Common mental disorders among patients in primary health care in Greenland

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ABSTRACT
Introduction. There are many indications that mental health in Greenland is endangered and needs more attention. Study design. A two-stage study of the prevalence of common mental disorders among a sample of primary health care patients. Methods. 376 randomly selected patients from general consultations in two Greenlandic towns were screened with 12 questions from the General Health Questionnaire. From these patients, a sample of 100 patients, including more high- than low-scorers, was interviewed using the SCAN (Schedules for Clinical Assessment in Neuropsychiatry) Present Examination psychiatric interview. Results. Estimated prevalence for the total study population of at least one psychiatric diagnosis was 49.3% (95% CI 39.7-59.0%). Most diagnoses were in the group of anxieties, somatoform disorders and depressive disorders. Many patients had more than one diagnosis. Lack of education and poor proficiency in Danish, as well as growing up in a family with severe alcohol problems, were high risk factors for a psychiatric diagnosis. Patients and physicians seemingly agreed on focusing on physical disorders at the consultation, and only a minority of mental disorders was recognised and treated as such by the physicians. Conclusion. Mental disorders are prevalent but not sufficiently recognised and treated among patients in primary health care in Greenland. Their association with social and economic conditions calls for attention from the health services as well as from social and educational institutions.

Key words: prevalence; common mental disorders; primary health care; Greenland; two-phases study.

INTRODUCTION
International (1) and Scandinavian (2) studies have shown that well-defined psychological problems were common in all general health care studies examined. No comparable study has been done in Greenland. There are many indications that mental health is endangered in Greenland, i.e. very high rates of suicide, especially among the young, alcohol problems, violence and child neglect (3). Earlier studies of contact pattern in the primary health care found that up to 5% of contacts with doctors in Greenland were due to mental disorders (4,5). None of these studies were aimed at unveiling mental disorders.

The aims of the present study were
- to investigate the prevalence of common mental disorders among patients seeking help in the Greenlandic primary health care system, and to describe socio-demographic characteristics associated with mental disorders in primary health care settings.
- to examine how the common mental disorders are presented by the patients, whether they are recognised by the doctor, and how they are treated.

A detailed report is available in Danish with a summary in Greenlandic (7).
Study design and methods
This investigation is a descriptive and analytical study of patients in primary health care in two towns, the capital and a small provincial town in West Greenland. A two-phase design was used. In phase one, a random fifth of the patients in Nuuk and all the patients in Qasigiannguit, 18-64 years of age, who consulted a doctor for a health problem during day-time for the first time in the study period of one month in the spring 1997, were asked to participate. Persons consulting the doctor for vaccinations, pregnancy control, certificate issues etc. were excluded. Prior to the consultation the patients were presented with a self-rating screening questionnaire, General Health Questionnaire (GHQ-12) (6). All the questionnaires could be answered in Greenlandic or Danish according to the choice of the participant. A bilingual coordinator was available to assist the participants and to go into details of the questions if necessary. The consultation with the doctor was carried on as usual, and after the consultation both the doctor and the patient independently filled in questionnaires about the patient’s condition and the reasons for and the result of the consultation. Besides this, the patient answered questions about socio-economic conditions, alcohol and drug use etc.

On the basis of the result of the screening with GHQ-12, about one fourth (all with a GHQ-12 score of 4+ points, half of those with a score above 2 and under 4 points and one fifth of those scoring less than 2 points) were asked to participate in phase two: a psychiatric interview, SCAN Present State Examination, PSE-10 (8) by a bilingual Greenlandic psychologist, trained at the WHO collaborating centre in Århus. The interview data were processed by a computer program producing diagnoses according to WHO’s International Classification of Diseases (ICD-10) (9).

The results from phase two were weighted according to the distribution of GHQ-12 scores (10) to give an estimate of prevalences in the total study population. The General Health Questionnaire is a self-administered screening test aimed at detecting psychiatric disorders among respondents in community settings and non-psychiatric clinical settings such as primary care. It focuses on changes in normal functions during the previous two weeks rather than lifelong traits. The twelve-question version has been validated and used in The Greenland Health Profile Study (11). We used identical translations, treatment and scoring of the data according to the "GHQ method" (6), which gives a maximum score of 12 points in each case. With the result of the SCAN taken as a ‘golden standard’, a receiver operating characteristic curve (ROC-curve) was constructed and a cut point was chosen to define vulnerability or ‘caseness’.

Finally, risk factors for a psychiatric diagnosis were analysed. First, bivariate correlations were checked and then a binary logistic regression analysis was carried out with the SCAN diagnosis as dependent variable and the interesting variables as independent variables and confounders.

MATERIAL
The health service in Greenland is publicly funded and no doctors work in Greenland on a private basis (12). This study comprises two towns in West Greenland, the capital Nuuk with 12,909 inhabitants and Qasigiannguit with 1,496 inhabitants. Together the two towns had 9,883 inhabitants in the age group 18-64 years. Data collection took place in the spring of 1997, for one month in each place.

Table I shows the number of patients consulting a doctor at least once during the study period and the number participating in the study.

16% of all men and 30% of all women aged 18-64 years consulted a doctor in the month of the data collection. 13% of these men and 20% of the women made up the study population. The drop-out rate was 44% in Nuuk and 56% in Qasigiannguit. Reasons for refusal were very varied, from lack of time to fear of feeling too burdened by answering the questions because of mental problems. Compared with all patients visiting doctors in the same period fewer men and fewer elderly
people of either gender participated in the study in Nuuk, whereas in Qasigiannguit no significant differences could be shown. Further analysis of the non-participants was not possible.

The bilingual coordinator was asked to indicate the ethnicity of the participant. In the following analysis, only data for ethnic Greenlanders are utilised. Danes, other foreigners and patients with no information about ethnic identity were excluded.

RESULTS

Reasons for the consultation
A comparison between the patients’ and the doctors’ statements concerning the reasons for the consultation shows that the doctor and the patient agreed that in 1% of cases mental problems caused the consultation, and in further 4% mental problems were involved. They also agreed that somatic problems were the only cause in 59% of the cases. In the remaining 36% of the cases the doctor and the patient did not agree about the reasons for the consultation.

General Health Questionnaire
The mean score for all participants was 3.0 points. Men scored a mean of 2.3 and women a mean of 3.3 points (p<0.01). A receiver operating characteristic or ROC curve was constructed (Figure 1) and a cut-off point for cases of 2+ points was chosen. The same cut-off point was used in the Greenland Health Profile Study.

52% of all participants scored 2 points or more on the GHQ-12. Different groups of patients scored in accordance with other information about mental problems. In Table II some of these scores are listed and compared with data from partici-

| Table I. Inhabitants, consulting patients and participants in the study. |
|---|
| **Nuuk** | **Qasigiannguit** | **total** |
| **Men** | **Women** | **Men** | **Women** | **Men** | **Women** |
| Inhabitants | | | | | |
| 18-64 years | 4892 (29) | 4055 (29) | 510 (15) | 426 (15) | 5402 (16) | 4481 (16) |
| Consulting patients | | | | | |
| % | 772 (16) | 1196 (29) | 78 (15) | 148 (35) | 850 (16) | 1344 (30) |
| Participants | | | | | |
| % | 82 (11) | 195 (16) | 31 (40) | 68 (46) | 113 (13) | 263 (20) |
| Participants | | | | | |
| in phase I** | 14 (17) | 47 (24) | 6 (19) | 33 (49) | 20 (18) | 80 (30) |
| in phase II*** | | | | | |

* percentage of inhabitants 18-64 years of age  
** percentage of consulting patients  
*** percentage of participants in phase I

![Figure 1. A receiver operating characteristic (ROC) curve](image-url)
pants in the Greenland Health Profile study, which is considered representative for the population. No significant differences were found between the GHQ 2+ scores in this present study and among those in the Greenland Health Profile Study, who had consulted a doctor during the previous 14 days. Women scored significantly higher than men (table III). Also, those who had answered the questionnaires in Greenlandic had higher scorers than those who answered in Danish, 56% and 47%, respectively (p=0.09).

Table IV shows the results of the SCAN Present State Examination. Before calculating the prevalence figures the study population in phase two was weighted to represent the distribution of GHQ scores in the total study population from phase one (10). The small number of patients is reflected by the broad confidence intervals.

Table V shows the distribution according to age and gender of the different diagnoses. More women than men had a psychiatric ICD-10 diagnosis. Gender differences were found in those younger than 35 years and in the diagnoses of dysthymia and anxiety disorders.

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**Table II.** General Health Questionnaire (GHQ-12). Comparisons between percentages of 2+ scorers in the Greenland Health Profile and this study.

| Greenland Health Profile | n  | GHQ 2+ | This study | n  | GHQ 2+p* |
|--------------------------|----|--------|------------|----|----------|
| Participants who had consulted a doctor during the last 14 days | 176 | 48% | All participants | 339 | 52% | 0.56 (n.s.) |
| Participants without mental illness or mental symptoms | 670 | 21% | Had not felt at all depressed in recent weeks | 123 | 17% | 0.7 (n.s.) |
| Participants who during the last 14 days had consulted a doctor for mental problems | 87 | 68% | Reason for the consultation was mental problems or both mental and physical problems | 35 | 94% | p<0.005 |

*χ² for comparisons between The Greenland Health Profile and this study

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**Table III.** Bivariate associations between GHQ cases and age and gender. Result of logistic regression analysis with age and gender as independent variables.

| Age groups | n | % cases | OR (95% CI) |
|------------|----|---------|-------------|
| 18-24      | 36 | 50      | 1.35 (0.41-4.45) |
| 25-34      | 139| 55      | 1.69 (0.59-4.82) |
| 35-44      | 106| 47      | 1.26 (0.43-3.65) |
| 45-54      | 42 | 62      | 2.38 (0.73-7.73) |
| 55-64      | 16 | 44      | ref         |

| Sex         | n | % cases | OR (95% CI) |
|-------------|----|---------|-------------|
| Male        | 96 | 44      | 0.59 (0.37-0.97) |
| Female      | 243| 56      | ref         |

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**Table IV.** Prevalence of ICD-10 diagnoses in the SCAN examination. Total population. Weighted results (Pickels et al. (10)).

| Diagnosis                                          | Prevalence estimated % (95% CI) |
|----------------------------------------------------|---------------------------------|
| Depressive disorder (F32)                          | 7.0 (3.4–13.9)                  |
| Dysthymia (F34)                                    | 16.2 (10.2–24.8)                |
| Anxiety, total                                     | 23.2 (16.0–32.5)                |
| Phobia (F40)                                       | 17.7 (11.4–26.5)                |
| Generalised anxiety (F41.1, F41.9)                 | 5.5 (2.4–12.1)                  |
| Panic disorder (F41.0)                             | 0.6 (0.1–7.0)                   |
| Somatoform disorder (F45, F44.7, F48)              | 22.3 (15.2–31.5)                |
| Drug abuse (F10-F19)                               | 3.8 (1.4–10.0)                  |
| Other disorders (F42, F43, F51.4)                  | 13.0 (7.7–21.1)                 |
| At least one ICD-10 diagnosis                      | 49.3 (39.7–59.0)                |

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**Table V.** Distribution of GHQ cases according to age and gender. Results of logistic regression analysis with age and gender as independent variables.

| Age groups | n | % cases | OR (95% CI) |
|------------|----|---------|-------------|
| 18-24      | 36 | 50      | 1.35 (0.41-4.45) |
| 25-34      | 139| 55      | 1.69 (0.59-4.82) |
| 35-44      | 106| 47      | 1.26 (0.43-3.65) |
| 45-54      | 42 | 62      | 2.38 (0.73-7.73) |
| 55-64      | 16 | 44      | ref         |

| Sex         | n | % cases | OR (95% CI) |
|-------------|----|---------|-------------|
| Male        | 96 | 44      | 0.59 (0.37-0.97) |
| Female      | 243| 56      | ref         |

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**Table VI.**GHQ 2+ scorers in the Greenland Health Profile and this study.

| GHQ 2+ scorers | Greenland Health Profile | This study |
|---------------|--------------------------|------------|
| Participants who had consulted a doctor during the last 14 days | 176 | 48% |
| Participants without mental illness or mental symptoms | 670 | 21% |
| Participants who during the last 14 days had consulted a doctor for mental problems | 87 | 68% |
If we accept the positive predictive value as the most useful feature for evaluating the screening, both the doctors’ and the patients’ statements were quite satisfactory. They had also very few false positive cases (in other words the specificity was high). But their sensitivity was low, and especially the sensitivity of the doctors’ statements was extremely low (Table VI).

There are big differences in the sensitivity for the different diagnoses encountered (not shown here). Thus the patients themselves suggested mental health problems in 73% of depressive cases, whereas the doctors regarded only 27% of the depressive patients as having a mental disorder. The SCAN Present State Examination is a very detailed interview, whilst the ICD-10 diagnostic system is very fine-meshed. The diagnoses covered by these screening tests comprise disorders of very different character and severity. Besides those diagnoses indicating patients in direct need of treatment (such as many depressive disorders, anxiety disorders and somatisation disorders), others may represent disorders that without being actual psychiatric cases, nonetheless restrict the lives of the individual as well as have an adverse influence on the lives of their whole family.

**Risk factors for a mental disorder**

Bivariate correlation analyses indicated that the choice of language for the questionnaires was an important factor. 38% percent of the ethnic Greenlanders used Danish as language for the questionnaires. There was no gender difference, but significantly more of those younger than 45 years preferred Danish. We do not know whether some of the 62% who used Greenlandic were also proficient in Danish; however, 71% of those who used Danish had completed a vocational education, whereas this was the case for only 48% of

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**Table V.** Psychiatric diagnoses by age and gender. Greenlanders. Weighted results.

| Diagnosis                  | Men Mean Age | 18-34 | 35-64 | All  |
|----------------------------|--------------|-------|-------|------|
| At least one ICD-10 diagnosis | 37.7         | 22.9  | 48.5  | 37.5 |
| Depression (F32)            | 38           | 7.2   | 5.5   | 6.2  |
| Dysthymia (F34.1)           | 45           | 0     | 11.4  | 6.5  |
| Anxiety disorder (F40 and F41) | 37.3         | 7.8   | 16.4  | 13.2 |
| Somatoform disorder (F45, F44.4-44.6, F48) | 39.7     | 7.8   | 11.4  | 9.9  |

**Table VI.** Predictive values of the doctors’ and the patients’ statements for having at least one psychiatric ICD-10 diagnosis as a result of the SCAN Present State Examination. Weighted data.

| Diagnosis                  | Positive Predictive Value | Negative Predictive Value | Sensitivity | Specificity |
|----------------------------|---------------------------|---------------------------|-------------|-------------|
| Doctor’s Statement         | 0.87                      | 0.58                      | 0.18        | 0.95        |
| Patient’s Statement        | 0.93                      | 0.63                      | 0.37        | 0.97        |
those using Greenlandic. This indicated socio-economic differences between the two groups. Moreover, the results of the SCAN interview correlated highly with the questionnaire language. Table VII shows bivariate correlations between different types of variables and use of language. The variables have been grouped according to the source of the information.

Independently of the questionnaire language and educational status, the quality of the childhood home was also an important risk factor for a mental disorder. 95% of those with frequent alcohol problems in their childhood home had an ICD-10 diagnosis at the SCAN interview, whereas that was the case for 38% of those with alcohol problems now and then, and for 43% of those who never experienced alcohol problems in the childhood home.

In Table VIII these risk factors have been combined in a logistic regression analysis, which establishes that for the individual patient the highest risk factor lays in growing up in a home with frequent alcohol problems. But as ‘only’ 14% of the ethnic Greenlanders belonged to this risk group, two other risk factors, the use of Greenlandic for the questionnaires and the lack of vocational education, accounted for more cases on a population basis.

**CONCLUSIONS**

The prevalence of psychiatric ICD-10 disorders was 49%. The unsettled question of how representative the study group was of the whole population, combined with the small number of participants, implies that the true prevalence figures might be either higher or lower than those using Greenlandic. This indicated socio-economic differences between the two groups. Moreover, the results of the SCAN interview correlated highly with the questionnaire language. Table VII shows bivariate correlations between different types of variables and use of language. The variables have been grouped according to the source of the information.

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found here. But the most important conclusions concern comparisons between groups within the material, and they are not affected by the question of how representative the sample was. They are as follows:

1. The prevalence of mental disorders was significantly higher among those who used Greenlandic as the language to complete the questionnaire than among those ethnic Greenlanders who used Danish in the questionnaires (63% and 24%, respectively).

2. Neither the patients nor the doctors were inclined to present/discuss possible mental health problems in the consultation. When asked directly, as in the study questionnaire, the patients’ indications of mental health problems were, to a higher degree than the doctors’, in accordance with the result of the psychiatric interview. Only a small proportion of the patients with mental health problems were identified or offered treatment by their doctors.

3. Alcohol problems, one of the most prevalent health problems in Greenland, were almost non-existent in the doctors’ reports about treatment. Consequences of alcohol abuse are mainly recognised in the social service, police work and legal system, that is, when the consequences have been destructive. But alcohol problems are varied and complex, and it is important that the health service integrate the question of alcohol in their approach to examination and treatment at an earlier stage of problems. Our study suggests that a family approach to this and indeed many health problems would be fruitful. The serious consequences on mental health for those growing up in a home marked by alcohol problems also makes it very important to bring a family perspective into the work of the health service and to see the patients’ presenting problems in this context.

4. The identification of high-risk groups made in this study indicates that prevention of mental disorder is a task not only for the health service, but for society as a whole, and should involve schools and social and educational institutions.

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