

# Integrated Master Project in Odontology

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**Dental health care workers' experience with and attitudes towards treatment  
of patients in medically assisted rehabilitation (MAR)**

**Cross-sectional study in the public dental health care services in Hordaland  
and Rogaland counties**

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## SAMMENDRAG

**Målsetning:** Målet med denne undersøkelsen er å analysere det offentlige tannhelsepersonellens erfaring med og holdning til behandling av LAR- pasienter i både Hordaland og Rogaland

**Metode:** En census av 344 tannleger og tannpleiere i Hordaland og Rogaland ble sendt et elektronisk nettbasert spørreskjema, totalt 54.3% (163/344) hadde svart på undersøkelsen som var frivillig og anonym.

**Resultater:** Av tannpleierne hadde 76.3% sagt at de sjeldent behandler LAR- pasienter, mens 76.1% av tannlegene hadde uttrykt at de behandler LAR- pasienter månedlig.

Hyppigste behandlings typene som ble utført var akutt behandling og fyllingsterapi blant LAR- pasienter. Nesten halvparten (45.5%) av deltakerne rapporterte at LAR- pasientene var godt informert om sin egen tannhelse men så var det 43.8% som rapporterte at LAR- pasienter var dårlig informert. Når deltakerne ble spurt hvor ofte de kom i kontakt med LAR- pasienter så hadde 23.7% av tannpleierne og 76.1% av tannlegene svart at de behandlet LAR- pasienter månedlig. En stor present andel, 93.5% av deltakerne i Den offentlige tannhelsetjenesten var enig om at det var krevende å behandle LAR- pasienter. Det samme antall tannleger og tannpleiere hadde også sagt at grunnen var manglende avtaler. Av tannlegene så var det 37.4% som hadde sagt at grunnen var kommunikasjonsproblemer. Til slutt innrømmet 56.1% at det var tidskrevende og det kunne ha blitt brukt i andre pasienter gruppe.

**Konklusjon:** LAR- pasienter er en gruppe personer som gjør en innsats for å forandre livet sitt, dette bør tas alvorlig og som offentlig helsepersonell bør man ha kunnskap og evnen til å håndtere slike pasienter. Resultatene tyder på at det bør gis nødvendige opplæring til tannhelsepersonell før de blir eksponert for LAR- pasienter.

## ABSTRACT

**Aim:** The aim of this research is to investigate the public dental health care workers' experience with and attitudes towards treatment of MAR patients in both Hordaland and Rogaland.

**Methods:** A census of 344 dentists and dental hygienists in both Hordaland and Rogaland received an electronic voluntary web-based questionnaire, a total of 54.3 % (163/344) had responded to the survey.

**Results:** Out of the dental hygienists, 76.3% had said that they seldom treat MAR patients whereas 76.1 % of the dentists expressed that they treat MAR patients on a monthly basis.

Most frequent type of treatments provided to the MAR patients were acute treatment and filling therapy. Dental health care workers, 45.5% reported that MAR patients were well informed about their own dental health and 43.8 % reported that MAR patients were poorly informed. When dental health care workers were asked how often they came in contact with MAR patients, 23.7 % of the dental hygienists and 76.1 % of the dentists had answered they treat MAR patients on a monthly basis. Most of the public dental health care workers (93.5%) agreed that it was demanding treating MAR patients. The same number of dentists and dental hygienists had also said that the reason was due to missing appointments. Dental care workers, 37.4% also expressed that it was difficult to treat MAR patients due to communication problems. And lastly 56.1 % admitted that it was time consuming and must be used in other categories of patients.

**Conclusions:** MAR patients are a group of individuals making an effort to change their lives, this should be taken seriously and as a health care worker in the public health care system one should have the knowledge and ability to deal with such patients. They should be given the necessary training before being exposed to MAR patients.

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## 1.0 Background

### 1.1 Definitions- drug abuse, drug dependence and drug addiction

The consumption of illicit substances such as opiates, cannabis, and amphetamines has become a severe global health concern. Most of the licit and illicit drugs have a natural capacity to develop addiction but illicit drugs are more prone to dependence (1). Licit drugs include alcoholic beverages and tobacco while illicit drugs include substances such as heroin, cocaine and marijuana (2). Drug addicts are not only physically depended but also psychologically attached which leads many of them to neglect their health and oral health status. Drug abuse is defined as the consumption of an irregular quantity of drugs and the inconsistency in social or cultural behaviour (1). On the other hand, drug dependence is described as a period of repeated consumption of a drug that will cause withdrawal symptoms if interrupted. Lastly, drug addiction is a phrase that is used to describe individuals in need of daily doses of drugs. A drug addict can either combine several drugs or administer individual drugs (1). There are many factors that play a role in developing drug addiction such as availability, cost, method of administration, environmental aspects (social acceptance), peer influence and genetics (3).

### 1.2 Types of drugs

*Amphetamine* was first used as a medical drug in 1927, for asthma among other things (4). Methamphetamine commonly referred to as 'speed', has a similar chemical composition as amphetamine, the appearance and effect is quite alike as well. Amphetamine in its purest form is a white, odourless powder, manufactured in laboratories in Europe. It's normally injected, however eating and sniffing are also possibilities. Medically, amphetamine affects the brain as well as the heart, lungs and other vital organs (4).

*Ecstasy* is a synthetic chemical drug, which is both stimulant and hallucinogenic often found in tablet form or in capsules (4). The drug itself increases the pulse, blood pressure and body temperature, and physical activity enhances all these side-effects. This can result in increased stress on the heart, liver, kidney and other vital organs, which can cause serious illnesses such as heart attack (4).

*Smoking or sniffing cocaine*, even in small doses gives an intense effect, increased energy, alertness and attention whereas appetite is greatly reduced (4). Physically the user will have a higher heart rate, elevated level of blood pressure, respiration, body temperature, enlarged pupils and muscle tremors. Restlessness, extreme anxiety, excitement and panic attacks are common reactions seen among cocaine users (4,5).

*Hashish, marijuana, and cannabis oil* all come from the plant cannabis. The most important chemical compound in cannabis is tetrahydrocannabinol (THC) which varies from plant to plant (4). Some experience happiness and become talkative while others encounter dizziness and nausea. Cannabis, more specifically hashish is the most common illegal drug used in Norway (4).

*Opioids* include a number of drugs such as heroin, morphine and methadone. Morphine is the most effective drug used at hospitals as painkillers whereas, heroin, a drug produced from morphine is known as an abusive substance (4). Unlike many other European countries, injection of heroin is the main administrative method in Norway whereas smoking is more common elsewhere (4,5).

*Benzodiazepines* and other related medications are used to treat anxiety, epilepsy, seizures and insomnia (4). When the drug is used outside medical treatments, the doses are usually 5-10 times higher than the therapeutic dosage (4). This could cause unease, anxiety,

cramps, tremors and palpitation. Mixing drugs and using several at the same time has become more common the last decade (4).

### 1.3 Global problem of drug use and addiction

According to the United Nations Office on Drugs and Crime's World Drug Report 2017 about 5 per cent of the world's population, aged 15-64 yrs. had used drugs at least once in 2015 (6). Moreover, about 29.5 million (0,6 per cent) of the population worldwide was suffering from drug disorder to the extent that they are addicted to drugs and required treatment (6). A recent Drug Report published by the United Nations in 2018, reveals that 275 million people (5.6 per cent) worldwide between the ages 15-64 yrs. had used drugs at least once in 2016 (6). The number of people suffering from drug disorder increased from 29.5 million in 2015 to 31 million in 2016 (6).

The type of drug that is most dangerous to health is opioids, and the most commonly consumed drug is cannabis (6). In 2015, 35million people was reported to have been addicted to opioids, 183 million to cannabis and 37 million to amphetamines. The percentage of the population affected by drug abuse has been stable for the last 5 years worldwide (6).

The most fatal health consequences follows from injecting drugs. An estimated, 12 million people around the globe inject drugs (6). Of those, 1.6 million are HIV positive, 6.1 million are suffering from hepatitis C and 1.3 million are exposed to both HIV and hepatitis C (6). There are more deaths among drug abusers with hepatitis C than HIV (6). A total of 164 countries based on 168 registered ones reported seizing cannabis between 2010- 2015, 153 countries reported seizing cocaine, 143 opiates and 128 amphetamines (6,7).



Previously, nations have handled drug addiction as criminals by punishing however, the United Nations Member States played a major role in changing the mind-set to a public health approach. The Outcome Document of the 2016 United Nations General Assembly Special Session on the World Drug Problem was approved by the 193 Member States at the General Assembly Special Session on Drugs (8). According to this Outcome Document, drug addiction was recognized as a complex multifactorial health disorder characterized by a chronic and relapsing nature and not the result of moral failure or a criminal behaviour (9). Rather it was recognized as a health problem/ disorder that is preventable and also treatable (9).

In most countries, addictive drugs are illegal; however, certain substances that can be addictive are available by prescription (10). Opiate production has increased by 65 per cent within a year from 2016 to 2017. It is by now at its highest production since United Nations Office of Drugs and Crime started monitoring in the early 21 century. Currently Afghan opium poppy cultivation is the largest distribution in the world (10).

The use of non-prescribed opioids has been increasing the last few years, and it has now become a serious threat to the law enforcement as well as the health personnel. The different countries are struggling with different drug related issues. One of the main reasons for drug overdose in North America is Fentanyl taken together with either heroin or other drugs (10). Fentanyl is a very popular type of opioid typically used to manage severe pain by a medically trained personal (11).

## 1.4 Prevalence and distribution of illicit drug use in Norway and other European countries

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) was established to provide the EU and the Member States with information and overviews of drug related issues in Europe (12).

According to EMCDDA's drug Report on Norway (2017), cannabis is the most commonly used illicit drug among the general population in Norway (12). There are 9015 high-risk opioid users who need immediate attention and there were recorded 48,152 drug related law offences. Illicit drugs are most common among young adults between the ages of 16-34, and males are reported to have higher prevalence rates than females in 2017 (12).

It has been reported that cannabis was the primary reason for drug used disorders in European Union countries and Norway, and men were observed to have higher prevalence rate of drug use disorders than women (13). The prevalence of use of cannabis has been relatively stable since 2012 and has been reported to be used by 8.6 % of the general population; 6.1 % women and 11 % men (12). Recently, radio news in Norway reported on a 40 % increase in number of individuals seeking help for cannabis dependence. Cocaine has a prevalence of 2.2 %; 0.7 % women and 3.6 % men and, amphetamines has 0.3 %; 0% women and 0.6 % men (12).

## 1.5 Drug related health issues and deaths in Norway and other European countries

An article published in 2009 about the nutritional and health status among drug addicts in Oslo concluded that 20 per cent of female drug abusers were moderately underweight and 7 per cent were dangerously underweight, whereas only 3 per cent of the men were moderately underweight. C- reactive protein (CRP) levels were increased among 50 per cent of the women and 43 per cent of the men, indicating increased level of infection (15).

Drug addicts were observed to sleep outside without a home or shelter. The reduced nutritional status could be the cause or the result of sickness and exhaustion which is again caused by deprivation of food, shelter and other basic needs. The article also emphasised social security benefits being the initial income for these misusers. However, men were more prone to robbery whilst women were involved in prostitution (15).

In 1991 the largest number of drug related deaths in the Nordic countries were seen in Denmark then in Norway, Sweden, Finland and finally in Iceland (16). In Denmark, the number of drug related deaths were 219 and 164 of them died due to fatal poisonings and 55 were considered as non- poisoning. In 1991, Norway had the second highest number of drug related deaths with 113 fatalities of which 90 were fatal poisonings and 23 were non-poisonings. In Sweden, Finland and Iceland, there were respectively 148, 81 and 4 fatalities. In both Norway and Sweden, the main cause of fatal drug poisoning was heroin and morphine. In Denmark, the dominating causes were heroin, morphine and methadone. In Finland, there were other drugs dominating the cause of fatal poisoning, such as codeine and ethylmorphine. Iceland occurred as the Nordic country with fewest drug related deaths with only four deaths registered. However, use of alcohol, cannabis and benzodiazepines were observed in all the Nordic countries (16).

According to a follow up study reporting on drug related deaths in the Nordic countries in 2002 (17), Norway had become the country with the highest overdose fatalities yielding 232 reported individuals. Denmark was the only country where the number of overdose fatalities had decreased from 219 to 175. Females were responsible for 12-20 per cent of the drug related deaths. Heroin and morphine were still the dominating drugs in Norway (17).

### 1.6 Drug related oral health consequences

Use and misuse of illicit drugs has a number of direct consequences such as multiple physical and mental problems, but also oral health problems. Drug abuse is associated with serious oral health issues such as dental caries, periodontal diseases, xerostomia, tooth wear, tooth loss, etc. These problems are partly due to neglected self-care, which is common among drug addicts as they often ignore their health and oral health problems until it reaches a severe stage (18).

According to a study conducted in Tehran, 2013, 85 % of patients with drug use disorder were also smokers, 48 % of them brushed their teeth less than once a day but 90 % were registered to be using fluoride toothpaste (18). Moreover, 57 % reported consumption of sugary products twice or more a day. The study concluded that crystalline heroin users and drug abusers with limited education were at greater risk of oral diseases than other groups in the withdrawal treatment (18).

As mentioned earlier cannabis is the most commonly used illicit drug among the general population in Norway. Cannabis abuse might lead to increased risk of oral cancer, xerostomia, and periodontitis (18). However, cannabis itself does not increase the risk of caries (18). The

lifestyle of abusers combined with dry mouth in terms of hypo-salivation and/or xerostomia makes them more receptive to smooth-surface caries (18).

In 1984, a study was conducted in Denmark comparing 134 intravenous drug abusers with non-drug abusers as control groups (19). The average age of the participants was 25 years and 66 % were males. Drug abusers had a significantly lower social background, education and employment status than the non-abusers. The dental health was assessed through calculating the DMFT (decayed, missed, filled teeth), which was slightly higher in females than men. Generally, the oral hygiene of the drug abusers was immensely poor. Plaque establishment was found on all the teeth, less on the facial surfaces and more on the posterior teeth. Oral hygiene was determined through calculating gingival inflammation. Also, a higher level of gingival inflammation among drug abusers might lead to periodontal issues and later tooth loss (19).

Oral health is compromised in various ways when illicit drugs such as opiates, cannabis, cocaine and amphetamine type stimulants are abused. Smoking and ingestion are methods of administering drugs that directly affect the oral tissue (18). However, brain function is endangered under the influence of drugs and this can promote risk taking behaviour, aggression, carelessness and poor hygiene, which then affects oral health (18).

Common oral health problems related to opiate abuse include tooth loss, tooth extraction, decayed teeth on both smooth and cervical surfaces (table 1). It is also reported hypofunction of the salivary glands that might lead to hyposalivation and perceived dry mouth, burning

mouth sensation, taste impairment, eating difficulties, mucosal infections and periodontal diseases (18).

However, heroin which is also a type of opiate, is reported to have progressive dental caries regardless of their oral hygiene, typically darker cervical lesions, often limited to the buccal and labial surfaces (18).

Cannabis, the most commonly consumed drug in the world (6), is reported to increase the risk of oral cancer, dry mouth (xerostomi), periodontitis, leukoedema (greyish- white lesion on the human oral mucosa) and *Candida albicans* (polymorphic fungus) but not Candidiasis (fungal infection) (20, 21, 18).

As for cocaine abusers, as shown on table 1, bruxism (grinding and clenching of teeth that is caused by a movement disorder) is a normal side effect that makes them more exposed to dental attrition (22). Cocaine power also has the tendency to reduce saliva pH, which leads to the teeth being more prone to dental erosion (18).

**Table 1.** Oral health problems related to the various drug types (18, 23).

Drug type	Oral health problems
<b>Amphetamine</b>	<ul style="list-style-type: none"> <li>• Bruxism</li> <li>• Increased tooth wear</li> <li>• Xerostomi</li> <li>• Dental caries- often referred to as ‘meth mouth’. Methamphetamine abusing patients often describe it as blackened, stained, rotting and crumbling. Buccal and cervical lesions on the smooth tooth surface and proximal lesions on the anterior teeth are most commonly seen.</li> </ul>
<b>Ecstasy</b>	<ul style="list-style-type: none"> <li>• Dry mouth</li> <li>• Bruxism, tooth wear, grinding, clenching. This is seen more commonly on the posterior teeth than the anterior incisal edges.</li> <li>• Complications associated with malnutrition, often caused by drug induced anorexia</li> <li>• Temporomandibular (TMD) joint tenderness</li> <li>• Local use of ecstasy can result in oral tissue necrosis and mucosal fenestration</li> </ul>
<b>Cocaine</b>	<p><b>Depends on the administration method</b></p> <ul style="list-style-type: none"> <li>• Bruxism which leads to dental attrition</li> <li>• Nasal/ oral application of cocaine powder reduces the salivation pH and increases the risk of decay and erosion</li> <li>• Smoking cocaine may lead to burns and sores on the lips, face and inside the mouth. Which again increased the risk of transmitting HIV</li> <li>• Local application of cocaine can cause gingival lesions and recession</li> </ul>
<b>Cannabis</b>	<ul style="list-style-type: none"> <li>• Increased risk of oral cancer</li> <li>• Dry mouth, xerostomia</li> <li>• Periodontitis</li> <li>• Leukoedema</li> <li>• Higher prevalence of candida albicans (not candiadiasis)</li> <li>• Increased DMF levels, specially D</li> </ul>
<b>Opioids</b>	<ul style="list-style-type: none"> <li>• Tooth loss</li> <li>• Tooth extractions</li> <li>• Generalised tooth decay, commonly on smooth and cervical surfaces</li> <li>• Salivary hypofunction which can then in some patients lead to xerostomia</li> <li>• Burning mouth</li> <li>• Taste impairment</li> <li>• Eating difficulties</li> <li>• Mucosal infections</li> <li>• Periodontal diseases, usually adult periodontitis</li> </ul>

## 1.7 Medication-assisted rehabilitation treatment

Substance use disorder (SUD) treatment or substitution treatment, is often known as medication- assisted rehabilitation treatment (MAR). MAR for opioid addiction has its origins in the United States during the 1960s. Substitution treatment for opioid dependence was first introduced in Norway in 1998, and since 2001 it has been functioning under the name medication assisted rehabilitation (MAR) (in Norwegian – legemiddel assistert rehabilitering - LAR) (24).

Medication-assisted rehabilitation (MAR) is a treatment program for people addicted to heroin or other opioids such as morphine (25).

For example, methadone or buprenorphine tapering are traditionally used for opioid dependence to have stability on a controllable drug. Pharmacological treatments for substance use disorder should be combined with psychosocial treatment (26). Psychosocial treatment includes improving overall health, relationships, employment and housing. When withdrawal treatments are planned, it is extremely important to consider various factors. The patient should be a part of the planning process to increase the success rate of the treatment. Clinical judgement of the patient's personal preference, lifestyle, expectations, degree of dependence, other crucial health problems, these are a few of the factors that should be considered. First attempts on withdrawal treatments are usually unsuccessful. Relapse can happen as soon as the treatment program is over (26).

The intention of the MAR program is to help people with opioid addiction to have an increased quality of life and that individuals receive assistance to change their life situation through the recovery of their optimal mastering and functional level (25). The purpose is also to reduce the damage caused by opioid dependence and the risk of overdose. According to



these regulations, it is emphasized that when a patient is referred to the drug-assisted rehabilitation centres a specific and comprehensive interdisciplinary assessment of the patient's health condition must be determined (27). The patient's age and how long they have been addicted will play a major role in assessing whether drug-assisted rehabilitation should be offered (25).

There are different types of medications used under the MAR rehabilitation program such as methadone, buprenorphine and buprenorphine/ naloxone. The commonly used medications are methadone and buprenorphine, however, combination of drugs such as buprenorphine and naloxone is also quite common (12, 14). There is many uncertainties when it concerns effectiveness of the various medications. Methadone, buprenorphine, clonidine and lofexidine are medications that are used during opioid withdrawal treatments. According to an article published in 2017, patients who receive methadone or buprenorphine rather than clonidine or lofexidine will have reduced signs and symptoms, they are more likely to continue the treatment longer, get less side effects and complete the treatment plan. Methadone and buprenorphine have similar effectiveness but the dosage of the medications is still unknown (28, 29).

A Recent report by the Norwegian Centre for Addiction Research 1/2016 suggests that about 7500 patients in Norway received opioid substitution therapy as a part of MAR in 2015 (30). The same report also implies that 666 patients were discharged from the rehabilitation program in 2015 due to different reasons, 51 patients were discharged as a result of the clinics decision, 488 patients decided to interrupt their own treatment and another 127 patients were discharged because of death (30). According to the latest *SERAF RAPPORT 1/2018*, the

average age of the MAR patients was 41.6 years and 44.3 years in 2010 and 2016, respectively. In 2016, 30 per cent of the MAR patients in Norway were females. Thus, the clinic is dominated by male participants (31).

In Norway, the city councils provide various assistance to patients with substance use disorder (32). They place these patients in institutions such as MAR clinics, however they are also offered treatment and rehabilitation services, financial benefits and support, work oriented measures and temporary housing arrangement. Everyone with a substance use disorder has the right to visit his or her general practitioner to be referred for further assessment of the situation (32).

The specialist health service has the overall responsibility to assess the patient's age and duration of the addiction before offering the rehabilitation program (33). This is to ensure that young drug abusers are not put on a long-term medication assisted program if there is a possibility of them being treated differently. The patient's age plays therefore a major role in the admission process; younger patients are less likely to be accepted into substitution treatments (33).

Once a patient is admitted into the rehabilitation program at MAR the specialised health service is responsible for initiating a cooperation between the county health service, general practitioners in the primary health care service, childcare services and any other necessary parts to create a customised individual plan for the patient (33). Patient's prerequisites and possibilities should be taken into consideration and realistic goals should be set on every step of the way keeping in mind that medication assisted rehabilitation is a progressive long-term program.

The medical aspects of the rehabilitation such as dosage, delivery and administration of the medication is decided by the physicians within the specialised health care service (33). Whether the medication is given under supervision of a healthcare professional is also agreed. These decisions can also be taken by the general practitioner within the primary health care service (33).

During the rehabilitation program both the physicians working for the specialised health care service and also the general practitioners employed by the primary health care service are allowed to demand a urine sample, blood test and/or samples of other biological materials. This is to overview and have control over the patient's drug intake during the stay at MAR, however this sample cannot be used for other purposes. To avoid false tests the physicians, have the authority to decide that the samples must be taken under supervision. If the drug sample is positive the whole rehabilitation program should be taken into consideration and eventually suspended or stopped (33).

### 1.8 Dental health care services for drug users

In Norway, the Public Dental Services (PDHS) is organized and funded by counties (27). PDHS is primarily responsible for children and youth up to and including the year they turn 20 years. The PDHS is also responsible for other marginalized groups in the society according to the priority list mentioned below (34). According to the Norwegian law, the Oral Health Service Act (Lov om tannhelsetjenesten), the county councils are responsible for the dental care service and its accessibility to the population (27). The county councils are also in charge of endorsing the preventive oral health care programs as well as the necessary treatment plans (27).

The prioritized groups;

- a) Children and adolescents from the age of 0-18.
- b) Mentally disabled patients both in and outside of institutions.
- c) Older patients, patients with long-term disease and disabled patients within institutions or in need of home nursing. The patient must have lived in an institution for 3 months or longer, or received home nursing once a week for the last 3 months or longer. This includes both the psychiatric and somatic patients.
- d) Adolescents turning 19 or 20 the year of treatment with be given a 75% reduction of treatment cost.
- e) Other groups that the county give priority.

Some of the other priority groups are victims of torture and abuse, patients with strong anxiety for dental treatment (odontophobia), inmates (sentenced for longer than 3 months), refugees and asylum seekers and MAR patients (34).

People who have been exposed to torture, abuse, or have odontophobia are entitled to free dental care (27). Those who participate in drug related programs such as medication-assisted rehabilitation (MAR) or stabilising treatment program (LAS) also have the right to free dental care. They need to be a part of the program for at least 3 months to be able to get free dental treatment and once they leave LAR treatment the offer is no longer valid (27).

In 2005, the Norwegian government put aside 8 million Norwegian Kroners for the dental treatment of drug abusers in rehabilitation institutions (35). Drug rehabilitation institutions come under the state health institutions since it was adapted to the Specialist Health Service Act. This allows the patients in drug rehabilitation institutions to make use of the Dental Health Act (35). Later in 2008, the Health and Care department decided to increase the dental

care offer for patients at rehabilitation institutions and county drug care. If the patients were under long-lasting treatment programs, they could get free dental treatment. In some counties low- threshold health care was established for drug abusers in general which included dental care (36). In Hordaland, county patients with drug addiction are offered dental treatment at Straxhuset in Bergen. Treatments are carried out at Solheimsviken Dental Clinic twice a week. There are around 45 public dental clinics in Hordaland (34). In Rogaland, county patients admitted into the LAR clinics with drug addiction for more than 3 months are given the necessary dental treatments either at the public dental clinics or at a private clinic with whom Tannhelse Rogaland has an agreement (37).

### 1.9 Justification of the study

Substance abuse constitutes a major threat to the health and oral health situation of the individual drug user, their families, friends, societies, health care services and the nations (38).

An increasing number of people with substance abuse will place new and greater demands on the future health and oral health care- as well as the well-fare services.

Current health care- and rehabilitation programs for drug addicts lacks oral health care elements. Provision of oral health care for drug abusers seem to face challenges in terms of difficulty to access addicts as a target group and collaboration between the dental- and the general health care services. There is a need for knowledge about the effects of existing oral health care measures to facilitate improvement of functioning, quality and resource utilization. This will be to the benefit of the society as a whole as well as the individual drug abuser. Efficient and effective health care service is one of the 10 priority areas in the Health and care 21 strategy (38).

Previous studies have shown that health professionals might have a negative attitude towards patients suffering from substance use disorder (39). As a consequence, these patients are not getting the optimal treatment and the negative behaviour may annihilate the patients feeling of empowerment and also the treatment outcome (39). A lower level of therapeutic commitment was also seen among doctors, nurses and other health care assistants when treating patients with substance misuse disorders. The younger health workers had a better understanding and a higher level of therapeutic commitment than the older health workers (40).

A recently published meta-analysis revealed that drug users have more serious oral diseases than the general population (41). Norwegian surveys have shown that drug abusers have higher prevalence of oral diseases and worse quality of life as compared to the general population, reflecting the sparse experience with the dental health care services offered to them (38). While serious side effects of drug use, such as HIV/AIDS, HCV infection and overdoses are frequently reported in the literature, the oral disease side effects and their treatments are rarely investigated. Drug addicts' poor oral health reflects risk factors such as poor oral hygiene, malnutrition, high consumption of sweetened food and drinks and xerostomia (8). Moreover, substance use is combined with smoking and alcohol both of which have a negative impact on oral health (8). Despite the high prevalence of oral problems, many drug users and those who inject drugs in particular, do not achieve adequate use of dental care. In addition, there are indications that dentists might have some reluctance to provide care for drug misusers (42). This situation contributes to worsened oral health, increased oral health inequalities and reduced efficiency of the dental health care services constituting large challenges within the MAR field.

From 2005, drug addicts in rehabilitation for at least three months were entitled to dental treatment sponsored by the Norwegian government and by 2008, dental care provision free of charge was extended to include MAR patients (7). The intention is to support this group of drug users and thus facilitate access to dental care and increase possibilities to start on a new, healthier and more traditional lifestyle. In spite of these policies, MAR patients utilizing their rights to dental health care services are far from optimal.

In light of the evidence outlined above and with the intention to contribute to improved and more effective oral health care services within MAR, there is a need for more knowledge about oral health care workers' experience with and attitudes towards treatment of MAR patients as part of the public dental health care services.

### **1.10 Aim of the study**

Focusing a census of dentist and dental hygienists employed in the public dental health care services in Hordaland and Rogaland counties, this study aimed to investigate these dental health care workers' experience with and attitudes towards treatment of MAR patients.

## **2.0 Material and Methods**

### **2.1. Study design, participants and ethical issues**

The present study used data from a cross-sectional, self-administered questionnaire survey conducted among dentists and dental hygienists employed in the PDHS in Hordaland and

Rogaland counties during May 2018. A census of 344 dentists and dental hygienists (176 in Hordaland and 168 in Rogaland counties) received an electronic version of the questionnaire containing 28 questions together with an introductory letter that explained the purpose of the study. Participation was voluntary and anonymous, and the return of a completed questionnaire was recorded as an informed consent. Ethical permission was granted by the Ombudsman, Norwegian Center for Research data (No. 59417) Norstat ([www.Norstat.no](http://www.Norstat.no)) was responsible for the electronic distribution of the questionnaire and the collection of data.

## 2.2 Measures

Socio-demographic characteristics were assessed in terms of sex, age, length of working experience and place of education. The respondents were thereafter asked whether they think drugs have a negative effect on the oral health of drug users and how often they, as dental health care personnel come into contact with MAR patients at the work place clinic. Then the questionnaire considered how updated the dental care workers were about the rules and regulations regarding treatment of MAR patients. There were questions asked about health care workers' experience with treating drug abusers and the kind of treatments usually performed. Lastly, the dental care workers were asked about their personal opinion, experience and encounters with the MAR patients (For wording of questions and response categories utilized in the questionnaire, see Appendix I)

## 2.3 Statistical Analysis

All analyses were performed using the IBM SPSS Statistics version 25 (IBM Corporation, NY, USA). Frequency distribution analyses were performed on all variables. Cross-tabulation was used to assess bivariate relationships. The level of statistical significance was set at 5 %.



## 3.0 Results

### 3.1. Sample profile

A sample profile showing dental health care workers' sociodemographic characteristics is depicted in Table 1. A total of 54.3 % (163/344) of the dentists and dental hygienists in Hordaland and Rogaland counties responded to the survey, 16.6 % (27) men and 83.4 (136) women having a mean age of 43.2 yrs. The age varied vastly, there was roughly 50 % under the age of 41 and the rest were 42 years and above. The majority of the respondents were dentists (73.6 %). Most of the dentists and dental hygienists were educated in Norway (79.4 %) but there were a few that had studied in one of the EU/EØS countries (10.3%). The remaining 10 % had studied in one of the other Nordic countries or outside of EU/EØS. A total of 43.6 % of the dental health workers had 6-20 years of work experience, 33.3 % had more than 20 years, 19.2 % had 1-5 years and only 3.8 % had less than one-year experience. Out of the 163 respondents, 83.4 % (126 participants) answered that they had knowledge about the 2011 guidelines "God klinisk praksis i tannhelsetjenesten" (Table 1).

**Table 1.** Frequency distribution of socio-demographic characteristics of participating dentists and dental hygienists employed in the PDHS in Hordaland and Rogaland county (n=163)

Variables	Category	% (n)
<b>Gender</b>	Male	16.6 (27)
	Female	83.4 (136)
<b>Profession</b>	Dental hygienist	24.5 (39)
	Dentist	73.6 (117)
	Other	1.9 (3)
<b>Age</b>	20-41 yrs.	49.7 (80)
	42-66 yrs.	50.3 (81)
<b>Place of education</b>	Norway	79.4 (123)
	Another Nordic country	5.2 (8)
	EU/EØS	10.3 (16)
	Outside EU/EØS	5.2 (8)
<b>Work experience</b>	Less than one year	3.8 (6)
	1-5 yr.	19.2 (30)
	6-20 yr.	43.6 (68)
	More than 20 yr.	33.3 (52)
<b>Knowledge of 2011 guidelines</b>	Yes	83.4 (126)
	No	5.3 (8)
	Don't know	11.3 (17)

The total number in the various categories did not add up to 163 owing to missing values

### 3.2. Dental health care workers opinion on MAR patient's oral health knowledge

An important part of this questionnaire was to assess dental health care workers' opinion on how well informed they considered MAR patients are regarding their own dental health, dental treatment services and their rights to free dental care. As shown in Table 2, 5.0 % and 45.5 % of the dental health care workers considered that MAR patients were very well and well informed about their own dental health, 43.8 % reported that MAR patients were poorly informed and only 5.8% reported that MAR patients were very poorly informed. A total of 59.2% of the dental health care workers reported that MAR patients were well informed about the dental services and their rights, whereas 19.2% reported that MAR patients were poorly informed.

**Table 2.** Dental health care workers' opinion on how well MAR patients are informed regarding their dental health, dental services and their rights to free dental service (n=163).

Variables	Category	% (n)
<b>How well informed do you think MAR patients regarding own dental health?</b>	Very well informed	5.0 (6)
	Well informed	45.5 (55)
	Poorly informed	43.8 (53)
	Very poorly informed	5.8 (7)
<b>How well informed do you think MAR patients about dental services and their rights?</b>	Very well informed	19.2 (23)
	Well informed	59.2 (71)
	Poorly informed	19.2 (23)
	Very poorly informed	2.5 (3)

### 3.3. Dental health care workers' experience treating MAR patients

Dentists and dental hygienists were asked about their experience treating MAR patients. As shown in Table 3, the results differed between the two groups of dental health care workers. When dental health care workers were asked how often they came in contact with MAR patients, 23.7 % of the dental hygienists and 76.1 % of the dentists reported that they treat MAR patients on a monthly basis. Regarding the results of treatment of MAR patients compared to other patients, 48.6 % of the hygienists and 36.7 % of the dentists felt that the treatment results were the same, whereas 42.9 % of the hygienists and 62.4 % of the dentists felt that the treatment results were worse among MAR patients compared to other patients. Approximately, half of the dental care workers agreed (55.1 %) that drugs have negative oral health consequences whereas 44.9 % disagreed with an almost equal distribution of answers between dentists and dental hygienists (Table 3).

**Table 3.** Dental health care workers' experience with treatment of MAR patients in the public dental health care services according to type of employment

	Dental hygienist % (n)	Dentist % (n)	Total sample % (n)
<b>Experience with treatment of MAR patients:</b>			
Often (at least every month)	23.7 (9)	76.1 (86)***	62.9 (95)
Seldom (at least on a yearly basis)	76.3 (29)	23.9 (27)	37.1 (56)
<b>Completion of treatment</b>			
Very often /Often	60.0 (21)	70.6 (77)	68.1 (98)
Sometimes /Seldom	40.0 (14)	29.4 (32)	31.9 (46)
<b>Result of treatment compared to other patients</b>			
Better	8.6 (3)	0.9 (1)	2.8 (4)
The same	48.6 (17)	36.7 (40)	39.6 (57)
Worse	42.9 (15)	62.4 (68)	57.6 (83)
<b>Drugs have negative consequences for oral health</b>			
Agree	56.8 (21)	54.5 (60)	55.1 (81)
Disagree	43.2 (16)	45.5 (50)	44.9 (49)
<b>Amount of information on drugs and oral health</b>			
Little	47.2 (17)	30.0 (33)	34.2 (50)
Moderate/Much	52.8 (19)	70.0 (77)	65.8 (96)

Chi-square. \*\*\*p<0.001

### 3.4. Dental health care workers' opinion on frequency and treatment needs of MAR patients

As shown in Table 4 and 5, dental care workers were asked how often they felt various dental treatments were provided to the MAR patients and about the treatment needs among this group of patients. A total of 12.2 % and 39.0 % reported that they very often and often provided MAR patients with preventive procedures. On the other hand, almost half of the dental care workers (44.6 %) acknowledged that preventive treatment is very often needed (Table 5). A total of 56.1 % reported that acute treatment was given very often and above 90

% agreed that the needs of this treatment were either very often or often. Out of the three main types of dental treatments, filling, prosthodontic and implant therapy, fillings were the most common type of treatment provided while implants were the most seldom treatment provided among the MAR patients (Table 4). A total of 56.9 % of the dental care workers had answered they often perform filling therapy, 59.3 % said they seldom carry out prosthodontic restorations and 66.7 % felt that implants were very seldom provided. According to the employees in the public dental health care service, 95 % agree that filling therapy is very often/often a necessity and 53.1 % believed crowns and bridges are often essential while 33.8 % considered this to be a seldom treatment of choice. A majority, or 41.5 % and 30.0 % considered implant therapy to be a seldom and very seldom need of treatment in MAR patients. Half of the workers expressed that periodontal treatment was seldom however 30.1 % did say they often treated MAR patients with periodontal disease (Table 4,5).

**Table 4.** Dental care workers opinion about how frequently various treatments are provided to MAR patients

	Very often % (n)	Often % (n)	Seldom % (n)	Very seldom % (n)
Acute	56.1 (69)	36.6 (45)	6.5 (8)	0.8 (1)
Preventive treatment	12.2 (15)	39.0 (48)	33.3 (41)	15.4 (19)
Dental filling therapy	38.2 (47)	56.9 (70)	4.1 (5)	0.8 (1)
Crowns and bridges	1.6 (2)	22.0 (27)	59.3 (73)	17.1 (21)
Implants	-	3.3 (4)	30.1 (37)	66.7 (82)
Periodontal treatment	2.4 (3)	30.1 (37)	50.4 (62)	17.1 (21)
Treatment with general anesthesia	0.8 (1)	17.1 (21)	52.0 (64)	30.1 (37)

**Table 5.** Dental care workers' opinion about the treatment needs of MAR patients

	Very often % (n)	Often % (n)	Seldom % (n)	Very seldom % (n)
Acute	47.7 (62)	47.7 (62)	3.8 (5)	0.8 (1)
Preventive treatment	44.6 (58)	32.3 (42)	13.8 (18)	9.2 (12)
Dental filling therapy	47.7 (62)	47.7 (62)	3.8 (5)	0.8 (1)
Crowns and bridges	8.5 (11)	53.1 (69)	33.8 (44)	4.6 (6)
Implants	6.2 (8)	22.3 (29)	41.5 (54)	30.0 (39)
Periodontal treatment	16.9 (22)	46.9 (61)	29.2 (38)	6.9 (9)
Treatment with general anesthesia	7.7 (10)	34.6 (45)	38.5 (50)	19.2 (25)

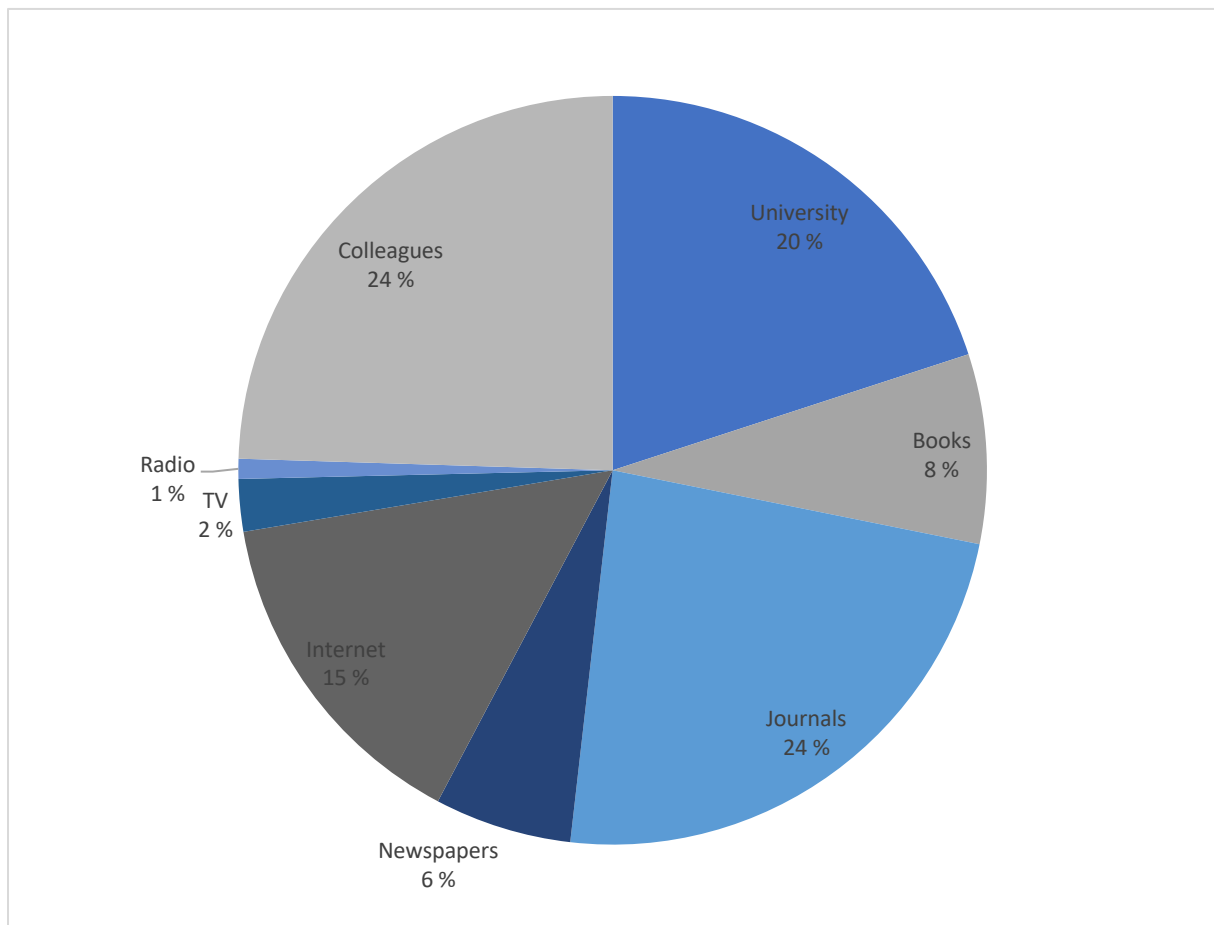
### 3.5. Dental health care workers' attitude towards treatment of MAR patients

As shown in Table 6, a majority (77.2 %) of the participating dental health care workers agreed that treating MAR patients is suitable. On the other hand, between 93.5 % (demanding, missing appointments) and 37.4 % (communication problems) agreed that negative consequences accruing from dental treatment in MAR.

**Table 6.** Attitudes towards treatment of MAR patients among dental health care workers in the PDHS. % (n) of those who agreed, neither agreed nor disagreed and disagreed with the statements (n=163)

To treat MAR patients is:	Agree (Totally/Quite/little agree)	Neither agree nor disagree	Disagree (Totally/Quite/little disagree)
Suitable	77.2 (95)	14.6 (18)	8.1 (10)
Difficult	57.7 (71)	22.0 (27)	20.3 (25)
Demanding	93.5 (115)	1.6 (2)	4.9 (6)
Challenging	87.8 (108)	4.9 (6)	7.3 (9)
Time-consuming, that is necessary to use in other categories of patients	56.1 (69)	18.7 (23)	25.2 (31)
Difficult due to missing appointments	93.5 (115)	2.4 (3)	4.1 (5)
Difficult due to communicating problems with MAR patients	37.4 (46)	21.1 (26)	41.5 (51)

### 3.6. Source of information



**Figure 1.** Sources of information of various drugs. Percentage of dental hygienists and dentists who confirmed the source of information

To get a better understanding of where dentists and dental hygienists are getting information about drug use and oral health, they were asked about the sources of information for the various drugs. As shown in Fig 1, the four main sources were journals (24 %), university (20 %), colleagues (24%) and internet (15 %). Only a minority of 8 % confirmed books and 6 % confirmed newspaper as a source of information. A total of 60 % of the dentists were keeping themselves updated through journals and colleagues while 50 % claimed they had gotten the



necessary information from the university. As for the dental hygienists 60 % confirmed colleagues, 50 % said journals and about 40 % said internet and university (separate results for dentist and dental hygienist not available in figure or table).

## 4.0 Discussion

Among the 163 dental hygienist and dentists who had responded to the survey, we were able to analyze the dental health care workers' experience with and attitudes towards treatment of MAR patients. This was a cross-sectional study conducted in the public dental health care services in Hordaland and Rogaland counties. A census of 344 dentists and dental hygienists (176 in Hordaland and 168 in Rogaland counties) received an electronic questionnaire containing 28 questions, 54.3 % (163/344) had responded to the survey.

### 4.1. Sample profile

A voluntary web-based questionnaire was conducted with a response rate of 54.3 %. Gender distribution in this study was uneven (83.4 % women), but this reflects the gender dominance of women employed in the PDHS in Norway. According to Legelisten.no, there are 1181 registered dentists working in the PDHS in Norway, 779 are registered women and 265 are men. In 2014, The Norwegian Dental Association published an article about the gender distribution among their members where they expressed that they had a total of 2524 (52.8 %) female members and 2257 (47.2 %) men in both the private and public sector (43). In the PDHS there was a majority of women, 70.1 % (1052) and only 29.9 % (449) men employed. It was a lot more even in the private sector with 44.9 % (1472) women and 55.1 % (1808) men (43). The sample of PDHS dental health care workers utilized in this survey is likely to be

representative with respect to the gender distribution of dentists employed in the PDHS in Norway and thus exhibits external validity. External validity regards to what extent the present findings of the survey can be generalized beyond the survey sample to a wider population (44). Nevertheless, lack of information about the non-respondents is a limitation of the present survey.

Internal validity regards the extent to which a true measure is obtained for the subjects under study (44). Threats to the internal validity of the self-reported measures utilized in this study are recall bias and social desirability bias. It is less likely that recall bias affected the self-reported information from dental health care workers to any extent. Previous studies have shown that self-reports prove to be quite accurate (45). Social desirability, which indicates the degree to which respondents make a favourable image of themselves might have influenced the answers to some questions as the survey was carried out in the setting of the public dental health care clinics.

Some 83.4 % of the dental care workers replied that they had knowledge of the 2011 guidelines. However, 16.6 % answered that they are not familiar with the guidelines which is rather notable considering the importance of offering MAR patients their necessary dental treatment (8, 18, 23). The reason for unawareness among dental health care workers might be lack of work experience (table 2). A total of 23 % of all the dental care workers had replied that they had less than 5 years of experience. Another reason might be that dental hygienists don't interact with MAR patients as often as dentists (table 4). Only 23.7 % of the dental hygienists have experience treating MAR patients on a monthly basis whereas 76.1 % of the dentists had said that they often treat MAR patients. A total of 24.5 % of all the respondents

were dental hygienists, this might be one of the main reasons as to why 16.6 % of the dental care workers don't have the knowledge about the 2011 guidelines (table2).

#### 4.2. Dental health care workers opinion on MAR patient's oral health knowledge

Dental care workers (59.2 %) felt that MAR patients were well informed about the dental services and their rights, yet 43.8 % of the dental care workers also expressed that MAR patients are poorly informed regarding their own dental health (Table 3). Looking into possible explanations, a large percentage (93.5 %) of the dentists and dental hygienists conveyed that it is difficult to treat MAR patients because those patients repeatedly miss appointments (Table 6). This finding is consistent with findings of previous ones published in 2013 (1). Although MAR patients understand and have the knowledge of the dental services and their rights, as long as they do not show up to dental appointments then the dental care workers won't be able to educate them about their oral health. A total of 21.7 % of the dental health care workers felt that MAR patients were either poorly informed or very poorly informed about the dental services and their rights. This might be due to the lack of outreach programs or even a consequence of limited social knowledge.

#### 4.3. Dental health care workers' experience treating MAR patients

Above half of the dental health care workers reported that the treatment results are worse for MAR compared to the other patients. Living standards and the quality of life might be one of the many factors to explain the findings above (46). Another explanation might once again be missing appointments. According to the present findings, 92.7 % of the dental care workers felt that they often gave drug abusers acute treatment (Table 5). Once the patients get pain

relief, if they start missing appointments then the dental care workers would not get the opportunity to finish the treatment started. This might be one of the reasons why they believe the results are worse compared to other patients.

#### 4.4. Dental health care workers' opinion on frequency and treatment needs of MAR patients

When dentists and the dental hygienists were asked about the most frequent types of dental treatments provided to MAR patients 92.7 % answered that acute treatments were given either often or very often. There are several reasons why MAR patients generally wait until they get discomfort or pain before seeking dental care such as economical barriers, odontophobia, and lack of knowledge or even general carelessness.

Out of the three main types of dental treatments, filling, prosthodontic and implant therapy, fillings were the most common type of treatment while implants were the most seldom type of treatment offered to MAR patients. According to the employees in the public dental health care service, 95 % agreed that filling therapy is very often/ often a necessity and 53 % believe crowns and bridges are often essential, while 33 % consider it to be seldom a treatment of choice. This is an expected finding; fillings therapy is an economically available treatment option for most patients as well as less time consuming. Prosthodontic treatments require several visits, patients as well as good hygiene. Treatments such as implants require a high level of cooperation and adequate plaque control, which is often difficult to obtain with drug abusers.

Half of the workers expressed that periodontal treatment was seldom however 30% did say they often treated MAR patients with periodontal disease. To get a positive result through periodontal treatment there are a few key factors such as patient cooperation, improvement

in hygiene, elimination of risk factors etc. This requires a change in lifestyle, which is often a difficulty for the drug abusers.

#### 4.5. Dental health care workers' attitude towards treatment of MAR patients

Educating the patients about oral health through demonstration and motivation is a crucial part of any dental treatment, which means that communication is very important. A study carried out in Norway analyzed the oral health information and instructions given by the dental care workers to the patient (47). According to the findings of that study, 90 % of the patients were satisfied with the interaction with the dental care workers, 98 % were happy with the instructions they were given and 84% acknowledged that the information was imperative to the alteration in their attitude towards better oral health (47). This research implies that communication between the patient and dental care workers is vital for the result. As shown on table 6, 37.4 % of the dentists and dental hygienists felt that it was challenging to treat the MAR patients due to communication issues. This indicates that there is a communication gap between the health care workers and the patients, which could be another reason that 62.4 % of the dentists believing the treatment results are worse compared to other patients.

Out of the dental care workers, 87.8% find it challenging treating MAR patients and 93.5 % of them find it demanding. As discussed, earlier communication between the dental care worker and the patient is an essential part of the treatment and without a decent conversation there will be limitations as to how much a dentist/ dental hygienist can do. However, a research

paper published in Canada in 2017 revealed that healthcare workers have an absence of understanding when it comes to the living conditions of the drug abusers (48). This results in stigmatization of the patients and leads to a negative impact on the assessment of the dental treatment (48). The reason for 93.5 % of the dental care workers finding it demanding to treat MAR patients might not only be because for the patients themselves, there is a possibility that this is due to the lack of understanding and prejudgments towards this marginalized population.

## 5.0 Conclusions

Through this electronic voluntary web-based questionnaire conducted in both Hordaland and Rogaland we were able to analyse the dental health care workers' experience and their attitude towards treatment of patients in medically assisted rehabilitation (MAR). The majority of the public dental care workers (93.5%) admitted that it was demanding to treat MAR patients. There were several reasons expressed, 93.5% said it was due to missing appointments, 37.4% said there were communication problems, and 56.1% even mentioned it was time consuming and could have been used on other patient categories. MAR patients are a group of individuals making an effort to change their lives, this should be taken seriously and as a health care worker in the public health care system one should have the knowledge and ability to deal with such patients. They should be given the necessary training before being exposed to MAR patients.

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## APPENDIX 1

### Spørreskjema UiB- LAR i tannhelsetjenesten

#### Q1 Er du...

- Mann
- Kvinne

#### Q2 Hvor gammel er du?

\_\_\_\_\_

#### Q3 Hva er din nåværende stilling i den offentlige tannhelsetjenesten?

- Tannpleier
- Tannlege
- Annet

#### Q4 Hvor mange år har du jobbet som tannlege/tannpleier?

- Mindre enn 1 år
- 1-5 år
- 6-20 år
- Mer enn 20 år

#### Q5 Hvor er du utdannet tannlege/tannpleier?

- I Norge
- I øvrige Norden
- I EU/EØS land
- Utenfor EU/EØS

#### Q6 Kjenner du til Helsedirektoratets veileder fra 2011: «God klinisk praksis i tannhelsetjenesten- en veileder av faglig skjønn ved nødvendig tannbehandling»?

- Ja
- Nei
- Vet ikke

**Vi vil nå stille deg noen spørsmål angående dine kunnskaper om rusmidler og hvilke konsekvenser bruk av rusmidler kan ha for helse- og tannhelse. Velg det svaralternativ som passer deg best.**

**Q7 I din karriere som tannlege/tannpleier, hvor ofte har du hatt pasienter under legemiddelassistert rehabilitering, LAR, til undersøkelse /behandling?**

- Ukentlig eller oftere
- månedlig, men ikke ukentlig
- årlig men ikke månedlig
- Sjeldnere enn årlig
- Aldri

**Q8 Hvor enig eller uenig er du i følgende påstand?**

**«Bruk av legeforskrevet kodein (Paralgin forte), morfin (for eksempel Dolocontin) eller metadon kan ha en negativ påvirkning på tannhelsen»**

- helt enig
- Enig
- Hverken enig eller uenig
- Uenig
- Helt uenig

**Q9 Hvor mye informasjon har du fått om bruk av rusmidler og tannhelse?**

- Ikke noe
- Lite
- Moderat
- Mye
- Veldig mye

**Q10 Hvor har du fått informasjon om bruk av ulike rusmidler?**

*Flere svar mulig.*

Universitetet

Bøker

Tidsskrift

Aviser

På internet

TV

Radio

Kollegaer

Ingen av disse stedene

**Q11 Hvor enig eller uenig i følgende påstand?**

**«Det er vanskelig å forstå informasjon om bruk av rusmidler og tannhelse»**

- Helt enig
- Enig
- Hverken enig eller uenig
- Uenig
- Helt uenig

**Q12 Hvor ofte trenger du hjelp til å forstå informasjon om bruk av rusmidler og tannhelse?**

- Svært ofte
- Ofte
- Noen ganger
- Sjelden
- Svært sjelden

**Q13 Hvor ofte opplever du at LAR pasienter ikke fullfører den planlagte tannbehandlingen?**

- Svært ofte
- Ofte
- Noen ganger
- Sjelden
- Svært sjelden

**Q14 Etter din mening hva er årsakene til at LAR pasienter ikke fullfører den planlagte tannbehandling?**

*Flere svar mulig.*

- Pasienten møtte ikke til timen
- Pasienten byttet tannlege
- Pasienten ønsket ikke å fullfør
- Pasienten mistet rettigheter til behandling
- Pasienten flyttet
- Annet \_\_\_\_\_
- Vet ikke

**Q15 Hvordan opplever du resultatene av tannbehandling utført på LAR pasienter i forhold til andre pasienter som får tilsvarende behandling?**

- resultatene er bedre
- resultatene er tilsvarende
- Resultatene er dårligere

**16. Hvilke grupper av rusmiddelbrukere har rett til vederlagsfri tannbehandling?**

Flere svar mulig.

- Alle med et rusmiddelproblem
- Rusmiddelbrukere i institusjon
- Rusmiddelbrukere i institusjon etter 3 måneders opphold
- Personer som mottar tjenester etter helse og omsorgstjenesteloven
- Personer under legemiddelassistert rehabilitering
- Vet ikke

**Q17 Hvor ofte tenker du LAR pasienter selv har behov for følgende typer behandling?**

	<u>Svært ofte</u>	<u>Ofte</u>	<u>Sjelden</u>	<u>Svært sjelden</u>
<u>Akutt behandling</u>				
<u>Forebyggende behandling</u>				
<u>Fyllingsterapi</u>				
<u>Kroner eller broer</u>				
<u>Implantater</u>				
<u>Periodontittbehandling</u>				
<u>Behandling med lystgass</u>				
<u>Behandling med sedasjon</u>				
<u>Behandling i narkose</u>				
<u>Annet</u>				

**Q18 Hvor ofte mener du de ulike typer behandling blir gitt til pasienter i gruppen LAR?**

	<u>Svært ofte</u>	<u>Ofte</u>	<u>Sjelden</u>	<u>Svært sjelden</u>
<u>Akutt behandling</u>				
<u>Forebyggende behandling</u>				
<u>Fyllingsterapi</u>				
<u>Kroner eller broer</u>				
<u>Implantater</u>				
<u>Periodontittbehandling</u>				
<u>Behandling med lystgass</u>				
<u>Behandling med sedasjon</u>				
<u>Behandling i narkose</u>				

Annet				
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**Nå kommer noen påstander om dine holdninger til behandling av LAR pasienter i Den offentlige tannhelsetjenesten. Vi ber deg krysse av kun ett svaralternativ for hver påstand.**

**Q19 Å behandle LAR pasienter gratis i den offentlige tannhelsetjenesten er hensiktsmessig**

- Helt enig
- Ganske enig
- Litt enig
- verken enig eller uenig
- Litt uenig
- Ganske uenig
- Svært uenig

**Q20 Å behandle LAR pasienter i regi av den offentlige tannhelsetjenesten er vanskelig**

- Helt enig
- Ganske enig
- Litt enig
- verken enig eller uenig
- Litt uenig
- Ganske uenig
- Svært uenig

**Q21 Å behandle LAR pasienter i regi av Den offentlige tannhelsetjenesten er svært ressurskrevende**

- Helt enig
- Ganske enig
- Litt enig
- Hverken enig eller uenig
- Litt uenig
- Ganske uenig
- Svært uenig

**Q22 Å behandle LAR pasienter s i regi av Den offentlige tannhelsetjenesten tar tid som er nødvendig å bruke på andre kategorier av pasienter**

- Helt enig
- Ganske enig
- Litt enig

- Hverken enig eller uenig
- Litt uenig
- Ganske uenig
- Svært uenig

**Q23 Å gjennomføre planlagt behandling for LAR pasienter i den offentlige tannhelsetjenesten er svært utfordrende**

- Helt enig
- Ganske enig
- Litt enig
- Hverken enig eller uenig
- Litt uenig
- Ganske uenig
- Svært uenig

**Q24 Å gjennomføre planlagt behandling for LAR pasienter i den offentlige tannhelsetjenesten er vanskelig på grunn av hyppig uteblivelse**

- Helt enig
- Ganske enig
- Litt enig
- Hverken enig eller uenig
- Litt uenig
- Ganske uenig
- Svært uenig

**Q25 Å gjennomføre behandling av LAR pasienter i den offentlige tannhelsetjenesten er vanskelig på grunn av vansker med å kommunisere med pasienten**

- Helt enig
- Ganske enig
- Litt enig
- Hverken enig eller uenig
- Litt uenig
- Ganske uenig
- Svært uenig

**Q26 Hvor lett eller vanskelig er det å gjennomføre forebyggende aktiviteter med LAR pasienter som en del av behandlingen i den offentlige tannhelsetjenesten**

- Helt enig
- Ganske enig
- Litt enig
- Hverken enig eller uenig
- Litt uenig
- Ganske uenig

Svært uenig

**Q27 Hvor godt informert mener du LAR pasienter er angende sin egen tannhelse?**

Svært godt

Godt

Dårlig

Svært dårlig

**Q28 Hvor godt informert mener du LAR pasienter er om tannhelsetilbudet og sine rettigheter**

Svært godt

Godt

Dårlig

Svært dårlig

**Q29 Har du noen kommentarer til temaet eller til undersøkelsen?**



## APPENDIX 2



Anne Astrøm  
Arstadveien 17  
5009 BERGEN

Vår dato: 16.03.2018

Vår ref: 59417 / 2 / HJP

Deres dato:

Deres ref:

### Vurdering fra NSD Personvernombudet for forskning § 31

Personvernombudet for forskning viser til meldeskjema mottatt 23.02.2018 for prosjektet:

<i>59417</i>	<i>Tannhelse tjenester i LAR- en survey undersøkelse blant tannhelsepersonell</i>
<i>Behandlingsansvarlig</i>	<i>Universitetet i Bergen, ved institusjonens øverste leder</i>
<i>Daglig ansvarlig</i>	<i>Anne Astrøm</i>

#### Vurdering

Etter gjennomgang av opplysningene i meldeskjemaet og øvrig dokumentasjon finner vi at prosjektet er meldepliktig og at personopplysningene som blir samlet inn i dette prosjektet er regulert av personopplysningsloven § 31. På den neste siden er vår vurdering av prosjektopplegget slik det er meldt til oss. Du kan nå gå i gang med å behandle personopplysninger.

#### Vilkår for vår anbefaling

Vår anbefaling forutsetter at du gjennomfører prosjektet i tråd med:

- opplysningene gitt i meldeskjemaet og øvrig dokumentasjon
- vår prosjektvurdering, se side 2
- eventuell korrespondanse med oss

Vi forutsetter at du ikke innhenter sensitive personopplysninger.

#### Meld fra hvis du gjør vesentlige endringer i prosjektet

Dersom prosjektet endrer seg, kan det være nødvendig å sende inn endringsmelding. På våre nettsider finner du svar på hvilke [endringer](#) du må melde, samt endringskjema.

#### Opplysninger om prosjektet blir lagt ut på våre nettsider og i Meldingsarkivet

Vi har lagt ut opplysninger om prosjektet på nettsidene våre. Alle våre institusjoner har også tilgang til egne prosjekter i [Meldingsarkivet](#).

#### Vi tar kontakt om status for behandling av personopplysninger ved prosjektslutt

Ved prosjektslutt 19.04.2021 vil vi ta kontakt for å avklare status for behandlingen av personopplysninger.

Dokumentet er elektronisk produsert og godkjent ved NSD's rutiner for elektronisk godkjenning.

Se våre nettsider eller ta kontakt dersom du har spørsmål. Vi ønsker lykke til med prosjektet!

Marianne Høgetveit Myhren

Hanne Johansen-Pekovic

Kontaktperson: Hanne Johansen-Pekovic tlf: 55 58 31 18 / [hanne.johansen-pekovic@rsd.no](mailto:hanne.johansen-pekovic@rsd.no)

Vedlegg: Prosjektvurdering



#### SAMARBEIDSPROSJEKT

Personvernombudet forstår det slik at prosjektet er knyttet til prosjektet Tannklar (Tannhelse i LAR). Prosjektet er et samarbeid mellom Universitetet i Bergen og Tannhelsetjenestens Kompetansesenter Vest/Hordaland, med førstnevnte som behandlingsansvarlig institusjon. Per telefon 15.03.18 ble det avklart at det er kun daglig ansvarlig (Anne Åstrøm) ved UiB som skal ha tilgang til personopplysninger.

#### INFORMASJON OG SAMTYKKE

Du har opplyst i meldeskjema at utvalget vil motta skriftlig og muntlig informasjon om prosjektet, og samtykke skriftlig til å delta. Vår vurdering er at informasjonsskrivet til utvalget er godt utformet. Dersom du ønsker å anonymisere, og ikke slette, datamaterialet ved prosjektslutt må dette redigeres i informasjonsskrivets tredje avsnitt.

#### INFORMASJONSSIKKERHET

Personvernombudet forutsetter at du behandler alle data i tråd med Universitetet i Bergen sine retningslinjer for databehandling og informasjonssikkerhet. Vi legger til grunn at bruk av skylagring er i samsvar med institusjonens retningslinjer.

#### DATABEHANDLER

Du har opplyst i meldeskjema at du skal ta i bruk online surveytjenesten NSD Websurvey som databehandler i prosjektet. Dersom det ikke allerede eksisterer en databehandleravtale mellom Universitetet i Bergen og databehandleren, skal det inngås en skriftlig avtale om hvordan personopplysninger skal behandles, jf. personopplysningsloven § 15. For råd om hva databehandleravtalen bør inneholde, se Datatilsynets veileder: <https://www.datatilsynet.no/regelverk-og-skjema/veiledere/databehandleravtale/>

#### PROSJEKTSLUTT OG ANONYMISERING

Prosjektslutt er oppgitt til 19.04.2021. Det fremgår av meldeskjema/informasjonsskriv at du vil anonymisere datamaterialet ved prosjektslutt.

Anonymisering innebærer vanligvis å:

- slette direkte identifiserbare opplysninger som navn, fødselsnummer, koblingsnøkkel
- slette eller omskrive/gruppere indirekte identifiserbare opplysninger som bosted/arbeidssted, alder, kjønn

For en utdypende beskrivelse av anonymisering av personopplysninger, se Datatilsynets veileder:

<https://www.datatilsynet.no/globalassets/global/regelverk-skjema/veiledere/anonymisering-veileder-041115.pdf>

Personvernombudet gjør oppmerksom på at også databehandler må slette personopplysninger tilknyttet prosjektet i sine systemer. Det inkluderer eksempelvis transkripsjoner, filer, logger og koblingsnøkkel mellom IP-/epostadresser og besvarelsene.