Journal of Public Health Advance Access published January 4, 2013

Journal of Public Health | pp. 1–8 | doi:10.1093/pubmed/fds101

Impact of divorce and loss of parental contact on health complaints among adolescents

Simone Frizell Reiter[1,2], Stefán Hjörleifsson[2], Hans-Johan Breidablik[3], Eivind Meland[2]

[1]Department of Neurology, Haukeland University Hospital, Post Box 7804, 5020 Bergen, Norway
[2]Department of Public Health and Primary Health Care, Research Group for General Practice, Kalfarveien 31, 5018 Bergen, Norway
[3]Department of Research and Development, District General Hospital of Førde, 6800 Førde, Norway
Address correspondence to Simone Frizell Reiter, E-mail: simonefr@online.no

ABSTRACT

Background Mental health consequences related to divorce have been documented, but might be caused by concomitant factors such as conflicts and loss of parental contact (PC). We investigated these relationships and mental health among adolescents.

Methods The study was based on data from four cross-sectional surveys carried out between 1997 and 2009 among tertiary school students in Førde, Norway. We established two groups according to divorce experience (DE) with or without loss of PC. Frequencies of DEs were calculated with 95% confidence intervals. The group with no DE was used as reference group in all the analyses.

Results The divorce rate increased by 34% (6.8% absolute increase) between 1997 and 2009, but no sign of attenuated effects on emotional health was observed. Mental complaints were not attenuated as time since divorce increased. A majority of those losing contact with parents had no contact with their fathers. The study revealed only a modest increase of health complaints if PC was preserved, but a marked increase when the adolescents experienced loss of PC following the divorce. Interaction analyses showed no gender differences, and parental support and confidence in parent(s) did not mediate the associations between divorce and distress.

Conclusions Emotional distress after divorce is not attenuated as divorce prevalence increases, but the deleterious effects of divorce on the well-being of adolescents seem to be confined to those experiencing a concomitant loss of PC. Efforts aiming at reducing parental hostility and improving mutual parental responsibility and care therefore seem important.

Keywords divorce, parental contact, adolescent, health complaint

Introduction

During the past 50–60 years, marital divorce has become more common and today ~50% of marriages in Norway end in divorce. An increasing number of children are exposed to single parenting, blended families and unstable family situations. According to Statistics Norway 9 950, children under the age of 18 experienced divorce in 2008.[1] In reality far more children experience parental separation.[2] Concern about children growing up in single-parent households has been expressed, and many believe this may have persistent negative consequences for the children involved.[3,4]

Conclusions from literature regarding mental health of children and adolescents from divorced households compared with controls from intact households are contradictory. The main discussion is whether divorce is predominantly harmful to a minority or whether the positive effects of separation may compensate for the negative effects. Some of the early literature focused primarily on the adversity of parental divorce, comparing the effect of divorce with severe events like the death of a parent.[5] Other research indicates that the impact of divorce on children and adolescents is not exclusively negative if they move from a family situation with conflicts to a more harmonious one.[6,7] In a substantial

Simone Frizell Reiter, PhD candidate
Stefán Hjörleifsson, Lecturer in Public Health and General Practitioner
Hans-Johan Breidablik, Medical Director
Eivind Meland, Professor in Public Health and General Practitioner

proportion of divorced families, conflicts that can be harmful to the children seem to be perpetuated.[8,9] Advantages of maintaining a relationship with both parents are challenged by arguments that shared custody interrupts the stability that the child needs and that the child may more easily be exposed to ongoing parental conflict.[10]

Some of the more recent research shows that adults who experienced divorce as children have more mental health problems than adults with married parents.[3,11] Not only the actual separation but also the period preceding and following the divorce may lead to disturbance in the child.[12,13] Observed associations between mental health and divorce experience (DE) may thus result from concomitant events during and after the divorce and the loss of parental contact (PC). Confounding factors may include change in economy, social surroundings or other resources after the divorce.

Less research highlights the differences in mental health between youths with or without preserved contact with both parents after the divorce. A meta-analysis showed that children who experienced divorce with loss of PC reported even lower well-being than did children who experienced the death of a parent.[8]

Society's attitudes toward divorce and beliefs about its effects have gradually changed as divorce has become more common. The fact that divorce is so common may lead to the assumption that children are less affected by it.

The objectives of the present study were to investigate (1) the association between DE and measures of adolescent emotional and psychosomatic health; (2) to what extent sustained contact with both parents was associated with less health problems; (3) whether the associations between DE and health problems were attenuated as divorce prevalence increased; and (4) whether mental complaints were attenuated as time since divorce increased.

Materials and Methods

The present study was based on four cross-sectional surveys carried out in 1997, 2001, 2005 and 2009 among tertiary school students in Førde in the county of Sogn og Fjordane in Norway. The surveys included 828, 837, 838 and 911 students, respectively, from four different schools with 3 years' training. The response rates were 91, 93, 87 and 90%. Nonparticipation was almost exclusively due to absence from school on the days of the surveys. At the four different surveys, 380 (46%), 420 (50%), 380 (45%) and 499 (55%) of the students were females. The majority was aged 20 years or younger, and ~2/3 were aged 15–17 years. The number of students in vocational training was almost identical with that in academic training.

The questionnaires from 1997 to 2009 contained from 77 to 82 questions, with most answers predefined. The questions covered a variety of variables about health, demographics, attitude and lifestyle matters. Approximately half of the questions were based on a WHO cross-national survey, concerning lifestyle and health behavior and their relevance in young people's life.[14] The remaining questions were created by one of the authors (H.J.B.) in collaboration with nurses and teachers at the participating schools.

Table 1 gives the variables used in this study, using numbers from 1997 as an example. The variables are the same for the four different survey years, and Table 1 shows the number of response options and valid answers. The variables have proved to be valid in former studies.[4,15] This study examined the associations between divorce and loss of PC and emotional health focusing on three types of complaints: depressive, anxiety and psychosomatic. The composite variables for the complaints were computed as means of the variables included in the construct. Descriptive measures are given in Table 1. Parental support (PS) was examined using the three questions in Table 1, and the construct showed good validity in a previous study.[16] Additionally, we examined whether conversational confidence with parents impacted on the associations between DE and loss of PC and health problems, using the mean of two questions presented in Table 1. In participants with loss of PC, we used the response concerning the parent with sustained contact with the adolescent. These variables are also included in Table 1. At the four surveys from 1997 to 2009, Cronbach's Alphas for PS were 0.63, 0.77, 0.79 and 0.77, and for conversational confidence with parents 0.67, 0.69, 0.73 and 0.77, respectively.

We aimed to describe the impact of divorce with and without loss of PC by establishing three groups according to DE over the four survey years. The first group, comprising 565, 648, 552 and 648 students, had no DE. The second group comprised students who had experienced parental divorce, but maintained contact with both parents. This group numbered 112, 159, 117 and 177. The third group had experienced divorce and lost contact with one of the parents, and a total of 30, 25, 34 and 61 persons constituted this group. Loss of PC was assessed by the response 'I do not see this person'.

Statistics

We calculated frequencies of DE according to survey year with 95% confidence intervals (CIs). We compared emotional complaints according to survey year using analysis of variance (ANOVA) analyses with the Bonferronis correction.

Table 1 Variables used for emotional distress, PS and conversational confidence with parents, with number of response options, number of valid responses and mean values with SDs and variations, from the 1997-survey

Variables	*Response options (Likert scale[a])*	*Valid response*	*Mean (SD)*	*Min–Max*
Depressive complaints			2.05 (0.79)	1.00–5.00
How often have you during recent months experienced the following complaints:				
Irritable or in a bad mood	5 (1–5)	821		
Periodically unhappy/depressed or lacking joy in life	3 (1–5)	818		
Thoughts of ending your own life	3 (1–5)	802		
What do you mostly think about your life	4 (1–5)	823		
Anxiety complaints			1.58 (0.69)	1.00–5.00
How often have you during recent months experienced the following complaints:				
Nervousness	5 (1–5)	818		
Difficulties falling asleep	5 (1–5)	818		
Anxiety without any reason	5 (1–5)	818		
Psychosomatic complaints			1.80 (0.79)	1.00–5.00
How often have you during recent months experienced the following complaints:				
Headache	5 (1–5)	821		
Pain in the stomach	5 (1–5)	814		
Pain in the back	5 (1–5)	819		
Pain in the shoulders and at the nape of the neck	5 (1–5)	819		
Parental support			1.87 (0.89)	1.00–5.00
My parents will help if problems at school	5 (1–5)	810		
My parents will participate at school meetings	5 (1–5)	795		
My parents encourage me to achieve well in school	5 (1–5)	813		
Conversational confidence with parents			2.55 (0.79)	1.00–4.00
How easy or difficult is it to talk with father about issues that bother you?	4 (1–4)	748[b]		
How easy or difficult is it to talk with mother about issues that bother you?	4 (1–4)	789		

[a]Likert scales based on frequencies or gradients ('very' easy to 'very difficult').

[b]Adolescents with loss of PC are treated as system missing, and the item values are based on the reported ease/difficulty with the parent with sustained contact for these participants.

P-values of <0.05 were considered significant. The group without DE was compared according to survey year in order to examine secular trends during the survey period. We performed linear regression analyses with adjustment for age and gender in order to examine the impact of DE on emotional distress and psychosomatic complaints according to survey year in four separate analyses, and thereafter for the total sample. This analysis was repeated with adjustment for PS and conversational confidence with parents in two separate analyses. We performed interaction analyses between gender and DE and also between high and low PS and DE in linear regression analyses with all students from the four survey years together. Two equally sized groups were constructed according to the degree of reported PS. The group with no DE was used as reference group. We calculated the time since DE and analyzed the impact of this measure adjusting for age, gender and loss of PC in a separate analysis. Additionally, we examined whether the group with the most recent DE ($\leq$2 years , N 44) reported distress differently from others with DE.

From the observations of residuals, normality was fairly well achieved. Even with some modest deviations from normality, we maintain that the high number of observations implies that asymptotic normality of the estimated regression coefficients was attained. SPSS 18.0 for Windows was used.

Ethics

Data were collected, registered and stored anonymously. Participation was voluntary, and the students were informed that it was possible to abstain from answering any of the questions. The questionnaires were returned in sealed envelopes. The 2009 survey was presented for the Regional Research Ethics committee (Health region III), which

consented that the survey did not raise ethical concern as all the data were anonymous.

Results

Table 2 presents the number of participants in the three different groups; those with no DE, those with DE and preserved PC and those with DE and loss of PC. The table shows that an increasing number of students had experienced divorce during the period. From 1997 to 2005, the number of students who reported any kind of DE increased by 34% (6.8% absolute increase). During the survey period, the proportion of students with DE and loss PC was stable. Almost all adolescents who reported losing PC lost contact with their fathers.

Table 3 demonstrates that there is no evidence that emotional distress among adolescents diminished as divorce became more common. On the contrary, an increase of anxiety and psychosomatic complaints was detected, but as a concomitant increase was observed also in the group with no DE, the changes express general secular trends or unspecific effects for the surveyed adolescents.

Table 4 presents an intergroup comparison at four different times between the three groups with different DE. The linear regression analyses were adjusted for gender and age, and the group with no DE was used as reference. The table reveals that adolescents with DE and preserved contact with both parents are only slightly more distressed than their peers with no DE, and for some of the comparisons, the CI included zero when each survey year was analyzed separately. When analyzing all the survey years put together, CIs never included zero, but the *b*-values were modest.

Adolescents with concomitant loss of PC experienced emotional distress to a far greater degree than their peers. The unadjusted β-values for this group were almost approaching the standard deviations (SDs) for the constructs used as measures of emotional distress, indicating great effect sizes. The only exception was anxiety complaints in 1997. Therefore, DE with preserved PC has a weak association with distress, but concomitant loss of PC is strongly associated with emotional distress among adolescents. Although PS and conversational confidence with parents impacted on the reported health complaints strongly (results not reported in the table), these measures did not mediate the effect of DE. Table 4 either reveals no or negligible mediation, as can be seen from the second and the third last rows in the table.

By performing interaction analyses with all the participants from the four surveys together, we found that the association between DE and distress, either with preserved or lost PC, were the same for both genders. We demonstrated significant interaction effects between lack of PS and divorce with preserved PC, as the interaction predicted increased depressive and psychosomatic complaints, $B = 0.15$ and 0.17 ($P = 0.03$ and 0.02), respectively. We also demonstrated that the interaction between lack of PS and divorce with loss of PC predicted psychosomatic complaints, $B = 0.39$ ($P = 0.01$). The last row in Table 4 shows that attenuation effects emerge when significant interaction terms are adjusted for.

Further regression analyses did not show attenuation of mental complaints as time since divorce increased. On the contrary, we found a borderline significant increase in depressive complaints with years since divorce, $b = 0.02$, $P = 0.06$. Additional analyses separating the group with the shortest time interval since divorce (≤ 2 years, $n = 44$) did not demonstrate any difference in self-reported complaints compared with peers experiencing divorce less recently. The statistical power for ruling out small differences (<0.40 effect size) was unsatisfactory. Differences >0.39 effect size can be ruled out with statistical power $>80\%$. All these analyses were adjusted for age, gender and loss of PC, since the group with loss of PC experienced divorce on average 2 years earlier than the group with preserved contact.

Table 2 Divorce experience, per cent and 95% CIs, according to survey year

Year	*No divorce experience*		*Divorce with parental contact*		*Divorce with loss of contact with at least one parent*		*Divorce with loss of paternal contact*[a]	
	Percentage (n)	*CI*	*Percentage (n)*	*CI*	*Percentage (n)*	*CI*	*Percentage (n)*	*CI*
1997	79.9 (565)	77–82.9	15.8 (112)	13.2–18.5	4.2 (30)	2.9–6.0	3.8 (26)	2.4–5.2
2001	77.9 (648)	75.1–80.7	19.1 (159)	16.4–21.8	3.0 (25)	2.0–4.4	3.0 (23)	1.8–4.2
2005	72.3 (552)	69.2–75.5	23.2 (177)	20.2–26.2	4.5 (34)	3.1–6.2	4.8 (34)	3.3–6.3
2009	73.1 (648)	70.2–76.1	20.0 (177)	17.3–22.6	7.0 (61)	5.3–8.8	6.2 (54)	4.7–8.0

[a]Some students that lost contact with their father also had no contact with their mother.

Table 3 Emotional distress according to the four different survey years. Results for three different groups tested separately by ANOVAs (Bonferronís correction) with 1997 as reference

Timing	*No divorce experience*				*Divorce with parental contact*				*Divorce with loss of parental contact*			
	Mean (SD)	*Mean difference*	P-*value*	F (P)	*Mean (SD)*	*Mean difference*	P-*value*	F (P)	*Mean (SD)*	*Mean difference*	P-*value*	F (P)
Depr. complaints												
1997	1.98 (0.74)			1.4 (0.25)	2.23 (0.87)			0.5 (0.8)	2.41 (0.85)			2.1 (0.1)
2001	2.04 (0.79)	−0.06	1.00		2.28 (0.84)	−0.04	1.00		2.74 (1.12)	−0.33	1.00	
2005	1.95 (0.75)	0.03	1.00		2.78 (0.89)	0.06	1.00		2.44 (1.01)	−0.35	1.00	
2009	2.01 (0.82)	−0.03	1.00		2.17 (0.88)	0.06	1.00		2.87 (0.97)	−0.46	0.23	
Anxiety complaints												
1997	1.56 (0.69)			14.7 (<0.005)	1.66 (0.73)			3.0 (0.03)	1.55 (0.58)			6.3 (0.001)[a]
2001	1.69 (0.72)	−0.12	0.02		1.81 (0.86)	−0.14	0.98		2.40 (1.08)	−0.84	0.01	
2005	1.66 (0.70)	−0.10	0.12		1.81 (0.83)	−0.15	0.85		2.06 (1.07)	−0.51	0.26	
2009	1.83 (0.73)	−0.27	<0.005		1.96 (0.86)	−0.30	0.02		2.45 (1.08)	−0.90	<0.005	
Psychosomatic complaints												
1997	1.75 (0.77)			4.0 (0.007)[a]	1.98 (0.83)			5.4 (0.001)[a]	2.23 (0.95)			1.7 (0.2)
2001	1.77 (0.73)	−0.02	1.00		1.82 (0.69)	0.16	0.83		2.28 (0.98)	−0.05	1.00	
2005	1.78 (0.78)	−0.03	1.00		2.02 (0.96)	−0.04	1.00		2.50 (0.99)	−0.27	1.00	
2009	1.89 (0.88)	−0.14	0.01		2.18 (0.99)	−0.20	0.35		2.70 (1.19)	−0.47	0.31	

[a]Brown–Forsythe robust tests of the equality of means.

Table 4 Intergroup comparison at four times and among all the participants during four survey years

Survey year	Depressive complaints				Anxiety complaints				Psychosomatic complaints			
	Divorce with parental contact		Divorce with loss of parental contact		Divorce with parental contact		Divorce with loss of parental contact		Divorce with parental contact		Divorce with loss of parental contact	
	b[a]	CI	B	CI	b	CI	b	CI	B	CI	b	CI
1997	0.24	0.08–0.39	0.34	0.06–0.62	0.09	−0.05–0.23	−0.16	−0.27–0.24	0.21	0.05–0.37	0.44	0.15–0.73
2001	0.21	0.08–0.35	0.67	0.36–0.99	0.09	−0.04–0.22	0.72	0.42–1.02	0.01	−0.11–0.13	0.52	0.24–0.80
2005	0.22	0.08–0.35	0.47	0.20–0.74	0.13	0.01–0.26	0.38	0.12–0.64	0.23	0.09–0.36	0.70	0.42–0.97
2009	0.21	0.04–0.37	0.94	0.66–1.23	0.20	0.05–0.35	0.70	0.44–0.96	0.35	0.17–0.53	1.02	0.71–1.32
Total	0.21	0.14–0.28	0.60	0.46–0.75	0.13	0.06–0.20	0.44	0.30–0.57	0.19	0.12–0.26	0.68	0.54–0.82
Total[b]	0.18	0.11–0.25	0.51	0.37–0.66	0.12	0.05–0.19	0.39	0.25–0.53	0.18	0.11–0.25	0.64	0.49–0.78
Total[c]	0.24	0.17–0.31	0.58	0.44–0.73	0.15	0.08–0.22	0.45	0.31–0.59	0.21	0.14–0.28	0.65	0.50–0.80
Total[d]	0.11	0.01–0.21							0.09	−0.01–0.20	0.49	0.24–0.73

The two divorce groups are compared with the reference group with no divorce experience.

[a]*b* is the unstandardized regression coefficient in the linear regression analyses with adolescents without the experience of divorce as reference group. All the analyses are adjusted for age and gender and in the last two rows the regression coefficients are adjusted for parental support [b]and conversational confidence with parent(s)[c], respectively.

[d]Significant interactions of parental support and divorce experience have been adjusted for.

Discussion

Main findings of this study

We found that an increasing number of children and adolescents experienced divorce during the survey years, but no sign of attenuating effects on emotional and psychosomatic complaints was observed. The study revealed only a modest increase of health complaints if PC was preserved, but a conspicuous increase when the adolescents experienced loss of PC. Interaction analyses showed no moderating effects from gender, and we may thus conclude that both genders were impacted equally. However, adolescents experiencing lack of PS are more vulnerable and report emotional distress more often than peers with preserved PS after DE.

Data were collected in a county that has been less affected by the 'divorce trend' and also a later rise in marital separation and divorce than more urban districts in Norway. We were therefore able to examine whether health complaints diminished during the years when divorce prevalence increased. Our empirical data do not support the popular belief that children and adolescents are less affected as divorce becomes more prevalent.

The feasibility and reliability of the questionnaires and the validity of the constructs for emotional and psychosomatic health used in this survey were demonstrated in earlier studies.[4,15] In addition our study shows results similar to those of other studies with participants from the same region.[17,18] Therefore, we consider our results valid.

Limitations of this study

The present study was based on cross-sectional studies. The results are therefore associations and not causation. The associations documented in this study may be caused by the DE and the concomitant loss of PC. We cannot, however, rule out other explanations. Inherited disturbances, as for instance mental health problems and substance abuse, will increase the likelihood of adolescent distress and at the same time be related to parental relational problems.

What is already known on this topic

Figures from the County Governor of Sogn og Fjordane support the findings that an increasing number of children experience divorce.[19] Our finding about the relationship between divorce and mental health has been documented in several studies.[3,4,15,17,18] The children may experience conflicts, neglect or parental alienation, and might be insecure about who belongs to the family.[18] Critics claim that early research showing divorce to have persistent damaging effects on the child's adjustment was methodologically imprecise and not representative.[6,20] Nevertheless, more recent studies using objective measurements and more

representative populations also conclude that divorce does have a negative effect on mental health despite the fact that the norms of society have changed.[3,4,15,17,18] We found that adolescents with preserved PC reported slightly more emotional complaints than their peers without DE. This is supported by a meta-analysis that confirmed the association between divorce and reduced well-being, but also concluded that the estimated effects were small and attenuated as adjustments for relevant confounders were made.[8]

Divorce is associated with decline in quantity and quality of the contact between the child and the non-custodial parent.[18] The negative effect of a parent's absence may reflect lack of attention, supervision and economic security from the parent, and economic security as shown by Amato and Keith.[8] However, the same study showed that even if the child is provided with a step-parent, the well-being of the child is not fully restored.[8] Biological parents seem to be of particular importance. Regular and frequent contact with both parents after divorce may reduce the potential harmful effects of parental absence as seen in sole-custody households.[20]

When divorce is accompanied by strong conflicts where children may even be used as 'weapons in parental wars', contact with one of the parents may be limited or brought to an end. In such conflicts all parts suffer.[21] The child is left with difficult choices of alliance with one of the parents and loss of contact with the other. The concept 'parental alienation syndrome' is used.[22]

Several studies find evidence that PC and support is associated with better mental health and mastering.[7,23–26] Lack of PS or conversational confidence was an independent risk factor for adolescent distress in the present study, but did not mediate the effect of divorce or loss of PC. This may indicate that social support from the peer group is equally important as PS. A recent study suggested interaction effects with less depressive complaints when either PS was high or friendship conflict was low.[27] Quality of friendship was not investigated in the present study, but the moderating effect of PS was confirmed.

An alternative explanation for the lack of meditating effects is that PS or conversational confidence, as defined in this study, misses the dimensions of parental conflict that may jeopardize the health of children. Such children may not lack support or confidence from their parent(s), but are provided with exclusive support that may promote triangulation and loyalty conflicts.[21,22] Still another explanation is that vulnerability and distress among children are impacted by the same hereditary factors that promote parental conflict.

Some studies indicate that girls with DE are more likely than boys with DE to develop behavioral problems.[28,29] Others find less difference between the genders.[30] Some girls seem to be empowered by having to handle responsibility in connection with DE. However, this benefit seems to come at the cost of depressive complaints and low self-worth.[6] With high levels of stress and excessive responsibility, the health jeopardy outweighs any benefit.[28]

In the research literature, it is also maintained that possible traumatic effects of divorce diminish with time since divorce.[6] The results of the present study contradict these statements, at least concerning the health of adolescents. The finding that more adolescents lose contact with the father than with the mother is consistent with other research literature.[7,17,20] As the children's relationship with their fathers weakens after divorce, their relationship with their stepfamily and paternal grandparents may become distant, negative or even non-existent.[31] In this way one negative relation causes the child to lose several potentially important persons in their network. The results from the present study may therefore support recent political and cultural efforts to promote the maintenance of contact with both parents.

What this study adds

We may conclude that emotional distress after divorce is not attenuated as divorce prevalence increases. The associations between divorce and reduced well-being of adolescents seem to be confined mainly to those experiencing loss of PC. Efforts aiming at reducing parental hostility and improving mutual responsibility and care therefore seem important.

Key points

- Earlier research showed that the well-being of children from divorced families improves with time.
- Earlier research also showed conflicting results as to whether the reduced well-being of children was confined to special groups and was mediated by other factors.
- We could not demonstrate any attenuated effects as time since divorce increased or during a time lapse with strongly increasing divorce prevalence.
- Emotional and psychosomatic health problems were more pronounced in the group of adolescents that lost contact with a parent.
- Parental support or conversational confidence with parent(s) did not mediate the associations between divorce experience and distress.

Acknowledgements

The Norwegian Data Inspectorate helped with data punching and organizing data files. The authors express their

gratitude to the school health nurses and the school administration at the participating schools. This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Conflicts of interest

None declared.

References

1 Statistics Norway. Barn som opplevde skilsmisse. 2008 http://statbank.ssb.no/statistikkbanken/Default_FR.asp?PXSid=0&nvl=true&PLanguage=0&tilside=selectvarval/define.asp&Tabellid=05703 (15 April 2010 date last accessed).

2 Statistics Norway. Langt flere barn opplever foreldrebrudd enn det skilsmissestatistikken viser 2005 http://www.ssb.no/vis/magasinet/slik_lever_vi/art-2005-04-04-01.html (15 April 2010 date last accessed).

3 Storksen I, Roysamb E, Gjessing HK *et al*. Marriages and psychological distress among adult offspring of divorce: a Norwegian study. *Scand J Psychol*. 2007;**48(6)**:467–76.

4 Breidablik HJ, Meland E. Familieopplosning i barndom—helse og helseatferd i ungdommen. [Experience of family break-up during childhood—health and health behavior in adolescence]. *Tidsskr Nor Laegeforen*. 1999;**119(16)**:2331–5.

5 Felner RD, Stolberg A, Cowen EL. Crisis events and school mental health referral patterns of young children. *J Consult Clin Psychol* 1975;**43(3)**:305–10.

6 Hetherington EM, Stanley-Hagan M. The adjustment of children with divorced parents: a risk and resiliency perspective. *J Child Psychol Psychiatry* 1999;**40(1)**:129–40.

7 Kelly JB. Children's living arrangements following separation and divorce: insights from empirical and clinical research. *Fam Process* 2007;**46(1)**:35–52.

8 Amato PR, Keith B. Parental divorce and the well-being of children: a meta-analysis. *Psychol Bull* 1991;**110(1)**:26–46.

9 Case A, Lin IF, McLanahan S. Household resource allocation in stepfamilies: Darwin reflects on the plight of Cinderella. *Am Econ Rev* 1999;**89(2)**:234–8.

10 Fabricius WV, Luecken LJ. Postdivorce living arrangements, parent conflict, and long-term physical health correlates for children of divorce. *J Fam Psychol* 2007;**21(2)**:195–205.

11 Huurre T, Junkkari H, Aro H. Long-term psychosocial effects of parental divorce: a follow-up study from adolescence to adulthood. *Eur Arch Psychiatry Clin Neurosci*. 2006;**256(4)**:256–63.

12 Sugar M. Children of divorce. *Pediatrics*. 1970;**46(4)**:588–95.

13 Cherlin AJ, Chase-Lansdale PL, McRae C. Effects of Parental Divorce on Mental Health Throughout the Life Course. *American Sociological Review*. 1998;**63(2)**:239–49.

14 Currie K. Health and health behaviour among young people. WHO Regional Office for Europe, 2000.

15 Hoel S, Eriksen BM, Breidablik HJ *et al*. Adolescent alcohol use, psychological health, and social integration. *Scand J Public Health*. 2004;**32(5)**:361–7.

16 Dahle T, Dalen HA, Meland E *et al*. Uonskede seksuelle erfaringer og helseplager blant ungdom [Unwanted sexual experiences and health complaints among adolescents]. *Tidsskrift for den Norske laegeforening: tidsskrift for praktisk medicin, ny raekke*. 2010;**130(19)**:1912–6.

17 Naevdal F, Thuen F. Residence arrangements and well-being: a study of Norwegian adolescents. *Scand J Psychol*. 2004;**45(5)**:363–71.

18 Taanila A, Laitinen E, Moilanen I *et al*. Effects of family interaction on the child's behavior in single-parent or reconstructed families. *Fam Process*. 2002;**41(4)**:693–708.

19 County Governor of Sogn and Fjordane. Separasjonar og skilsmisser i 2010. Leikanger 2011 [updated 6 January 2011; cited 7 June 2011] http://www.fylkesmannen.no/fagom.aspx?m=466&amid=3478615 (10 April 2011, date last accessed).

20 Bauserman R. Child adjustment in joint-custody versus sole-custody arrangements: a meta-analytic review. *J Fam Psychol*. 2002;**16(1)**:91–102.

21 Amato PR. The consequences of divorce for adults and children. *J Marriage Fam* 2000;**62(4)**:1269–87.

22 Gardner RA. *The parental alienation syndrome*. 2nd edn. Cresskill, NJ: Creative Therapeutics, 1998.

23 Rueger SY, Malecki CK. Effects of stress, attributional style and perceived parental support on depressive symptoms in early adolescence: a prospective analysis. *J Clin Child Adolesc Psychol* 2011;**40(3)**:347–59.

24 Surjadi FF, Lorenz FO, Wickrama KA *et al*. Parental support, partner support, and the trajectories of mastery from adolescence to early adulthood. *J Adolesc* 2010. Epub 2010/11/04.

25 Rohner RP. The parental 'acceptance-rejection syndrome': universal correlates of perceived rejection. *Am Psychol* 2004;**59(8)**:830–40.

26 Flouri E. Non-resident fathers' relationships with their secondary school age children: determinants and children's mental health outcomes. *J Adolesc* 2006;**29(4)**:525–38.

27 Sentse M, Laird RD. Parent-child relationships and dyadic friendship experiences as predictors of behavior problems in early adolescence. *J Clin Child Adolesc Psychol* 2010;**39(6)**:873–84.

28 Rende RD, Plomin R, Reiss D *et al*. Genetic and environmental influences on depressive symptomatology in adolescence: individual differences and extreme scores. *J Child Psychol Psychiatry*. 1993;**34(8)**:1387–98.

29 Clingempeel WG, Colyar JJ, Brand E *et al*. Children's relationships with maternal grandparents: a longitudinal study of family structure and pubertal status effects. *Child Dev* 1992;**63(6)**:1404–22.

30 Peters HE, Argys LM, Maccoby EE *et al*. Enforcing divorce settlements: evidence from child support compliance and award modifications. *Demography* 1993;**30(4)**:719–35.

31 Ahrons CR. Family ties after divorce: long-term implications for children. *Fam Process* 2007;**46(1)**:53–65.