



Monitoring oral health and dental attendance in an outpatient psychiatric population

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Impaired mental health has been associated with an increased need for dental care. Population surveys have indicated that people with enduring mental health problems make less frequent planned visits to the dentist and report a greater number of missing teeth than the general population. The study aims to examine oral health status, attendance to dental care, and medication in an outpatient psychiatric sample. A descriptive study combining a structured interview with a visual oral examination carried out in 113 outpatients under psychiatric care. Dental health was described in terms of sound, missing and/or filled teeth, and showed a relation between these categories and types of psychiatric diagnosis, age and numbers of antidepressant and neuroleptic drugs. Oral hygiene was found to be more neglected among men and in patients with the diagnosis of schizophrenia. The need of dental treatment was widespread, although regular dental visits were commonly reported. In order to maintain good oral health, regular dental check-ups should be encouraged for patients under psychiatric care. Further studies are required to reveal contributory causes for/to decreased oral health. The difficulty such individuals have in maintaining additional self-efficacy raises questions about the necessity for oral health interventions in outpatient psychiatric services.

Keywords: collaborative research, dental attendance, oral health, outpatient, psychiatric

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Background

Oral health has improved in parts of the Swedish population during the past 30 years (Hugoson *et al.* 2000). Investigations of living conditions have indicated that people with enduring mental health problems requiring psychiatric services diverge from that pattern (Official Statistics of Sweden 2003). They report fewer regular visits to the dentist and have been found to have a greater number of missing teeth (MT), than the general population. Impaired mental health

has also been associated with an increased need for dental care (Barnes *et al.* 1988). Dental health research projects studying patient groups with mental health problems have mostly been carried out on inpatient care (Vigild *et al.* 1993, Ramon *et al.* 2003), particularly among those diagnosed with schizophrenia. Such individuals have more MT, schedule fewer visits to the dentist and have greater neglected oral hygiene than the average person (Hede & Petersen 1992, Dickerson *et al.* 2003). Oral health research about those attending outpatient psychiatric services is

almost non-existent, and research concerning the severely mentally ill in community-based settings is rare (Hede & Petersen 1992, McCreadie *et al.* 2004).

Visits to a dentist are found to be inversely related to the number of visits to a medical practitioner in populations with severe mental illness (Dickerson *et al.* 2003), although very little is known about the regular dental appointments among those under outpatient psychiatric care. Among the general population, reported reasons for not going to the dentist are dental anxiety (Kaakko *et al.* 2000) and limited financial resources (Official Statistics of Sweden 2003).

Increasing community mental health problems have multiplied the number of people attending outpatient psychiatric services (Stefansson 2006). At the same time, the pharmacological treatment of mental illness has also grown over the past three decades (Olfson *et al.* 2006), and in Sweden, the number of pharmaceuticals sold for this purpose has increased fivefold since the early 1990s (Stefansson 2006). Persons attending psychiatric care are often placed on medication almost indefinitely. Moreover, diminished salivary flow has frequently been associated with certain medicines, particularly sedatives (Bergdahl & Bergdahl 2000). Even undergoing a brief period of changed circumstances, feelings of mouth dryness, disinterest in oral hygiene or an altered diet could be detrimental to oral

health (Peeters *et al.* 1998). Thus monitoring the oral health of psychiatric patients may be of interest.

Aims of the study

The aims of the study were to describe oral health among patients attending outpatient psychiatric services in relation to attendance to oral health care and medication.

Materials and methods

Sample

Our study sample included 113 patients who attended an open-care psychiatric practice at least once a year. A detailed description of the sample is presented in Table 1. It outlines living situations, demographic data and main psychiatric diagnosis according to the Diagnostic and Statistical Manual of Mental Disorders-IV system (American Psychiatric Association 1994). The patients in the study were either diagnosed with schizophrenia, mood disorders or anxiety disorders. A fourth group included patients having a variety of diagnoses, such as eating disorders, personality disorders and other psychiatric disorders.

Table 1
Demographic data

	Men (<i>n</i> = 46) ¹	Women (<i>n</i> = 67) ¹	Total (<i>n</i> = 113) ²
Mean age	45 (SD 11)	41 (SD 12)	43 (SD 12)
Range	21–63	23–64	21–64
Diagnosis groups according to DSM-IV			
Schizophrenia	20 (43%)	17 (25%)	37 (33%)
Mood disorders	11 (24%)	23 (34%)	34 (30%)
Anxiety disorders	9 (20%)	15 (22%)	24 (21%)
Other psychiatric diagnosis	6 (13%)	12 (18%)	18 (16%)
Sum	46 (100%)	67 (100%)	113 (100%)
Marital status			
Married/living together	11 (24%)	24 (36%)	35 (31%)
Living alone	31 (67%)	40 (60%)	71 (63%)
Living with parent/grown-up child ³	3 (7%)	2* (3%)	5 (4%)
Other individuals	1 (2%)	1 (1%)	2 (2%)
Sum	46 (100%)	67 (100%)	113 (100%)
Occupation			
Working/sick leave	18 (39%)	29 (43%)	47 (42%)
Pension	28 (61%)	38 (57%)	66 (58%)
Sum	46 (100%)	67 (100%)	113 (100%)
Living situation			
Apartment	34 (74%)	48 (72%)	82 (73%)
Own house	7 (15%)	13 (19%)	20 (18%)
Community residence	5 (11%)	4 (6%)	9 (7%)
Other forms		2 (3%)	2 (2%)
Sum	46 (100%)	67 (100%)	113 (100%)

¹Percentage within gender in brackets.

²Percentage within total group in brackets.

³Living with a grown-up child.

DSM-IV, Diagnostic and Statistical Manual of Mental Disorders; SD, standard deviation.

Selection procedure

The patients chosen were between 20 and 65 years of age and had to be able to understand and speak Swedish. Patients already in treatment with child and adolescent psychiatric services were excluded, as were elderly patients. Because transient problems with mental disturbance may also be related to problems with oral health issues, because patients are on medication or have dental anxiety, no further exclusions were made.

Six psychiatric services in southern Sweden took part in the study. Four provided care within their geographical area, and two specialized in patients with psychotic disorders. A two-step procedure was employed: first, the psychiatric service was asked to introduce the project and distribute oral as well as written information about the study to patients who met the inclusion criteria. This resulted in 144 patients giving oral permission to be

contacted by researchers with detailed information about the project (see Fig. 1).

The second step consisted of a telephone call from one of the researchers to provide further information about the study, followed by an invitation to participate. If consent was given, time and place was set to initiate the study protocol.

Prior to the investigation, further oral information was gathered and permission to obtain information from the patient's chart was explicitly asked for, along with written consent. Data were collected from June 2005 to June 2007. Of the patients who gave oral consent to be contacted ($n = 144$), 31 patients did not ultimately participate in the study (reasons are given in Fig. 1).

For those who did not have their own dentist, an opportunity to receive dental treatment was given at the Center for Oral Health Sciences in Malmö, Sweden. In cases where a need for emergency treatment was determined, the patient's dentist was contacted with patient's consent.

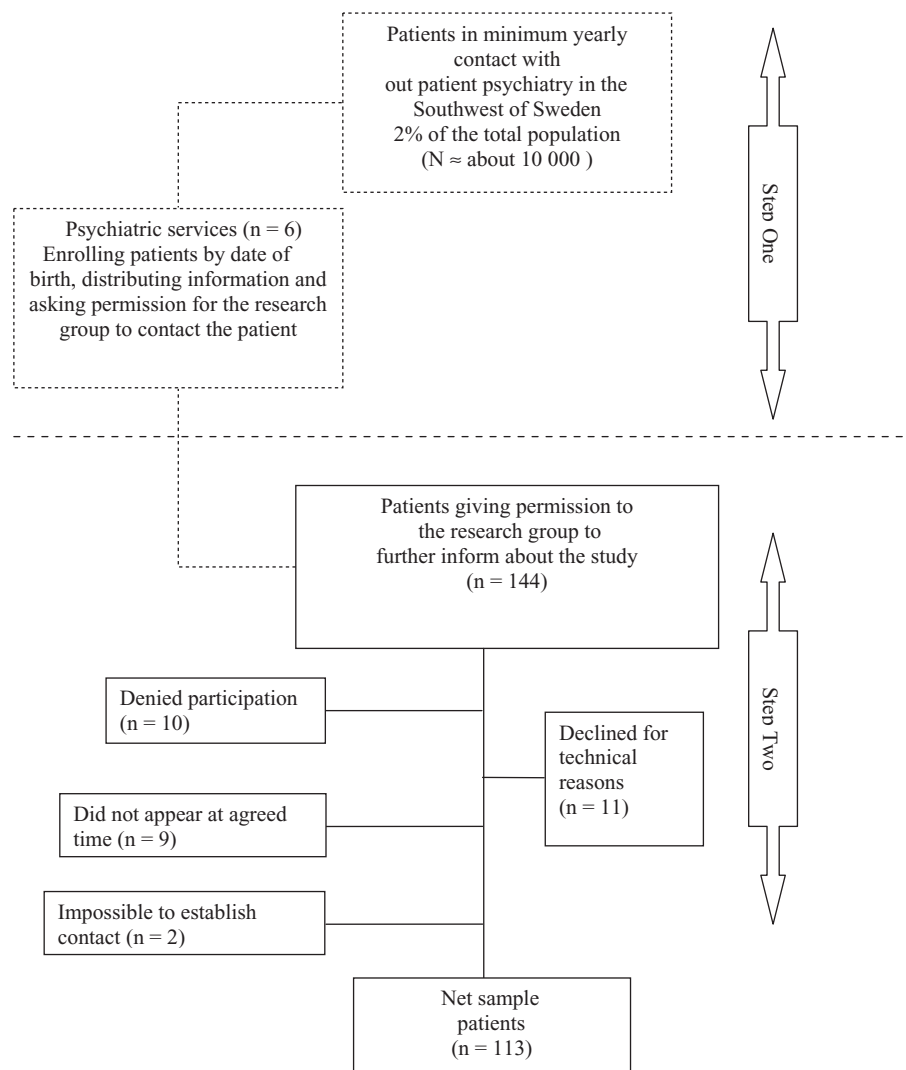


Figure 1
Schematic description of the enrolling of patients, participation in the study and reasons for external dropouts

Ethical considerations

Ethical approval for the study was obtained from the Regional Ethical Review Board at Lund University (LU 15/2005). No personal patient information was exchanged between the researchers and the caregivers without the patient's opinion. The examination of changes to the oral mucosa was undertaken by a dental hygienist under the direction of one of the authors (BA), who is a dentist.

Design

Data collection consisted of a structured interview based on validated instruments and a visual oral examination. Intake questions were read to the participants. Answers were rated independently by two interviewers, each of whom conducted different parts of the interview.

The interview included two instruments: the dental anxiety scale (DAS) and the Scale for Humanistic Attitude (HUM-8). The DAS measures dental fear and has been approved having good validity and reliability (Corah *et al.* 1978). It consists of four items scored in five steps (from 'no anxiety' to 'extreme anxiety') that describe imagined scenarios including dentist appointment and treatment situations. The anxiety index ranges from 4 to 20, with higher values indicating greater dental fear.

Patient satisfaction and compliance with a dentist's instructions are deemed to be important to preserve oral health. These factors are assessed by the HUM-8 (Hauck *et al.* 1990). This instrument was only used in the assessment of patients who stated that they made regular appointments for dental care. It contains eight imagined scenarios probing the dentist's interpersonal manners; these are rated on a five-point scale from 'totally disagree' to 'totally agree'. A higher value indicates higher patient satisfaction with the dentist's manners. This study uses a modified version of HUM-8, adapted in translation to a dental context by the Department of Oral Public Health at Malmö University, which previously had used it in a dental survey (Johansson *et al.* 2007).

Additional questions concerning a patient's experience with dry mouth that was rated by means of three questions was validated earlier in a study (Bergdahl & Bergdahl 2000). Five additional questions used in an earlier Swedish population study (Johansson *et al.* 2007) about use of dental care services were also included, along with questions about current medications, tobacco use, alcohol and drugs. Information concerning the circumstances of a patient's daily life was also solicited at the interview.

Oral examination

An oral examination was performed according to a clinical protocol based on two validated instruments developed and used by Andersson and Isaksson (Andersson *et al.* 2002, Isaksson *et al.* 2003). The same dental hygienist performed all oral examinations. After completing the examination, an estimation of treatment needs was made. The examinations took place in an ordinary chair using a flashlight with light-emitting diode light and a dental mirror. No X-rays were taken. A detailed, schematic description of the assessments made is given in Table 2. The index 'missing and filled teeth' (MFT) is taken as the sum of MT and filled teeth (FT). Teeth with no caries or fillings are noted as sound teeth (ST).

Analysis

The material was analysed by means of SPSS for Windows 15.0. The *t*-test employing independent samples was used to compare groups for interval level variables. Statistical analysis of categorical data between groups was performed with the chi-square test and the Mann-Whitney *U* test. Bivariate correlation between variables was measured with Spearman's rho. A statistical significance level of $P \leq 0.05$ was used.

Results

Dental condition

Most of the participants had their natural teeth. Implants were noted in four patients, most commonly as a solitary tooth. Complete or partial dentures in the upper jaw were observed in six instances. Two participants had lost all their teeth but used no dentures. Replacements such as crowns and bridges were noted in 30 patients. In the total cohort, 8% had no caries, no fillings and no MT. Dental conditions in terms of numbers of ST, FT, MT and 'missing and filled teeth' were recorded. Results including comparisons between groups are presented in Table 3.

Higher frequencies of MT were found to be associated with having more than two neuroleptic drugs prescribed ($P \leq 0.02$), with poor oral hygiene ($P \leq 0.03$) and obvious treatment need ($P \leq 0.007$). MFT was also related to obvious treatment need ($P \leq 0.012$).

Oral mucosal status, mucosal inflammation and mucosal friction index

Normal oral mucosal status was noted in 91% of the patients; in the remaining 9%, wounds and blisters as well as

Table 2

Scaling of the items is presented. References to the instruments are given in brackets; numbers of recorded items are in square brackets

Measured	Objective	Scale levels of the included items [number of items]
Missing teeth (World Health Organization 1997)	Count missing teeth as a result of caries	0–28 [1] ¹
Filled teeth (World Health Organization 1997)	Count filled teeth	0–28 [1] ¹
Oral mucosal status: Items I–VI (Isaksson <i>et al.</i> 2003)	I–IV: Observe colour, wounds or blisters, hyperplasias V: Observe palate	Existent/non-existent [4] ²
Mucosal index (Henriksen <i>et al.</i> 1999)	VI: Observe lingual mucosa Observe mucosal inflammation	Normal, local, general inflammation, other changes ² [1] Normal, atrophic, other changes ² [1] No = 1, mild = 2, moderate = 3, severe inflammation = 4 [1]
Oral hygiene status (Henriksen <i>et al.</i> 1999)	Observe accumulation of plaque	None = 1, negligible = 2, moderate = 3, abundant amount of plaque = 4 [1]
Mucosal friction index (Henricsson 1994)	Record dry mouth	No = 1, some = 2, obvious friction = 3 [1] ³
Voice (Andersson <i>et al.</i> 2002)	Listen	Normal, hoarse, difficulties to speak [1]
Lips (Andersson <i>et al.</i> 2002)	Observe	Smooth, dry or cheliosis, ulcerated and/or bleeding [1]
Ability to swallow (Andersson <i>et al.</i> 2002)	Observe	No problems, slight problems [1]
Treatment need index (Isaksson <i>et al.</i> 2003)	Estimation of treatment needs	No need, some need, obvious or acute need for treatment ⁴

¹Third molars (wisdom teeth) are excluded in the count. Additional notes were made on root remnants present, decayed teeth, crowns, bridges and implants, fixed or removable dentures.

²Additional recording of suspect malignancies as existent/non-existent.

³Mucosal friction assessed by a mirror drawn to the inside of the cheek.

⁴Treatment needs are based on the variables listed in the lines above. Restoration of decayed teeth is included in the estimation of the treatment need.

Table 3

Mean numbers and standard deviation (SD) in brackets of sound, missing and filled teeth of a psychiatric open-care population by age, diagnosis group and gender

	Sound Teeth (SD)	Missing Teeth (SD)	Filled Teeth (SD)	Total MFT (SD)
Total population (<i>n</i> = 112)	17.4 (6.8)	2.3 (5.2)	5.6 (6.0)	10.5 (10.2)
Gender				
Male (<i>n</i> = 46)	17.6 (6.2)	2.6 (5.8)	8.5 (5.3)	10.4 (6.2)
Female (<i>n</i> = 66)	17.3 (5.7)	2.8 (6.0)	7.9 (5.8)	10.6 (7.4)
Diagnoses groups				
Schizophrenia (<i>n</i> = 33)	15.6 (9.6)	4.8 (7.6) ^{1*}	7.7 (5.5)	10.4 (6.3)
Mood disorders (<i>n</i> = 32)	19.0 (7.9)	1.7 (4.9)	7.8 (6.3)	9.2 (7.0)
Anxiety disorders (<i>n</i> = 24)	19.2 (6.6)	0.9 (2.2) ^{2*}	7.6 (4.4)	8.4 (4.9)
Other diagnosis (<i>n</i> = 17)	16.5 (5.7)	0.9 (1.4) ^{2*}	11.3 (5.0) ^{1*}	11.8 (4.9)
Age groups				
20–34 years (<i>n</i> = 33)	21.7 (6.2) ^{4*}	0.5 (1.3) ^{3*}	5.6 (4.3) ^{3*}	5.8 (4.5) ^{3*}
35–44 years (<i>n</i> = 26)	14.4 (11.9)	2.1 (5.9)	7.8 (4.7)	9.8 (6.0)
45–54 years (<i>n</i> = 29)	10.6 (8.8) ^{3*}	3.7 (6.8)	9.2 (6.3)	11.6 (6.5) ^{4**}
55–64 years (<i>n</i> = 23)	8.6 (7.5) ^{3*}	3.8 (6.7)	10.7 (5.5) ^{4*}	12.8 (5.4) ^{4**}

¹Higher numbers compared with all other diagnoses groups $P \leq 0.01$.

²Lower numbers than the diagnoses groups of schizophrenia and mood disorder $P \leq 0.01$.

³Lower numbers compared with all other age groups $P \leq 0.01$.

⁴Higher numbers compared with all other age groups $P \leq 0.01$.

MFT, missing and filled teeth.

* $P \leq 0.05$; ** $P \leq 0.01$; *** $P \leq 0.001$.

colour changes were noted, but no suspected malignancies were observed. Results of the assessments and comparisons between groups are presented in Table 4. Mucosal inflammation was moderate to severe in 34%. Mucosal friction index (MFI): In 44% of the participants, there was some or obvious friction between the mirror and the inside of the cheek. MFI was related to number of MT ($P \leq 0.006$).

Oral hygiene status; treatment need index; lips, voice and ability to swallow

Poor oral hygiene was found in 41% of the study population; comparisons are presented in Table 4. Dental treatment of some kind was needed by 70% of the participants, mostly commonly prophylaxis and polishing (assessed in

Table 4

Oral hygiene status, mucosal inflammation and mucosal friction index and treatment need index. Ratings given as median value with inter-quartile range within brackets

	Oral hygiene status	Mucosal inflammation	Mucosal friction index	Treatment need index
Gender				
Male (<i>n</i> = 46)	2.5 (2–3) ^{1*}	2.5 (2–3)	1.5 (1–2)	1 (1–2)
Female (<i>n</i> = 65)	2 (1–3)	2 (1–2)	1 (1–2)	1 (1–2)
Diagnoses groups				
Schizophrenia (<i>n</i> = 36)	3 (2–3.75) ^{2***}	3 (2–3) ^{2***}	2 (1–2)	2 (2–3) ^{2**}
Mood disorders (<i>n</i> = 34)	2 (2–2) ^{2*}	2 (1–2)	1 (1–2)	2 (1–2)
Anxiety disorders (<i>n</i> = 24)	2 (1.25–3)	2 (2–3)	1 (1–2)	2 (1–2)
Other diagnosis (<i>n</i> = 17)	2 (1–3)	2 (1–2.5)	1 (1–2)	2 (1–2)
Age groups				
20–34 years (<i>n</i> = 33)	2 (2–3)	2 (1–2) ^{3**}	1 (1–2) ^{3*}	2 (1–2)
35–44 years (<i>n</i> = 26)	2 (2–3)	2 (1.75–3)	1.5 (1–2)	2 (1–3)
45–54 years (<i>n</i> = 29)	2 (2–3)	3 (2–3) ^{4**}	1 (1–2)	2 (1–3)
55–64 years (<i>n</i> = 23)	2 (1–3)	2 (2–3)	2 (1–2)	2 (1–2)

¹Higher ratings of the item compared between genders.

²Higher ratings of the item compared with all other diagnosis groups.

³Lower ratings of the item compared with all other age groups.

⁴Higher ratings of the item compared with all other age groups.

* $P \leq 0.05$; ** $P \leq 0.01$; *** $P \leq 0.001$.

50% of the patients). Obvious need for dental treatment was found in 13% and in 7%, the need was acute. Not having a regular dentist contact was associated with obvious treatment need ($P \leq 0.001$) and poor oral hygiene ($P \leq 0.02$).

Sixty-nine per cent of those in our study experienced a sensation of dry mouth, at least once a week, while eating or had difficulty swallowing dry food. The ability to swallow was estimated as problematic in 15%. Dry, cracked lips or chelosis was noted in 10%, most common in patients diagnosed with schizophrenia. Hoarse voice or difficulty in speaking was noted in 5%.

Dental care contacts, DAS and HUM-8

Regular contact with a dentist was acknowledged by 77% of the patients, and 69% said that they visited the dentist at least once a year. During the past year, 75% claimed to have visited a dentist, while 15% had not been to a dentist in the last 2 years. Women were found to refrain from visits to the dentist more commonly than men ($P \leq 0.05$). The financial circumstances were mentioned by 17% of the cohort as one reason for very often avoiding dental care. More than half (57%) stated categorically that they never had neglected their teeth because of their finances.

Attitudes towards dental visits and dental fear measured by DAS showed a mean score of 9.12 [standard deviation (SD) 4.62]. The 77% who had regular contact with a dentist also rated the interpersonal manner of the dentist according to HUM-8 with a mean score of 33.2 (SD 6.5; confidence interval 95% 31.9–34.6). Satisfaction with the dentist was also related to more frequent visits

($P \leq 0.001$). A high proportion of the respondents (81%) reported that they totally respected the dentist's opinions about their dental care.

Prescribed medication

Nine per cent of the patients stated they were not currently taking any prescription medication while 91% indicated they were on at least one prescribed drug. Intake of two or more prescribed drugs was acknowledged by 65%. Most commonly prescribed were various neuroleptic drugs; 32% of the patients were taking two or more of them. This number of drugs was found to be associated with decreased oral hygiene ($P \leq 0.02$). Antidepressant drugs were being taken by 51% of all patients. Medication with antidepressant drugs was related to increased numbers of MFT and was negatively correlated to increased numbers of MFT ($r_s = -0.29$, $P \leq 0.002$).

Medications prescribed for the circulatory and metabolic systems, such as diuretics, anti-hypertensive and anti-diabetic drugs were mentioned by 10% of the participants. Prescriptions for the treatment of xerostomia (i.e. to prevent dental damage caused by side effects of medication) or for prophylactic use in preventing caries were not cited by any patient.

Discussion

The absence of research on dental health within psychiatric outpatient populations presents an opportunity for psychiatric researchers as well as those doing oral health research. Our investigation, which represents the first study to assess

oral health and treatment need of outpatients in the Swedish psychiatric population, showed an association between FT, MT, and MFT and types of diagnosis, age, oral hygiene, and number of antidepressant and neuroleptic drugs being taken. Need for some kind of dental treatment was found common despite the fact that regular dental visits were frequently reported.

There are no relevant Swedish general population studies comparable to our investigation technique. Two Swedish regional epidemiological studies (Wanman & Wigren 1995, Hugoson *et al.* 2005) have reported lower numbers of MT than that found in our population.

Because of different examination procedures when assessing FT, no comparison of FT or MFT were possible in relation to existing regional Swedish studies. As to investigations by means of psychiatric samples undertaking similar investigation techniques, both the number of FT and MT were found lower in the sample studied (Ramon *et al.* 2003). The group diagnosed with schizophrenia also proved to have the highest numbers of FT and MT which is corresponding with earlier outpatient studies (McCreadie *et al.* 2004).

Previous studies have found poor oral hygiene common in patient groups with severe mental illness (Hede 1995, McCreadie *et al.* 2004), and both poor oral hygiene and dry mouth have also been associated with tooth loss (Angelillo *et al.* 1995, McCreadie *et al.* 2004). A well known side effect of taking neuroleptic drugs is decreased salivary flow and xerostomia (Bergdahl & Bergdahl 2000), which is known to cause difficulties swallowing. These problems were also observed in some groups of patients in this study.

About half were on a regime including two or more psycho-pharmaceuticals, indicating more compromised psychiatric conditions, where decreased oral hygiene and xerostomia were expected to pay attendance. Likewise in these circumstances, it is of importance to attend to changed oral conditions and its possible consequences, and to propose some complementary actions to preserve oral health. However, no patient reported being on any prescribed medication to prevent caries or to counter xerostomia.

In view of the fact that oral health largely is dependent on good oral hygiene practices, the great need for prophylaxis in this group may indicate a lack of adequate support on the part of healthcare organizations. These findings are consistent with that reported in other studies of people with psychiatric illness (Hede & Petersen 1992, Angelillo *et al.* 1995, Lewis *et al.* 2001).

Dental anxiety is a familiar excuse for neglecting dental care heard in the general population. Despite the advance of dentistry towards a far less pain-inducing profession, the proportion of people with dentophobia has remained

stable over time (Hugoson *et al.* 2000). Fear of going to the dentist has also been mentioned as a reason contributing to dental avoidance among people with psychiatric diagnoses (Hede & Petersen 1992, Locker *et al.* 2001). These findings were not supported in our study, because we did not find that dental anxiety was restricted to any diagnosis or age group. In our total cohort, the findings demonstrated a mean score for dental fear corresponding to that rated by a non-anxious population (Locker *et al.* 2001). Furthermore, our study did not find avoidance of dental care to be associated with high dental fear scores.

Limitations

Our study focused on a diagnostic, heterogeneous sample of individuals receiving psychiatric care. The process of enrolling patients in the project was tedious and data collection had to be extended over 2 years. The results of our study may also raise doubts as to whether there was a bias inherent in the group studied. An interview/oral examination situation might result in greater participation by a healthier group. It has earlier been suggested that healthier persons might be less interested in participating in mail questionnaires (Locker *et al.* 1981). Because the sample was diagnostic and heterogeneous, one might assume that the patients were high-functioning people with limited psychiatric problems, and only minor oral health issues. However, according to the sample, almost one-third of the cohort was diagnosed within the schizophrenia spectra, and about 30% had confirmed mood disorders. Functional level was not assessed, making it impossible to get valid and reliable data on that factor. However, an estimation of the need for support in daily living might also serve as an indication of the participants' functional level. Eight per cent lived in community-based housing where a high level of support was provided. In addition, 23% were entitled to receive a government subsidy for dental care because of the functional disability caused by their persistent mental illness. Finally, even though the mean age of the participants was 43 years, more than half of the sample were on early retirement pensions.

A study design such as ours might appeal to participants who already enjoyed good oral health and who found staying healthy an important issue in their lives. Patients disinterested in their oral health or those with dental anxiety might therefore have avoided participation in the project. Difficulties with enrolment might also have been related to uncertainty, both on the part of the patients and psychiatric care providers about how to handle potential cases of a possible oral ill health. Because of the sampling method and study design, it was impossible to perform a non-response analysis.

Conclusion

Earlier studies of oral health in psychiatric populations have identified dental fear (Kaakko *et al.* 2000) and financial necessity (Official Statistics of Sweden 2003) as factors contributing to decreased oral health among patients with various mental health problems. Our study was unable to support those findings. This may indicate that there are additional reasons for the reduced level of oral health seen in patients attending outpatient psychiatric services. Therefore, we believe that oral health issues need to receive increased attention during the course of psychiatric care in order to treat the whole patient. Studies focusing on groups with special needs, diagnoses or age groups should fully elucidate the oral health status of outpatient psychiatric populations. Difficulties in maintaining self-efficacy among individuals with mental health problems point to the need for routinely assessing oral health in the course of providing outpatient psychiatric services.

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