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LETTER TO THE EDITOR

Adolescent Sense of Coherence and Antidepressants Usage 11 Years Later

Else Toft Würtz1,2*, Jens Tølbøll Mortensen1 and Kirsten Fonager1,3

1Department of Social Medicine, Aalborg University Hospital, Denmark
2Department of Occupational Medicine, Aalborg University Hospital, Denmark
3Department of Clinical Medicine, Aalborg University, Denmark

*Corresponding author: Else Toft Würtz, Department of Social Medicine, Aalborg University Hospital, Havrevangen 1, 2, Post Box 561, DK-9100 Aalborg, Denmark, Tel: +45-50568856, E-mail: etw@rn.dk

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Adolescent, Antidepressants, Follow-up Study, Sense of coherence, Young adult

To the Editor

Sense of Coherence (SOC) was introduced in 1979 by Aaron Antonovsky as a salutogenic concept that captured the strength and determinants in health [1] from an orientation to life questionnaire [2]. A strong SOC indicates that a person will be likely to cope more successfully with stressful situations and a strong SOC has been found to predict good health and to be related to a high quality of life [3]. SOC-13 (the short version) with 13 items varies with age and gender in cross-sectional population studies [4,5]. In general, men usually have a slightly stronger SOC than women [3]. Studies have found SOC to be negatively correlated with anxiety and depression, positively correlated with optimism and self-esteem, moderately correlated with life events and to be connected with attitudes and behaviour [3]. We have previously shown that especially girls (aged 12-16) with a weak SOC-7 (SOC-13 reduced to seven items) had an elevated risk for receiving social benefits 11 years later [6]. SOC-7 was limited to the items the pupils was considered to be capably answering given their age (questions No 1, 4-6, 8-9, and 13). A few phrases were slightly altered compared with the later Danish version [7]. In this follow-up, we studied if an association also could be found between a weak baseline SOC-7 and later use of antidepressant as a proxy for mental health problems in the same population.

The baseline population is described earlier [6] and only briefly mentioned here. In 1998 the Department of Clinical Epidemiology, Aalborg Hospital, Aarhus University Hospital, Denmark, completed a study describing teenagers use of painkillers [8]. The population consisted of pupils from 15 public schools randomly selected from 13 municipalities in the former North Jutland County, Denmark. A total of 1,178 pupils in 7 and 8th form were invited to fill in a self-administrated questionnaire during a school lesson. The schools returned 802 (68%) individual questionnaires from 433 girls and 369 boys. Data were linked with information of individual bought prescription medicine in 2009 from the Register of Medicinal product Statistics through Statistics Denmark for 794 participants. Two lacked the civil registration number in the 1998 questionnaire and six had died since baseline.

For all Danish residents the National Health Service provides tax supported health care including free access to general practitioners, hospitals, public clinics and partially refunds the costs of most prescribed medicine. From the computerized accounting system, reimbursement data are transferred to the Register of Medicinal product Statistics according to the Anatomical Therapeutic Chemical (ATC) classification system [9]. The outcome of used antidepressants was defined by an ATC code (third level; N06A) and as buying at least one single type of N06A in 2009 from the Register of Medicinal product Statistics through Statistics Denmark for 794 participants. Two lacked the civil registration number in the 1998 questionnaire and six had died since baseline.

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Table 1: Relative Risk (RR) for using antidepressants (N06A) in young adulthood, N = 794.

<table>
<thead>
<tr>
<th>Table 1: Relative Risk (RR) for using antidepressants (N06A) in young adulthood, N = 794.</th>
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<tbody>
<tr>
<td><strong>SOC-7</strong></td>
</tr>
<tr>
<td>Strong</td>
</tr>
<tr>
<td>24 (4)</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>(1.45-4.67)</td>
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<tr>
<td>1.98</td>
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<td>(1.06-3.71)</td>
</tr>
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The longitudinal design with almost complete follow-up using registry based information is the main strength of the study. Cross-sectional studies report medicine use associated with bullying at school [13] and a weak SOC [14]. This study verifies that a weak SOC-7 and weekly use of painkillers are likely predictors for later usage of antidepressants that might be a proxy for mental struggles. Together with our prior study according social benefits in the same population [6], SOC-7 now seems to be a useful target for prevention among both boys and girls, though it is to some extent unstable in this age group [6]. A study limitation is the use of SOC-7 as a replacement for the entire official SOC-13 questionnaire which later have been shown to be applicable to children from 12 years [15]. The shortened SOC scale reduce the comparability to other studies in the field. Prospectively it would be very appealing to create an additional follow-up study and supplement with a qualitative part among current adolescents and participants within the ‘weak SOC-7’ group. We have demonstrated associations, but have a reduced amount of information of possible initiatives to defeat the adolescents difficulties. However, studies have addressed possible interventions as sport activities and salutogenic training programmes [16,17] as ones SOC is formed during childhood and adolescence [7]. The present study might add valuable knowledge to teachers, social workers and policy makers in the future.

Ethical Statement

The study was conducted in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments. In 2010 the North Denmark Region approved and notified the Danish Data Protection Agency about the present study.

References

6. Würtz ET, Fonager K, Mortensen JT (2015) Association be-