

## Self-reported acne and psychosocial problems

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Jon Anders Halvorsen defended his PhD thesis "Acne and psychosocial problems. Cross-sectional epidemiological studies among adolescents" at the University of Oslo on August 30<sup>th</sup>, 2011. Main supervisors were Lars Lien and Florence Dalgard. The evaluation committee and Opponents were Professor Gregor Jemec from Roskilde Hospital (dermatology), Associate Professor Lars Tanum, Akershus University Hospital (psychiatry), and Associate Professor Trine Bjørner, University of Oslo (general practice).

Studies on the epidemiology of acne using large adolescent populations are scarce. The aim of the thesis was to investigate possible associations between acne and psychosocial problems in a general population of 18–19-year-old adolescents.

The first part of the thesis is a validation study on questions regarding five different skin complaints, i.e. acne, dry skin, itchy skin, rash and other skin findings, among 217 adolescents. The adolescents' answers were compared to skin findings on clinical examination by dermatologists. Self-reported acne showed the highest validity of the skin complaints, and adolescents seem to under-report severe acne.

The second and main part of the thesis is a population survey (The Youth 2004 Study) among late adolescents in Oslo, Norway, with 3,775 participants and an overall response rate of 80%. The question on self-reported acne, validated in the validation study, was used to explore possible associations between acne and psychosocial problems. The prevalence of self-reported moderate to severe acne ("quite a lot" and "very much") was 13.5%. Social impairment was assessed through six questions and was more frequent in adolescents with acne. In a multivariate model which included symptoms of depression, family income, and ethnicity, both low attachment to friends (odd ratio (OR) 1.52, 95% CI 1.21–1.91), not thriving at school (OR 1.41, 95% CI 1.21–1.91), never had romantic relationship (OR 1.35, 95% CI 1.05–1.70), and never had sexual intercourse (OR 1.51, 95% CI 1.21–1.89) were associated with acne, both in boys and in girls.

Psychological problems were measured by the instruments HSCL-10 (mental distress, symptoms of depression, anxiety) and SDQ (hyperactivity, emotional symptoms, conduct problems, peer problems), as well as one question on suicidal ideation taken from HSCL-90. There was a statistically significant gradual increase in psychological problems, measured with HSCL-10 and SDQ, with acne severity. OR for psychological problems, measured with SDQ, was 2.25 (95% CI 1.69–3.00) and for mental distress, measured with HSCL-10, 1.91 (95% CI 1.50–2.44)



*From left to right: Professor Harald Moi (acting dean), Gregor Jemec (first opponent), Jon Anders Halvorsen, Trine Bjørner, and Lars Tanum (second opponent)*

The OR for mental distress, measured by HSCL-10, did not change when diet was introduced in the model as a confounder. This indicates that dietary habits are not a significant risk factor for both acne and mental distress. Although it was not the objective of the study to study associations between acne and diet, our findings indicate that girls with a low intake of vegetables have more acne.

We found a significant association between acne and suicidal ideation, independent of symptoms of depression, ethnicity, family income and sex, with OR 1.80 (1.30–2.50). An increase in suicidal ideation was significantly correlated with an increase in acne severity. Inclusion of social functions in the multivariate model did not change the association between acne and suicidal ideation.

Information from the Norwegian Prescription Database shows that only 27 individuals aged 18–19 years in Oslo dispensed one or more prescriptions of isotretinoin in 2004. This indicates that possible isotretinoin use cannot explain the main findings of the study. Possible underreporting of severe acne may have contributed to underestimating the strength of the association between acne and psychological problems.

In conclusion, the study indicates a strong association between acne and psychosocial problems and that acne may have profound psychosocial effects. The findings may have implications for clinical practice and health policy decisions.

## References

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