DiVA
http://www.diva-portal.org

Postprint

This is the accepted version of a paper published in *Vård i Norden*. This paper has been peer-reviewed but does not include the final publisher proof-corrections or journal pagination.

Citation for the original published paper (version of record):

Hildingh, C., Baigi, A., Lidell, E. (2006)
Stress and self-rated health: comparison between 26-year old Swedish women at intervals of twenty years.
Vård i Norden, 26(3): 30-33

Access to the published version may require subscription.

N.B. When citing this work, cite the original published paper.

Permanent link to this version:
http://urn.kb.se/resolve?urn=urn:nbn:se:hh:diva-485

Stress and self-rated health; comparison between 26-year old Swedish women at intervals of twenty years

Cathrine Hildingh RNT, PhD
Amir Baigi, MD, PhD
Evy Lidell RNT, PhD

ABSTRACT

In society of today there are great demands on young women concerning education, work and social life and also concerning health and beauty expectations. The aim of this study was to compare 26-year old Swedish women studied at intervals of twenty years concerning stress in daily life and self-rated health. The participants in 2002 (n=386) answered the same questionnaire that was used twenty years ago in a prospective population study (n=85). The result showed no difference in self-rated health between the two groups. However, women in 2002 reported more stress and health complaints such as exhaustion, sleep disorders, restlessness and difficulty concentration. They also reported low energy level and bad appetite. This discomfort must be interpreted with caution and not necessarily as ill health. However, it is important to take the experience of stress in daily life and the increase in health complaints into consideration even if women today rate their health as good in order to avoid lasting imbalance and thereby future diseases.

KEY WORDS: Self-rated health, stress, transition, young adult women

Introduction

Society of today is characterized by great demands on young adult women concerning knowledge and competence as well as creativity and success. Old structures in working life such as stability and safety have changed and been replaced by flexibility with frequent reorganisations and flexible forms of employment (1). Also in private life there are great demands and expectations of success. Relationships, circle of friends and a place to live can be projects besides other projects to reach perfection, changeable if not coming up to expectations. Frustrations and feelings of insufficiency may be one reason to the high level of stress and health problems among young adults (2, 3). In addition to the great demands of education, work and social life there are also health and beauty expectations in a way that differ from earlier decades. To reach perfection and to be accepted many young women are excessively preoccupied with their bodies (4). This obsession has left more and more young women ill at ease with their own bodies and thus with themselves (5). Slenderness has for a long time been a sign of beauty, but today it is no longer enough to lose weight. The thin body must also be the well-trained and sexy body. Such beauty ideals are impossible for most women to achieve by healthy means (6). Mass-media have great influence on body image (5,7) and their way of expose the female body has changed radically during the last decades. In society of today self-objectification has become frequent occurring, meaning that women have internalised an external view of their bodies (7). This perspective has a number of negative consequences such as reduced body satisfaction and self-esteem as well as depressive symptoms and disordered eating.

Transition

Transition to adulthood is a period in life when women encounter many conflicts, ambiguities and rapidly expanding multiple roles that can be very stressful and difficult to manage (8, 9). People in transition of any kind tend to be more vulnerable, which in turn may affect their health (10). In all transitions there is a striving for balance in life and a healthy completion of transition is determined by skills and behaviours needed to manage the new situations or environments. Personal, community, or societal conditions may facilitate or constrain the processes of healthy transitions and the outcome. Gender inequity is a constraint at the societal level that can influence transition. Also cultural attitudes toward women's bodies and experiences are another societal inhibitor to a healthy transition.

The focus of this study was women in the midst of transition to adulthood growing up in the same society at intervals of twenty years. Transition to adulthood has probably always been stressful but the demands on women today and their life conditions seem to have changed in a negative way as their health situation has changed for the worse (1, 3). Environmental demands and the conflicts they can create are among the most obvious sources of psychological stress according to Lazarus (11). How young women cope with these demands and conflicts and the emotions aroused by this struggle, may influence their social functioning and physical well-being. According to the Ottawa declaration (12) health and ill-health is seen as a consequence of a dynamic state of interaction between the social and physical environment and (the milieu extern) and the body's milieu interne, with the mind caught in the middle reacting to this dynamic interaction. In this frame of reference, ill-health is seen as a consequence of destructive environment, inadequate norms, lack of self-worth, self-awareness and adequate social support (13). The aim of this study was to compare 26-year old Swedish women, studied at intervals of twenty years, concerning stress in daily life and self-rated health.

Material and methods

Design and setting

A health survey study was performed in an urban area in the western part of Sweden with a population of 500.000 inhabitants. The Committee for Ethics in Medical Investigation, Göteborg University, Sweden approved the study and the work conforms to the provisions of the Declaration of Helsinki in 1995. All participants were informed in writing about the study. They were invited to participate in the study on a voluntary basis and their confidentiality was guaranteed. Person data security was taken into consideration.

Sample

Participants, all 26 year of age, living in a city at the west coast of Sweden were selected from a person and address register by systematic random sample using the birth-dates 6, 12, 18, 24, 30 each month of the year. The survey also included women from the same city who were 26 years of age when they were studied in 1982 in a prospective population study of women (14). These women were also selected from a person and address register by systematic sample using the birth-dates 6, 12, 18, 24, 30 each month of the year.

Instruments

The participants selected in 2002 answered the same standardized self-administered questionnaire used in the prospective population study of Swedish women (14). Relevant questions to the purpose of the present study were

Table I. Background variables of 26-year old Swedish women in 1982 and 2002. (Descriptive statistics)

	1982					2002				
	n	%	Mean	SD	Median	n	%	Mean	SD	Median
Cohabiting	85	61.2	3.15	2.80	1	378	63.2	1.37	0.48	1.00
Children	85	41.2	1.59	0.50	2	382	18.8	1.81	0.392	2
College graduated	85	29.4	1.82	0.86	2	382	56.3	2.54	0.544	3
Employed	84	89.3	1.11	0.31	1	369	68.3	1.32	0.466	1
Satisfied with work situation	84	76.2	2.95	1.35	3	364	67.0	3.53	2.75	3
Satisfaction with home and family	84	84.5	2.50	1.41	2	378	86.8	2.28	1.32	2
Satisfaction with leisure time	84	81.0	2.80	1.19	3	380	77.9	2.89	1.31	3
Satisfaction with economy	84	58.3	3.45	1.51	3	381	55.4	3.54	1.62	3

collected from the questionnaire. Self-rated health (SRH) was measured asking «How do you experience your health?» The response was given on a seven-point scale ranging from extremely good to extremely bad. Stress in daily life was answered with yes/no response. By use of factor analysis the following four factors were constructed:

Physical factors included 3 questions about sight, hearing and memory (with a seven-point scale ranging from extremely good to extremely bad). Questions about length and weight allowed calculations of body-mass index (BMI).

Psychological factors included 14 questions about health complaints; dizziness, headache, general tiredness, sleeping disturbances, nervousness, sweating, difficulty in breathing, irritation, exhaustion, difficulty concentrating, restlessness, low-spiritedness, easily crying, difficulty to relax (with yes/no responses).

Social factors included 5 questions about home and family situation, housing, economy, friends, and leisure time (with a seven-point scale ranging from extremely good to extremely bad).

Fitness included 6 questions about energy, mood, physical condition, appetite, self-confidence and working situation (with a seven-point scale ranging from extremely good to extremely bad).

Data collection

The questionnaire was sent by mail to the women included in the study. They were asked to fill in the questionnaire and send it back in the enclosed prepaid envelope. If they did not answered the questionnaire they were reminded once. Of the 595 individuals originally selected in 2002, 52 were found to have moved from the contact address. 386 of the remaining 543 (71%) returned completed surveys. Eighty-five persons (66%) had returned completed surveys in 1982.

Data analysis

Statistical package for Social Sciences (SPSS) (15) was used in the analysis procedure.

Validity

A construct validity test was performed by means of factor analysis (16). Factors emerged with an eigenvalue > 1, explaining 52% of the total variance. To obtain the best possible model, different factor combinations were tested. Finally, model principle components analysis with the rotation method varimax was chosen. This procedure resulted in the four factors (physical factors, psychological factors, social factors and fitness).

Reliability

The proportion of complete subquestions in each scale, related to sub-group, was found to be accepted (0.81). The correlation coefficient between the sub-questions and the hypothetical scale (item internal consistency) was above 0.40, the recommended level according to Klein's criterion. The correlation coefficient between the scale (internal consistency reliability) measured using Cronbach's alpha exceeded 0.80 (the recommended value 0.70 according to the Nunnaly criterion (17).

Statistical methods

To study the risk of sustaining SRH related to the four factors we used the multiple regression analysis. When studying stress related to the same factors we used the multiple logistic regression. The level of significance was set at 5% by use of confidence intervals (CI).

Results

The sample was made up of 85 women studied in 1982 and 386 women studied in 2002. There were no differences in marital status, but more women in 1982 had children. In 1982, more women were employed than in 2002 and they were also more satisfied with their working situation. No statistical differences between groups concerning satisfaction with home and family, economy and leisure time were found (Table I). There were no differences in overweight between the two groups. The body-mass index in 1982 and 2002 was 21.5 and 22.8 respectively (mean value). However, more women in 2002 reported bad appetite (p=.005). In 2002 more women experienced health complaints such as restlessness, irritation, difficulty concentration, relaxing and easily crying. They also reported exhaustion as well as difficulty sleeping in a greater extent than did women in 1982 (Table II). Energy level and physical condition was lower in 2002, but no differences were found in self-confidence or mood between the groups.

Stress in daily life

There was a statistical difference in daily stress with higher ratings among women in 2002 (67%) than among women in 1982 (29%) (p<.0001). Psychological factors was associated with stress in 2002 (p<.0001) and in 1982 (p=.040). No significant values were found for physical factors, social factors or fitness.

Self-rated health (Table III)

There was no statistical difference in SRH between the two groups of women. SRH in 1982 was dependent of psychological factors (p<.0001) and fitness (p=.017) and in 2002 of psychological factors (p<.0001), social factors (p<.0001) and fitness (p<.0001).

Table II. Health complaints in Swedish women studied in 1982 and 2002. (Bivariate comparisons by Chi-2 test)

	Women 1982 n=85	Women 2002 n=386	
	(%)	(%)	*p*-value
Headache	58	76	ns
Tiredness	56	80	ns
Sleep disorders	14	30	0.003
Irritability	42	65	<0.0001
Exhaustion	21	36	0.020
Difficulty concentration	19	36	0.002
Restlessness	30	46	0.011
Easily crying	23.5	50	<0.0001
Difficulty relaxing	34	52	0.007

ns=not significant

Table III. Differences in self-rated health between Swedish women in 1982 and 2002. (Multiple regression analysis with beta-coefficient, p-values and 95% confidence interval)

Women 1982	n=85 Adj R2=0.45	Beta	p-values	95% CI
Social factors		0.050	0.053	-0.001–0.101
Biological factors		-0.054	0.155	-0.129–0.021
Fitness		0.068	0.017	0.012–0.123
Psychological factors		-0.145	0.0001	-0.217– -0.072
Women 2002	n=386 Adj R2=0.55			
Social factors		0.050	0.0001	0.027–0.072
Biological factors		0.015	0.336	-0.016–0.046
Fitness		0.097	0.0001	0.079–0.116
Psychological factors		-0.067	0.0001	-0.089– -0.045

Discussion

The questionnaire employed in this study was also used in a prospective population study of Swedish women (14) and several other Swedish studies (18, 19). However, only questions relevant to the present study were analysed. Factor analysis was used to validate the questions at ordinal scale level, which may be questioned, as the variables in the analysis were not ratio scales. However, with regard to the sample size, approximation from ordinal to ratio scale level was deemed acceptable. Normal approximation was also taken into consideration in the regression analysis. By choosing relevant factors, interaction between two variables could be observed. Variables with higher correlation were given priority. The response rate was acceptable, both in the prospective study (66%) and in the present study (71%), and there were few missing data, indicating that the questionnaire was easy to understand and experienced as meaningful by the informants irrespective of the time lapse between the two studies. It is important to take the time factor into consideration when interpreting the result, as there may be variations over time, even if the terms used are identical. Also the population growth and varying circumstances during the period 1982–2002 may have contributed to changes in society and values in society which may have had some influences on people. This fact should be taken into consideration when interpreting the result.

The decision to restrict the choice of informants to 26 year olds was based on the assumption that women of that age are in the midst of transition to adulthood. According to Meleis et al. (10), transitions in human life consist of periods during which people tend to become more vulnerable, which in turn may affect their health. Transition to adulthood is a normal process but, due to the demands of society, which make it difficult to fit in, stress in daily life and consequently ill health may occur. During recent decades there has been a dramatic increase in sick leave among young women (1, 3), and increased stress has been found in women of this age group (2, 3), perhaps due to the fact that they find it difficult to cope with the demands placed upon them (11). The results of this study show that, in 2002, women experienced more stress in their daily life than women of the same age twenty years earlier. There is no doubt that society has changed in the course of the last twenty years and that demands on young women have increased both in terms of social life and fitness (3–5, 7), which may lead to stress in daily life. Also demands in relation to higher education may be an important reason to stress. In this study social factors were not found to be predictors of stress in daily life either in 1982 or 2002. However, they were found to influence health today in contrast to twenty years ago, which would seem to indicate that social factors have become more important for women's well being. No differences were found in the home or family situation, financial situation, housing or leisure time between the two groups of women. However, there was a difference in satisfaction with the

employment situation, which received lower ratings in 2002. According to Edlund and Stattin (20) working life has changed a great deal since the 1980s, and they consider that there is a link between health problems and working life. Edlund and Stattin (20) drew attention to a particular group of people, who they termed «healthy people with complaints», a term that might be suitable for the women in this study as well. Despite more stress and complaints, such as general tiredness, poor appetite, irritability, difficulty concentrating and low-spiritedness in women in 2002, there was no difference in SRH between the two groups. In both 1982 and 2002, over 70% rated their health as good. This raises questions about the meaning of health complaints in women today. Do they experience a kind of general discomfort leading to health complaints, but not so serious that they rate their health as poor? Perhaps they are reacting to something intangible in their life situation that lies in the interaction between the external milieu and the body's internal milieu. On the other hand, it may well be that women today are more worried about themselves and thus more inclined to express health complaints. Perhaps it is more normal to talk openly about problems and failings today than it was twenty years ago, which could lead to misconceptions about ill-health among young women today. However, when viewing health as a kind of balance or harmony in the human being and world system, it is necessary to look at the whole person and his or her life situation (13). Imbalance in systems will always have consequences, and health may be put at risk. Therefore, it is important to take the increase in health complaints among young women into consideration, even if they rate their health as good, in order to avoid lasting imbalance and thereby future diseases. It is well known that cardiovascular diseases, for instance, are developed over a long period, which makes it extremely important to pay attention to young women and their complaints in order to try to prevent such diseases. Young women in the midst of transition, who express health complaints to such a great extent as those in this study, are in need of support. According to Meleis et al. (10), transitions are very relevant to nursing, as nurses meet people at all stages of life under many different circumstances. In order to understand the experience of young women during transition, it is necessary to identify the personal and environmental conditions that facilitate or hinder progress towards achieving a healthy transition. Identifying process indicators that reveal whether young women are moving in the direction of health or towards vulnerability and risk, permits early assessment and intervention by nurses and other health professionals, in order to ensure healthy outcomes.

Conclusion

This study reveals that there are no statistical differences in self-rated health among 26- year old women growing up in the same society at intervals of twenty years. However, women today experience a great deal of health problems and stress in daily life, which should be interpreted with caution and not necessarily as ill health. Despite the fact that women today rate their health as good, it is important to take the increase in complaints into consideration in order to avoid long term imbalance and thereby future disease.

Acknowledgement

The authors want to acknowledge Professor Calle Bengtsson for allowing us to use data from the prospective population study of Swedish women.

Accepted for publication
07.11.2005

Cathrine Hildingh RNT, PhD, (1,2), Amir Baigi, MD, PhD (2,3), Evy Lidell RNT, PhD (1)
1) School of Social and Health Sciences, Halmstad University, Halmstad, Sweden
2) Research and Development (R&D), Primary Health Care, Halland, Sweden
3) Department of Primary Health Care, Göteborg University, Göteborg, Sweden

Correspondence to:

Cathrine Hildingh
Halmstad University
School of Social and Health Sciences
Campus Varberg
Otto Torells gata 16
SE – 432 80 Varberg
Cathrine.Hildingh@hos.hh.se

References

1. Nelander S, Goding I. Ohälsans trappa (The steps of ill health). Stockholm: Landstingsorganisationen i Sverige; 2004.
2. Kenney JW. Women's «inner-balance»; A comparison of stressors, personality traits and health problems by age groups. J Adv Nurs 2000;31:639–51.
3. The Swedish Public Health Report 2001. Stockholm: The National Board of Health and Welfare; 2001.
4. Strelan P, Mehaffey SJ, Tiggemann M. Self-objectification and Esteem in Young Women: The Mediating Role of Reasons for Exercise. Sex Roles 2003;48:89–96.
5. Stice E, Maxfield J, Wells T. Adverse effects of social pressure to be thin on young women. An experimental Investigation of the effects of «fat talk». Int J Eat Disord 2003;34:108–17.
6. Wiseman CV, Gray JJ, Mosimann JE, Ahrens AH. Cultural expectations of thinness in women: An update. Int J Eat Disord 1992; 11: 85–9.
7. Fredrickson BL, Roberts T-A. Objectification theory: Toward understanding women's lived experiences and mental health risks. Psychol Women Q 1997;21:173–206.
8. Gramling LF, Lambery VA, Pursley-Crotteau S. Copinmg in young women: theoretical reduction. J Adv Nurs 1998;28:1082–91.
9. Bell S, Lee, C. Perceived stress revisited: The Women's Health Australia project Young cohort. Psychol Health Med 2003;8:343–54.
10. Meleis AI, Sawyer LM, Im EO, Hilfinger Messias DK, Schumaker R. Experiencing transitions: an emerging middle-range theory. Adv Nurs Sci 2000;23:12–28.
11. Lazarus RS. Stress and Emotion: A new synthesis. London: Free Associations books; 1999.
12. Ottawa Charter for Health Promotion. Report. Geneve: WHO; 1986
13. Vang J & Kristenson M. The concept of self-rated health. In: Nilsson T, Orth-Gomér K (eds). Self-rated health in a European perspective. Stockholm: The Swedish Committée for planning and coordinating of research (FRN); 2000. p. 7–27.
14. Bengtsson C, Ahlqvist M, Andersson K, Björkelund C, Lissner L, Söderström M. The prospective population study of women in Gothenburg, Sweden 1968–69 to 1992–93. Scand J Prim Health Care 1997;15:214–19.
15. Norusis MJ. SPSS for Windows. Version 11.0, Chiccago: SPSS Inc.; 1993
16. Kim JO, Mueller CW. Factor Analysis, Statistical Methods and Practical Issues. New Delhi: The International Professional Publishers; 1978.
17. Nunnaly, JC. Psychometric Theory. New York: McGraw-Hill; 1978.
18. Bjorkelund C, Bengtsson C, Lissner C, Rodstrom K. Women's sleep: longitudinal changes and secular treds in a 24-year perspective. Results of the population study of women in Göteborg, Sweden. Sleep 2002;25:894–96.
19. Lissner L, Potischman N, Troiano R, Bengtsson C. Recall of physical activity in the distant past: the 32-year follow-up of the Prospective Population Study of Women in Goteborg, Sweden. Am J Epidemiol 2004; 159:304–7.
20. Edlund J, Stattin M. Health development in Sweden 1975–2001. Välfärd och ofärd på 1990-talet (Welfare and destruction in the 90s) Report no 100. Stockholm: SCB; 2003.