behandling får du i LAR?
○ Jeg er ikke i LAR
○ Buprenorfin (Subutex, Buprenorphine Orifarm, Buprenorphine Sandoz)
○ Buprenorfin/Nalokson (Suboxone, Bunalict, Zubsolv)
○ Buprenorfin-injeksjon (Buvidal)
○ Buprenorfin-implantat (Sixmo)
○ Metadon (Metadon, Metadon Abcur, Metadon DnE, Metadon Martindale)
○ Levometadon (Levopidon)
○ Morfin (Dolcontin, Malfin, Contalgin Uno)
○ Naltrekson (Naltrexone Accord)
○ Naltrekson-injeksjon (Vivitrol)
○ Heroin (HAB, Diacetylmorfin, Diaphin)

Hvor fornøyd er du med å ikke være i LAR?

Veldig misfornøyd										Veldig fornøyd
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Hvor fornøyd er du med behandlingen du får i LAR?

Veldig misfornøyd										Veldig fornøyd
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Hvor lenge har du brukt den LAR-medisinen du får nå?

Hvor stor dose er det på LAR-medisinen din?
Vennligst oppgi dosen din i antall milligram (mg).

Hvor ofte tar du LAR-medisinen din?

Hvor ofte må du reise for å hente eller fylle på LAR-medisinen din?

Har du tidligere fått behandling med noen av de følgende LAR-medisinene?
☐ Ja, Buprenorfin (Subutex, Buprenorphine Orifarm, Buprenorphine Sandoz)
☐ Ja, Buprenorfin/Nalokson (Suboxone, Bunalict, Zubsolv)
☐ Ja, Buprenorfin-injeksjon (Buvidal)
☐ Ja, Buprenorfin-implantat (Sixmo)
☐ Ja, Metadon (Metadon, Metadon Abcur, Metadon DnE, Metadon Martindale)
☐ Ja, Levometadon (Levopidon)
☐ Ja, Morfin (Dolcontin, Malfin, Contalgin Uno)
☐ Ja, Naltrekson (Naltrexone Accord)
☐ Ja, Naltrekson-injeksjon (Vivitrol)
☐ Ja, Heroin (HAB, Diacetylmorfin, Diaphin)
☐ Nei, ingen av disse

Spørsmål om abstinenser basert på Clinical Opiate Withdrawal Scale (COWS)

Ved bruk av opioider/opiater over lang tid kan man av og til oppleve abstinenser.
Eksempler på abstinenser er

- Høy hvilepuls
- Tremor (skjelvinger eller muskelrykninger)
- Gåsehud
- Svette/frysninger
- Rennende nese eller øyne
- Utvidet pupillstørrelse
- Gjesping
- Angst eller irritabilitet
- Rastløshet
- Muskel- eller leddplager (kribling, ubehag eller smerte)
- Gastrointestinale plager (magesmerter eller -ubehag, kvalme, oppkast, løs avføring eller diaré)

Hvor sterke abstinenser har du vanligvis hatt den siste uka?

○ Ingen abstinenser
○ Milde abstinenser
○ Moderate abstinenser
○ Moderat alvorlige abstinenser
○ Alvorlige abstinenser

Referanser

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Spørsmål om stigma basert på Stigma-Related Rejection Scale—Substance Abuse Version (SRS)

Den siste uka har jeg blitt sett ned på og/eller urettferdig behandlet av andre fordi jeg bruker/har brukt rusmidler eller fordi jeg er i/har vært i behandling for rusmiddelavhengighet.

- ○ 1 - Aldri
- ○ 2 - Veldig sjeldent
- ○ 3 - Sjeldent
- ○ 4 - Av og til
- ○ 5 - Ofte
- ○ 6 - Nesten alltid
- ○ 7 - Alltid

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Egendefinerte spørsmål om tidsbruk

Hvor mange dager den siste uka har du deltatt på sosiale aktiviteter eller tilbrakt tid sammen med familie, ~~eller~~ venner eller andre personer som IKKE BRUKER rusmidler?~~eller deltatt på sosiale aktiviteter?~~

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du deltatt på sosiale aktiviteter eller tilbrakt tid sammen med familie, venner eller andre personer som BRUKER rusmidler?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du drevet med fysisk aktivitet som f.eks. sport, trening, gåtur/jogging, sykkeltur, eller svømming/bading?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du brukt tid på digital underholdning eller sosiale medier, som f.eks. se på TV/YouTube/Netflix, surfe på Internett, spille videospill, eller scrolle på Facebook/Twitter/Instagram/Snapchat/TikTok?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du drevet med andre hobbyer og fritidsaktiviteter enn sosiale aktiviteter, fysisk aktivitet, digital underholdning og sosiale medier?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du drevet med utdanningsaktiviteter som f.eks. å delta på kurs, delta i undervisning på skolen/universitetet, gjøre lekser/studere, eller få opplæring?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du drevet med lønnet arbeid, frivillig arbeid, eller samfunnstjeneste?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du drevet med kriminell aktivitet, som f.eks. tyveri, innbrudd, nasking, ran, ulovlig salg, hærverk eller vold?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du gjort husarbeid som f.eks. matlaging, klesvask, hagearbeid, eller rydding, vasking eller vedlikehold av bolig?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du brukt tid på omsorg for andre, som f.eks. barn, søsken, foreldre eller andre familiemedlemmer?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du drevet med personlig pleie som f.eks. vask eller stell av kropp, hår, hender eller tenner?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du vært i kontakt med helsevesenet eller sosialtjenester, som f.eks. fastlege/tannlege/andre leger, psykolog/psykiater, terapeuter, sykepleier/hjelpepleier/helsefagarbeider, støttekontakt/brukerstyrt personlig assistent, eller NAV?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du brukt eller forsøkt å få tak i opioider/opiater?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du reist for å hente eller fylle på LAR-medisinen din?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du brukt eller forsøkt å få tak i andre opioider/opiater enn LAR-medisinen din?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du brukt eller forsøkt å få tak i andre rusmidler enn opioider/opiater, som f.eks. benzodiazepiner, kokain, amfetaminer, cannabis, hallusinogener, sniffestoffer eller andre designerdrugs?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du drukket eller forsøkt å få tak i alkohol?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Hvor mange dager den siste uka har du brukt eller forsøkt å få tak i produkter som inneholder nikotin, som f.eks. røyk, snus eller vape?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Er det noen av disse aktivitetene du skulle ønske at du hadde brukt MER TID på i løpet av den siste uka?
☐ Ja, ~~være med familie eller venner eller~~ delta på sosiale aktiviteter eller være sammen med familie, venner eller andre personer som IKKE BRUKER rusmidler
☐ Ja, delta på sosiale aktiviteter eller være sammen med familie, venner eller andre personer som BRUKER rusmidler
☐ Ja, fysisk aktivitet
☐ Ja, digital underholdning eller sosiale medier
☐ Ja, andre hobbyer eller fritidsaktiviteter
☐ Ja, utdanningsaktiviteter
☐ Ja, lønnet arbeid, frivillig arbeid, eller samfunnstjeneste
☐ Ja, kriminell aktivitet
☐ Ja, husarbeid
☐ Ja, omsorg for andre
☐ Ja, personlig pleie
☐ Ja, kontakt med helsevesenet eller sosialtjenester
☐ Ja, reise for å hente eller fylle på LAR-medisin
☐ Ja, bruke eller forsøke å få tak i andre opioider/opiater
☐ Ja, bruke eller forsøke å få tak i andre rusmidler
☐ Ja, drikke eller forsøke å få tak i alkohol
☐ Ja, bruke eller forsøke å få tak i produkter som inneholder nikotin
☐ Nei, ingen

Er det noen av disse aktivitetene du skulle ønske at du hadde brukt MINDRE TID på i løpet av den siste uka?
☐ Ja, ~~være med familie eller venner eller~~ delta på sosiale aktiviteter eller være sammen med familie, venner eller andre personer som IKKE BRUKER rusmidler
☐ Ja, delta på sosiale aktiviteter eller være sammen med familie, venner eller andre personer som BRUKER rusmidler
☐ Ja, fysisk aktivitet
☐ Ja, digital underholdning eller sosiale medier
☐ Ja, andre hobbyer eller fritidsaktiviteter
☐ Ja, utdanningsaktiviteter
☐ Ja, lønnet arbeid, frivillig arbeid, eller samfunnstjeneste
☐ Ja, kriminell aktivitet
☐ Ja, husarbeid
☐ Ja, omsorg for andre
☐ Ja, personlig pleie
☐ Ja, kontakt med helsevesenet eller sosialtjenester
☐ Ja, reise for å hente eller fylle på LAR-medisin
☐ Ja, bruke eller forsøke å få tak i andre opioider/opiater
☐ Ja, bruke eller forsøke å få tak i andre rusmidler
☐ Ja, drikke eller forsøke å få tak i alkohol
☐ Ja, bruke eller forsøke å få tak i produkter som inneholder nikotin
☐ Nei, ingen

World Health Organization Well-Being Index (WHO-5)

Den siste uka har jeg følt meg glad og i godt humør
○ 5 - Hele tiden
○ 4 - Det meste av tiden
○ 3 - Mer enn halve tiden
○ 2 - Mindre enn halve tiden
○ 1 - Av og til
○ 0 - Aldri

Den siste uka har jeg følt meg rolig og avslappet
○ 5 - Hele tiden
○ 4 - Det meste av tiden
○ 3 - Mer enn halve tiden
○ 2 - Mindre enn halve tiden
○ 1 - Av og til
○ 0 - Aldri

Den siste uka har jeg følt meg aktiv og sterk
○ 5 - Hele tiden
○ 4 - Det meste av tiden
○ 3 - Mer enn halve tiden
○ 2 - Mindre enn halve tiden
○ 1 - Av og til
○ 0 - Aldri

Den siste uka har jeg følt meg opplagt og uthvilt når jeg våkner
○ 5 - Hele tiden
○ 4 - Det meste av tiden
○ 3 - Mer enn halve tiden
○ 2 - Mindre enn halve tiden
○ 1 - Av og til
○ 0 - Aldri

Den siste uka har jeg følt at mitt daglige liv har vært fylt av ting som interesserer meg
○ 5 - Hele tiden
○ 4 - Det meste av tiden
○ 3 - Mer enn halve tiden
○ 2 - Mindre enn halve tiden
○ 1 - Av og til
○ 0 - Aldri

Referanser

1. Topp, C. W., Østergaard, S. D., Søndergaard, S., & Bech, P. (2015). The WHO-5 Well-Being Index: A Systematic Review of the Literature. Psychotherapy and Psychosomatics, 84(3), 167–176. https://doi.org/10.1159/000376585

Patient Health Questionnaire (PHQ-2)

Hvor ofte den siste uka har du opplevd lite interesse for eller glede over å gjøre ting?
- ○ 0 - Ikke i det hele tatt
- ○ 1 - Noen dager
- ○ 2 - Mer enn halvparten av dagene
- ○ 3 - Nesten hver dag

Hvor ofte den siste uka har du følt deg nedfor, deprimert eller fylt av håpløshet?
- ○ 0 - Ikke i det hele tatt
- ○ 1 - Noen dager
- ○ 2 - Mer enn halvparten av dagene
- ○ 3 - Nesten hver dag

Referanser

1. Kroenke, K., Spitzer, R. L., & Janet B. W. Williams. (2003). The Patient Health Questionnaire-2: Validity of a Two-Item Depression Screener. Medical Care, 41(11), 1284–1292. https://doi.org/10.1097/01.MLR.0000093487.78664.3C

Generalized Anxiety Disorder (GAD-2) scale

Hvor ofte den siste uka har du opplevd følt deg nervøs, engstelig eller veldig stresset?
○ 0 - Ikke i det hele tatt
○ 1 - Noen dager
○ 2 - Mer enn halvparten av dagene
○ 3 - Nesten hver dag

Hvor ofte den siste uka har du ikke klart å slutte å bekymre deg eller kontrolleren bekymringene dine?
○ 0 - Ikke i det hele tatt
○ 1 - Noen dager
○ 2 - Mer enn halvparten av dagene
○ 3 - Nesten hver dag

Referanser

1. Kroenke, K., Spitzer, R. L., Williams, J. B. W., Monahan, P. O., & Löwe, B. (2007). Anxiety Disorders in Primary Care: Prevalence, Impairment, Comorbidity, and Detection. Annals of Internal Medicine, 146(5), 317–325. https://doi.org/10.7326/0003-4819-146-5-200703060-00004

Littman stress scale

Hvordan syns du at du har håndtert stress den siste uka?

Jeg klarte ikke å håndtere stress					Jeg håndterte stress veldig godt
1	2	3	4	5	6
○	○	○	○	○	○

Hvor mye stress har du opplevd den siste uka?

Jeg har ikke opplevd noe stress					Jeg har opplevd veldig mye stress
1	2	3	4	5	6
○	○	○	○	○	○

Referanser

1. Littman, A. J., White, E., Satia, J. A., Bowen, D. J., & Kristal, A. R. (2006). Reliability and Validity of 2 Single-Item Measures of Psychosocial Stress. Epidemiology, 17(4), 398–403. https://doi.org/10.1097/01.ede.0000219721.89552.51

Subskala om smerte fra Sensory Hypersensitivity Scale (SHS)

Hvor enig er du i følgende påstand: "Den siste uka har jeg vært ganske sensitiv til smerte"?
- ○ 1 - Sterkt uenig
- ○ 2 - Uenig
- ○ 3 - Nøytral/usikker
- ○ 4 - Enig
- ○ 5 - Sterkt enig

Hvor enig er du i følgende påstand: "Den siste uka har jeg kunnet tolerere store mengder smerte"?
- ○ 1 - Sterkt uenig
- ○ 2 - Uenig
- ○ 3 - Nøytral/usikker
- ○ 4 - Enig
- ○ 5 - Sterkt enig

Hvor enig er du i følgende påstand: "Den siste uka har ting som vanligvis ville gjort vondt for andre ikke vært smertefullt for meg"?
- ○ 1 - Sterkt uenig
- ○ 2 - Uenig
- ○ 3 - Nøytral/usikker
- ○ 4 - Enig
- ○ 5 - Sterkt enig

Referanser

1. Dixon, E. A., Benham, G., Sturgeon, J. A., Mackey, S., Johnson, K. A., & Younger, J. (2016). Development of the Sensory Hypersensitivity Scale (SHS): A self-report tool for assessing sensitivity to sensory stimuli. Journal of Behavioral Medicine, 39(3), 537–550. https://doi.org/10.1007/s10865-016-9720-3

Spørsmål om smerte fra Brief Pain Inventory (BPI) og Oslo University Hospital Pain Registry

Hvor sterke smerter har du vanligvis hatt den siste uka?

Ingen smerte										Verst Tenkelige smerte
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Hvor plagsomme smerter har du vanligvis hatt den siste uka?

Ikke plagsom										Verst tenkelige plage
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Gjennom livet har de fleste av oss hatt smerter (som lett hodepine, forstuelser eller tannpine). Har du hatt smerter av et annet slag enn slike dagligdagse smerter den siste uka?
○ Ja
○ Nei

Hvor lenge har du hatt disse andre typene smerte?
○ Mindre enn 3 måneder
○ Mellom 3 og 6 måneder
○ Mer enn 6 måneder

Referanser

1. Cleeland, C. S. (2009). The Brief Pain Inventory User Guide. The University of Texas MD Anderson Cancer Center.
2. Granan, L.-P., Reme, S. E., Jacobsen, H. B., Stubhaug, A., & Ljoså, T. M. (2019). The Oslo University Hospital Pain Registry: Development of a digital chronic pain registry and baseline data from 1,712 patients. Scandinavian Journal of Pain, 19(2), 365–373. https://doi.org/10.1515/sjpain-2017-0160

Egendefinerte falske og instruerende spørsmål for å oppdage uoppmerksomme respondenter

Har du noen gang vært forkjøla i løpet av livet ditt?
○ Ja
○ Nei

Vennligst velg tallet 4 for å vise at du følger med.

1	2	3	4	5
○	○	○	○	○

eAppendix IV

Questionnaires in English

Screening

Age group

Are you 18 years or older?
○ Yes
○ No

Combined and abbreviated version of heroin and prescription opioid subscales from the Tobacco, Alcohol, Prescription Medication, and Other Substances screening tool part 2 (TAPS-2), with custom question about opioid substitution treatment

Tick the option(s) that apply to you
☐ I am enrolled in the opioid substitution treatment program
☐ I have used illicit opioids (e.g., heroin) in the past 3 months
☐ I have used prescription opioids (e.g., Codeine/Paralgin Forte/Pinex Forte, Tramadol/Nobligan, Oxycodone/OxyNorm/OxyContin eller Morphine) just for the feeling, more than prescribed, or that were not prescribed for me in the past 3 months
☐ None of the above

References

1. Bunting, A. M., Schwartz, R. P., Wu, L.-T., Wahle, A., Kline, M., Subramaniam, G., & McNeely, J. (2023). A Brief Screening and Assessment Tool for Opioid Use in Adults: Results from a Validation Study of the Tobacco, Alcohol, Prescription Medication, and Other Substances Tool. *Journal of Addiction Medicine*, *17*(4), 471–473. https://doi.org/10.1097/ADM.0000000000001139
2. McNeely, J., Wu, L.-T., Subramaniam, G., Sharma, G., Cathers, L. A., Svikis, D., Sleiter, L., Russell, L., Nordeck, C., Sharma, A., O'Grady, K. E., Bouk, L. B., Cushing, C., King, J., Wahle, A., & Schwartz, R. P. (2016). Performance of the Tobacco, Alcohol, Prescription Medication, and Other Substance Use (TAPS) Tool for Substance Use Screening in Primary Care Patients. *Annals of Internal Medicine*, *165*(10), 690–699. https://doi.org/10.7326/M16-0317

Survey

Demographic and clinical background information

What is your age?~~Age~~
Please state your age in years.

What is your birth gender? (Biological sex)
○ Man
○ Woman

Which gender do you identify as? (Gender identity)
○ Man
○ Woman
○ Non-binary

How tall are you?~~Height~~
Please state your height in centimeters (cm).

How much do you weigh?~~Weight~~
Please state your weight in kilograms (kg).

What is your living situation?
○ I live alone
○ I live with someone (e.g., partner, family, roommates or friends)
○ I do not have a place to live

Do you currently have any of the following types of diagnoses?
☐ Yes, alcohol addiction
☐ Yes, addiction to drugs other than opioids/opiates
☐ Yes, depression
☐ Yes, anxiety or phobia
☐ Yes, behavioral disorder (ADHD)
☐ Yes, personality disorder
☐ Yes, post-traumatic stress disorder (PTSD)
☐ Yes, bipolar disorder
☐ Yes, psychosis (schizophrenia)
☐ Yes, obsessive-compulsive disorder (OCD)
☐ Yes, eating disorder (anorexia, bulimia, binge eating)
☐ No, I do not currently have any of the above types of diagnoses

How old were you when you first started using opioids?
Please state your age in years when you first started using opioids.

MacArthur Scale of Subjective Social Status – Adult Version (MacArthur SSS Scale)

Think of this as a ladder representing where people stand in the Norwegian society. At the top of the ladder are the people who are the best off- those who have the most money, the most education, and the most respected jobs. At the bottom are the people who are the worst off- those who have the least money, least education, the least respected jobs, or no job. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom. Where would you place yourself on this ladder? Please mark the rung where you think you stand at this time in your life relative to other people in the Norwegian society.

- ○ 10 - Best off
- ○ 9
- ○ 8
- ○ 7
- ○ 6
- ○ 5
- ○ 4
- ○ 3
- ○ 2
- ○ 1 - Worst off

References

1. Adler, N. E., Epel, E. S., Castellazzo, G., & Ickovics, J. R. (2000). Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in healthy, White women. Health Psychology, 19(6), 586–592. https://doi.org/10.1037/0278-6133.19.6.586

Life Satisfaction Questionnaire (LISAT-11)

In the past week, life as a whole has been
- ○ 1 - Very dissatisfying
- ○ 2 - Dissatisfying
- ○ 3 - Rather dissatisfying
- ○ 4 - Rather satisfying
- ○ 5 - Satisfying
- ○ 6 - Very satisfying

References

1. Fugl-Meyer, A. R., Melin, R., & Fugl-Meyer, K. S. (2002). Life satisfaction in 18-to 64-year-old Swedes: In relation to gender, age, partner and immigrant status. Journal of Rehabilitation Medicine, 34(5), 239–246. https://doi.org/10.1080/165019702760279242

Custom questions about medication-assisted treatment

Which medication are you receiving via the opioid substitution treatment program?
○ I am not enrolled in the opioid substitution treatment program
○ Buprenorphine (Subutex, Buprenorphine Orifarm, Buprenorphine Sandoz)
○ Buprenorphine/Naloxone (Suboxone, Bunalict, Zubsolv)
○ Buprenorphine injection (Buvidal)
○ Buprenorphine implant (Sixmo)
○ Methadone (Metadon, Metadon Abcur, Metadon DnE, Metadon Martindale)
○ Levomethadone (Levopidon)
○ Morphine (Dolcontin, Malfin, Contalgin Uno)
○ Naltrexone (Naltrexone Accord)
○ Naltrexone injection (Vivitrol)
○ Heroin (HAB, Diacetylmorfin, Diaphin)

How satisfied are you with not being enrolled in the opioid substitution treatment program?

Very dissatisfied										Very satisfied
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

How satisfied are you with the treatment you are receiving via the opioid substitution treatment program?

Very dissatisfied										Very satisfied
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

For how long have you been using your current opioid substitution medication?

What dose of your opioid substitution medication are you receiving?
Please state your dose in milligrams (mg).

How often do you take your opioid substitution medication?

How often do you have to travel to collect or refill your opioid substitution medication?

Have you previously received treatment with any of the following opioid substitution medications?
☐ Yes, Buprenorphine (Subutex, Buprenorphine Orifarm, Buprenorphine Sandoz)
☐ Yes, Buprenorphine/Naloxone (Suboxone, Bunalict, Zubsolv)
☐ Yes, Buprenorphine injection (Buvidal)
☐ Yes, Buprenorphine implant (Sixmo)
☐ Yes, Methadone (Metadon, Metadon Abcur, Metadon DnE, Metadon Martindale)
☐ Yes, Levomethadone (Levopidon)
☐ Yes, Morphine (Dolcontin, Malfin, Contalgin Uno)
☐ Yes, Naltrexone (Naltrexone Accord)
☐ Yes, Naltrexone injection (Vivitrol)
☐ Yes, Heroin (HAB, Diacetylmorfin, Diaphin)

☐ No, none of the above

Questions about withdrawal symptoms based on the Clinical Opiate Withdrawal Scale (COWS)

When using opioids/opiates over longer periods of time, you may sometimes experience withdrawal symptoms. Examples of withdrawal symptoms are

- High resting pulse rate
- Tremors (trembling or muscle twitching)
- Goose bumps
- Sweating/chills
- Runny nose or watery eyes
- Dilated pupils• Yawning
- Anxiety or irritability
- Restlessness
- Muscle, bone or joint aches (discomfort, aches or pain)
- Gastrointestinal problems (stomach cramps or discomfort, nausea, vomiting, loose stool or diarrhea)

How strong withdrawal symptoms have you typically had in the past week?

○ No withdrawal
○ Mild withdrawal
○ Moderate withdrawal
○ Moderately severe withdrawal
○ Severe withdrawal

References

1. Wesson, D. R., & Ling, W. (2003). The Clinical Opiate Withdrawal Scale (COWS). Journal of Psychoactive Drugs, 35(2), 253–259. https://doi.org/10.1080/02791072.2003.10400007

Questions about stigma based on the Stigma-Related Rejection Scale—Substance Abuse Version (SRS)

In the past week I have been looked down on and/or treated unfavorably because I use/have been using drugs or because I am/have been in treatment for drug addiction.

- ○ 1 - Never
- ○ 2 - Very rarely
- ○ 3 - Seldom
- ○ 4 - Sometimes
- ○ 5 - Frequently
- ○ 6 - Almost always
- ○ 7 - Always

References

1. Luoma, J. B., Twohig, M. P., Waltz, T., Hayes, S. C., Roget, N., Padilla, M., & Fisher, G. (2007). An investigation of stigma in individuals receiving treatment for substance abuse. Addictive Behaviors, 32(7), 1331–1346. https://doi.org/10.1016/j.addbeh.2006.09.008

Custom questions about time use

How many days in the past week have you participated in social activities or spent time together with family, ~~or~~ friends or other people who DO NOT USE drugs?~~or participated in social activities?~~

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you participated in social activities or spent time together with family, friends or other people who USE drugs?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you engaged in physical activity such as sports, exercise, walks/runs, biking, or swimming?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you spent time on digital entertainment or social media, such as watching TV/YouTube/Netflix, browsing the Internet, playing video games, or scrolling on Facebook/Twitter/Instagram/Snapchat/TikTok?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you engaged in hobbies and pastimes other than social activities, physical activity, digital entertainment and social media?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you engaged in educational activities such as participating in courses, participating in classes at school/university, doing homework/studying, or receiving training?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you done paid work, voluntary work, or community service?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you engaged in criminal activities, such as theft, burglary, shoplifting, robbery, illicit trade, vandalism or violence?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you done housekeeping such as cooking food, laundering, gardening, cleaning or doing home maintenance?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you spent time caring for others, such as kids, siblings, parents or other family members?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you done personal care such as washing your body, hair or hands, or brushing your teeth?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you been in contact with the healthcare system or social services, such as GP/dentist/other doctors, psychologist/psychiatrist, therapists, nurse/nursing assistant, personal assistant, or welfare agencies?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you used or tried to get hold of opioids/opiates?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you traveled to collect or refill your opioid substitution medication?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you used or tried to get hold of opioids/opiates other than your opioid substitution medication?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you used or tried to get hold of drugs other than opioids/opiates, such as benzodiazepines, cocaine, amphetamines, cannabis, hallucinogens, inhalants or other designer drugs?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you consumed or tried to get hold of alcohol?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

How many days in the past week have you used or tried to get hold of products containing nicotine, such as cigarettes, snuff or vape?

0	1	2	3	4	5	6	7
○	○	○	○	○	○	○	○

Are there any of these activities you wish you had spent MORE TIME on in the past week?
☐ Yes, ~~spending time with friends or family or~~ participating in social activities or being together with family, friends or other people who DO NOT USE drugs
☐ Yes, participating in social activities or being together with family, friends or other people who USE drugs
☐ Yes, physical activity
☐ Yes, digital entertainment or social media
☐ Yes, other hobbies or pastimes
☐ Yes, education
☐ Yes, paid work, voluntary work, or community service
☐ Yes, crime
☐ Yes, housekeeping
☐ Yes, caring for others
☐ Yes, personal care
☐ Yes, contact with the healthcare system or social services
☐ Yes, traveling to collect or refill opioid substitution medication
☐ Yes, seeking or using other opioids/opiates
☐ Yes, seeking or using other illicit drugs
☐ Yes, seeking or drinking alcohol
☐ Yes, seeking or using products containing nicotine
☐ No, none

Are there any of these activities you wish you had spent LESS TIME on in the past week?
☐ Yes, ~~spending time with friends or family or~~ participating in social activities or being together with family, friends or other people who DO NOT USE drugs
☐ Yes, participating in social activities or being together with family, friends or other people who USE drugs
☐ Yes, physical activity
☐ Yes, digital entertainment or social media
☐ Yes, other hobbies or pastimes
☐ Yes, education
☐ Yes, paid work, voluntary work, or community service
☐ Yes, crime
☐ Yes, housekeeping
☐ Yes, caring for others
☐ Yes, personal care
☐ Yes, contact with the healthcare system or social services
☐ Yes, traveling to collect or refill opioid substitution medication
☐ Yes, seeking or using other opioids/opiates
☐ Yes, seeking or using other illicit drugs
☐ Yes, seeking or drinking alcohol
☐ Yes, seeking or using products containing nicotine
☐ No, none

World Health Organization Well-Being Index (WHO-5)

In the past week I have felt cheerful and in good spirits
○ 5 - All the time
○ 4 - Most of the time
○ 3 - More than half of the time
○ 2 - Less than half of the time
○ 1 - Some of the time
○ 0 - At no time

In the past week I have felt calm and relaxed
○ 5 - All the time
○ 4 - Most of the time
○ 3 - More than half of the time
○ 2 - Less than half of the time
○ 1 - Some of the time
○ 0 - At no time

In the past week I have felt active and vigorous
○ 5 - All the time
○ 4 - Most of the time
○ 3 - More than half of the time
○ 2 - Less than half of the time
○ 1 - Some of the time
○ 0 - At no time

In the past week I woke up feeling fresh and rested
○ 5 - All the time
○ 4 - Most of the time
○ 3 - More than half of the time
○ 2 - Less than half of the time
○ 1 - Some of the time
○ 0 - At no time

In the past week my daily life has been filled with things that interest me
○ 5 - All the time
○ 4 - Most of the time
○ 3 - More than half of the time
○ 2 - Less than half of the time
○ 1 - Some of the time
○ 0 - At no time

References

1. Topp, C. W., Østergaard, S. D., Søndergaard, S., & Bech, P. (2015). The WHO-5 Well-Being Index: A Systematic Review of the Literature. Psychotherapy and Psychosomatics, 84(3), 167–176. https://doi.org/10.1159/000376585

Patient Health Questionnaire (PHQ-2)

How often in the past week have you experienced little interest or pleasure in doing things?
- ○ 0 - Not at all
- ○ 1 - Several days
- ○ 2 - More than half the days
- ○ 3 - Nearly everyday

How often in the past week have you felt down, depressed, or hopeless?
- ○ 0 - Not at all
- ○ 1 - Several days
- ○ 2 - More than half the days
- ○ 3 - Nearly everyday

References

1. Kroenke, K., Spitzer, R. L., & Janet B. W. Williams. (2003). The Patient Health Questionnaire-2: Validity of a Two-Item Depression Screener. Medical Care, 41(11), 1284–1292. https://doi.org/10.1097/01.MLR.0000093487.78664.3C

Generalized Anxiety Disorder (GAD-2) scale

How often in the past week have you felt nervous, anxious, or on edge?
- ○ 0 - Not at all
- ○ 1 - Several days
- ○ 2 - More than half the days
- ○ 3 - Nearly everyday

How often in the past week have you not been able to stop or control worrying?
- ○ 0 - Not at all
- ○ 1 - Several days
- ○ 2 - More than half the days
- ○ 3 - Nearly everyday

References

1. Kroenke, K., Spitzer, R. L., Williams, J. B. W., Monahan, P. O., & Löwe, B. (2007). Anxiety Disorders in Primary Care: Prevalence, Impairment, Comorbidity, and Detection. Annals of Internal Medicine, 146(5), 317–325. https://doi.org/10.7326/0003-4819-146-5-200703060-00004

Littman stress scale

How would you rate your ability to handle stress in the past week?

I was unable to handle stress					I handled stress very well
1	2	3	4	5	6
○	○	○	○	○	○

How would you rate the amount of stress you experienced in the past week?

I did not experience any stress					I experienced extreme amounts of stress
1	2	3	4	5	6
○	○	○	○	○	○

References

1. Littman, A. J., White, E., Satia, J. A., Bowen, D. J., & Kristal, A. R. (2006). Reliability and Validity of 2 Single-Item Measures of Psychosocial Stress. Epidemiology, 17(4), 398–403. https://doi.org/10.1097/01.ede.0000219721.89552.51

Pain subscale from the Sensory Hypersensitivity Scale (SHS)

How much do you agree with the following statement: “In the past week I have been quite sensitive to pain”?
○ 1 - Strongly disagree
○ 2 - Disagree
○ 3 - Neutral/not sure
○ 4 - Agree
○ 5 - Strongly agree

How much do you agree with the following statement: “In the past week I have been able to tolerate a large amount of pain”?
○ 1 - Strongly disagree
○ 2 - Disagree
○ 3 - Neutral/not sure
○ 4 - Agree
○ 5 - Strongly agree

How much do you agree with the following statement: “In the past week, things that would ordinarily hurt others have not been painful to me”?
○ 1 - Strongly disagree
○ 2 - Disagree
○ 3 - Neutral/not sure
○ 4 - Agree
○ 5 - Strongly agree

References

1. Dixon, E. A., Benham, G., Sturgeon, J. A., Mackey, S., Johnson, K. A., & Younger, J. (2016). Development of the Sensory Hypersensitivity Scale (SHS): A self-report tool for assessing sensitivity to sensory stimuli. Journal of Behavioral Medicine, 39(3), 537–550. https://doi.org/10.1007/s10865-016-9720-3

Questions about pain from the Brief Pain Inventory (BPI) and the Oslo University Hospital Pain Registry

How strong pain have you typically had in the past week?

No pain										Worst pain imaginable
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

How bothersome pain have you typically had in the past week?

Not bothersome										Pain as bothersome as you can imagine
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, and toothaches). Have you had pain other than these everyday kinds of pain in the past week?
○ Yes
○ No

For how long have had these other kinds of pain?
○ Less than 3 months
○ Between 3 and 6 months
○ More than 6 months

References

1. Cleeland, C. S. (2009). The Brief Pain Inventory User Guide. The University of Texas MD Anderson Cancer Center.
2. Granan, L.-P., Reme, S. E., Jacobsen, H. B., Stubhaug, A., & Ljoså, T. M. (2019). The Oslo University Hospital Pain Registry: Development of a digital chronic pain registry and baseline data from 1,712 patients. Scandinavian Journal of Pain, 19(2), 365–373. https://doi.org/10.1515/sjpain-2017-0160

Custom bogus and instructed response items to detect careless responders

Have you ever had a cold at some point in your life?
○ Yes
○ No

Please choose the number 4 to indicate that you are paying attention.

1	2	3	4	5
○	○	○	○	○