The quality of communication between parents and adolescent children in the case of parental cancer

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Background: This study was designed to investigate: (i) parent–adolescent communication in families of cancer patients; (ii) relationships between parent–adolescent communication and posttraumatic stress symptoms (PTSS) in adolescent children; and (iii) associations between parents’ illness characteristics and parent–adolescent communication.

Patients and methods: A total of 212 adolescents completed the Impact of Event Scale and Parent–Adolescent Communication Scale.

Results: Adolescents communicated less openly with mothers with cancer than controls with mothers; this was the only significant difference with the reference group. Daughters communicated more openly with ill parents than with healthy parents. More open communication with healthy parents was related to fewer PTSS in daughters. More problem communication with both parents was related to more PTSS in both sons and daughters. Sons reported more problems in communication with ill parents in case of more intensive treatment or recurrent disease. Daughters experienced less open communication with both parents when ill parents received more intensive treatment. Time since diagnosis was not related to parent–adolescent communication. Multivariate analyses showed that communication patterns specifically affected PTSS of daughters. Problem communication with the healthy parent was the strongest predictor of intrusion while problem communication with the ill parents was the strongest predictor of avoidance.

Conclusions: Parent–adolescent communication in families of cancer patients differs little from that in families not confronted with parental cancer. Problem communication outweighed lack of openness with respect to development of PTSS. Recurrent disease and intensive treatment regimens affected parent–adolescent communication negatively.

Key words: child functioning, communication, parental cancer

Introduction

It is well known that experiencing a stressful life event can cause psychosocial problems in children. One can imagine that cancer in a parent is such an emotionally stressful event, as this may result in extensive changes in daily family life due to hospitalizations and disrupted routines [1]. Children may react to parental cancer in particular by internalizing problems (e.g. depression, withdrawal) and developing posttraumatic stress symptoms (PTSS) [2–4]. A good relationship with parents may buffer emotional effects for adolescents [5, 6]. Communication between adolescents and parents is considered an indicator of the quality of their relationship [7]. In general, studies have shown that family relationships seem to be closer when parent–adolescent communication is better, which helps adolescents to adapt to difficult life events [8, 9]. The quality of parent–adolescent communication in stressful situations may also have consequences for adolescents’ psychosocial functioning. Studies conducted on the relationship between parent–child communication and psychosocial functioning of children in cases of parental cancer show contradictory results. Two studies described that poor parent–child communication increased the risk of psychosocial problems in school-aged children [10] and adolescents [11], while another study found no relationship between parent–child communication and the functioning of younger or older children [12]. Parents may be reluctant to talk openly with children about cancer because they want to protect them or because they attempt to avoid their questions, especially those about death [13–15]. On the other hand, children may find it hard to talk openly with parents about thoughts and feelings concerning cancer, because they do not want to upset them [16–18]. Adolescents may also shield themselves and avoid
talking with parents because they might hear distressing information [18, 19].

Gender of adolescents and parents may be of importance concerning the quality of parent–adolescent communication. In general, adolescents report they communicate better with parents of the same sex [20, 21], while other studies have shown that both boys and girls communicated better with mothers than fathers [8, 22].

Little is known about the effect of a stressful event such as cancer on communication patterns in families. Moreover, results of studies among families confronted with parental cancer are mainly based on small samples and qualitative data, and have a descriptive nature. Although open communication between parents and children is often advocated, in particular when a parent has cancer [1, 23, 24], there is little evidence that adolescents who perceive more open communication with ill and healthy parents actually function better. Therefore, the aims of this study are to examine: (i) whether there are differences in adolescent reported parent–adolescent communication among adolescents who have a parent with cancer and adolescents of a reference group; (ii) relationships between parent–adolescent communication and PTSS in adolescents; and (iii) effects of gender and health status of parents, and of illness-related variables (time since diagnosis, recurrent disease and treatment intensity) on parent–adolescent communication.

Subjects and methods

Procedure

The present study is part of an extensive study examining the psychosocial consequences for children of cancer patients. From January 2001 to February 2003, cancer patients treated in the University Medical Center Groningen were approached about study participation by their physician or nurse. Patients were eligible if they were diagnosed 1–5 years prior to study entry, had children between 4 and 18 years of age, and were fluent in Dutch. Parents received written information about the study and an adapted version for their children. In addition, an informed consent form and a prepaid return envelope were provided separately for each family member. After obtaining written informed consent, researchers mailed a separate questionnaire and a prepaid return envelope to each participating family member. Family members were asked to complete the questionnaires independently and not to consult each other. The study was approved by the Medical Ethics Committee of the University Medical Center Groningen.

Participants

Information about the study was given to 476 patients and family members of 205 patients (43%) agreed to participate. There were no significant differences between ill parents who did not participate and those who did with respect to gender, tumor type and time since diagnosis.

This study focused on children between 11 and 18 years old, because they completed questionnaires themselves. Participants were 212 adolescent children (92 sons, 120 daughters; mean age 15.1 ± 2.3 years, range 11–18) from 139 families. Sons and daughters did not differ significantly in age. Thirty-five adolescents had a father with cancer (16%) and 177 a mother with cancer (84%). Most of the adolescents (96%) came from two-parent families. Fifty-four per cent of adolescents had a parent diagnosed with breast cancer; 13% gynecologic cancer; 11% skin cancer; 7% hematological malignancies; 6% sarcoma; 4% urologic cancer; and 5% other malignancies. The median time since the parents’ diagnosis was 2.7 years. According to the parents 20% had recurrent disease (nine of 35 adolescents of ill fathers; 34 of 177 adolescents of ill mothers), while the remaining 80% of the parents did not indicate they suffered from recurrent disease. A dichotomous variable was created for non-intensive treatment (surgical treatment only), which 18% of the parents received, and intensive treatment (non-surgical or multimodal treatment), which 82% of the parents received. This classification of treatment intensity was based on the expectation that chemotherapy, radiotherapy or multimodal treatment would be more distressing for children, because the parents were more often absent from home, and children were confronted with more visible side-effects for longer than when a parent was treated with surgery only. In 78 families one child participated (56%), in 51 families two (37%), in eight families three (6%) and in two families four children (1%).

Measures

Adolescents completed the Impact of Event Scale (IES) to assess PTSS [25, 26], consisting of two subscales: intrusion (seven items) and avoidance (eight items). Total distress can be computed by summing the subscales. Adolescents rated the frequency of intrusion and avoidance with respect to the parent’s cancer during the preceding 7 days. Examples of items include: ‘Any reminder brings back feelings about it’ (intrusion) and ‘I try to banish it from my memory’ (avoidance). Items were scored on a 4-point scale, ranging from ‘not at all’ to ‘often’ (intrusion, range 0–35; avoidance, range 0–40; total distress, range 0–75); higher scores indicate more symptoms. The Dutch version of the IES has a cut-off point for the total score of 26, from which a respondent is considered to have clinically elevated PTSS. Cronbach’s alphas in the present study ranged from 0.82 to 0.91 for intrusion, avoidance and total distress for sons and daughters.

The Parent–Adolescent Communication Scale (PACS) was used to measure communication as perceived by adolescents [21, 27, 28]. The PACS has two subscales. The Openness of Parent–Adolescent Communication (10 items) subscale assesses the quality of exchanging information and investigates freedom in communication, and comprehension and satisfaction about communication. An example of an item is: ‘it is easy for me to express all my true feelings to my father/mother’. The Problems in Parent–Adolescent Communication (10 items) identifies barriers to parent–adolescent communication, i.e. presence of negative feelings about communication, absence of sharing feelings and selectivity of subjects. An example item is: ‘when we are having a problem, I often give my mother/father the silent treatment’. Answers were given on a 5-point Likert scale, ranging from ‘strongly disagree’ to ‘strongly agree’ (possible range 10–50). This was done separately for the communication with the mother and the communication with the father. Higher scores on the Open Communication subscale indicate more open communication. Scores on the Problems Communication subscale were reversed in value, so that higher scores indicate less perceived problem communication [27]. Cronbach’s alphas in the present study were 0.73 and 0.83 for open communication, and 0.72 and 0.77 for problem communication for sons and daughters, respectively.

Information is available for a Dutch reference group from the referral area of the University Medical Center Groningen. This reference group consisted of 410 randomly selected adolescents (232 girls and 178 boys; age range 13–17 years) from six secondary schools in towns in the east and north of The Netherlands. Eighty per cent of the adolescents came from two-parent families [21].

Information on cancer type, time since diagnosis, and treatment received was obtained from patients’ medical records and recurrent disease was indicated by parents.

Data analysis

Descriptive statistics of PTSS and parent–adolescent communication were used to describe the study population. Independent t-tests were performed to
compare mean scores on the PACS of adolescent children of cancer patients with reference data, and between communication of adolescents with ill versus healthy fathers, and of adolescents with ill versus healthy mothers. To assess clinical significance, effect sizes were calculated using Cohen’s d. Effect sizes >0.5 are considered large, those between 0.3–0.5 moderate, and those <0.3 small [29]. Pearson’s correlation coefficients were computed to explore relationships between communication, and (i) PTSS and (ii) time since diagnosis, and between age and PTSS. t-tests were also conducted to investigate differences in communication between sons and daughters of parents (i) suffering from non-recurrent or recurrent disease, and (ii) who had received intensive or non-intensive treatment. Finally, regression analyses were performed to explore the predictive contribution of parent–adolescent communication on intrusion, avoidance and total distress. Variables that showed a significant relationship in the univariate analyses were included in the regression analyses.

Results

Posttraumatic stress symptoms

Seventeen sons (19%) and 48 daughters (34%) reported clinically elevated PTSS (total score IES ≥26). Daughters had significantly higher mean scores on intrusion (t = 3.14; P = 0.002), avoidance (t = 2.56; P = 0.011) and total distress (t = 3.11; P = 0.002) than did sons. No significant relationship was found between the age of adolescents and PTSS.

Differences in communication between adolescent children of cancer patients and controls

Adolescents reported that communication with mothers with cancer (mean 39.4, SD 6.9) was significantly less open (t = −2.137, P = 0.03) than adolescents of a reference group did about the communication with mothers (mean 40.6, SD 6.1). The effect size of this difference (−0.20) was small (95% confidence interval for difference −2.32 to −0.08). No further differences between the study population and the comparison group were found.

Communication and PTSS

Open communication with ill or healthy parents was not significantly associated with intrusion, avoidance and total distress of sons. In daughters, more open communication with healthy parents only was related to fewer symptoms of intrusion, avoidance and total distress. Problem communication with ill parents was significantly positively related to intrusion, avoidance and total distress in sons, and to avoidance and total distress in daughters. Problem communication with healthy parents was significantly positively associated with intrusion, avoidance and total distress in both sons and daughters (Table 1).

Table 1. Correlational analyses between parent–adolescent communication and posttraumatic stress symptoms

<table>
<thead>
<tr>
<th>Dyad</th>
<th>Communication</th>
<th>Impact of event scale</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Intrusion</td>
<td>Avoidance</td>
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<tr>
<td></td>
<td>r</td>
<td>r</td>
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<tr>
<td>Sons—ill parents</td>
<td>Openness</td>
<td>−0.05</td>
</tr>
<tr>
<td></td>
<td>Problems</td>
<td>−0.32**</td>
</tr>
<tr>
<td>Sons—healthy parents</td>
<td>Openness</td>
<td>−0.02</td>
</tr>
<tr>
<td></td>
<td>Problems</td>
<td>−0.30**</td>
</tr>
<tr>
<td>Daughters—ill parents</td>
<td>Openness</td>
<td>−0.07</td>
</tr>
<tr>
<td></td>
<td>Problems</td>
<td>−0.09</td>
</tr>
<tr>
<td>Daughters—healthy</td>
<td>Openness</td>
<td>−0.41**</td>
</tr>
<tr>
<td>parents</td>
<td>Problems</td>
<td>−0.21*</td>
</tr>
</tbody>
</table>

*P <0.05; **P <0.01.

Daughters of parents receiving non-intensive treatment reported more open communication with ill (t = 2.0; P ≤ 0.05) and healthy parents (t = 2.6; P ≤ 0.01) than daughters of parents receiving intensive treatment. Sons reported less problem communication with parents receiving non-intensive treatment than sons of parents receiving intensive treatment (t = 3.3; P ≤ 0.01).

Regression analyses

Gender of adolescent, recurrent disease, intensity of treatment, open communication with the healthy parent and problem communication with the ill and healthy parents were included in the regression analyses. Female gender (β = −0.22; P = 0.003), recurrent disease (β = 0.17; P = 0.019), and less open (β = 0.19; P = 0.037) and more problem (β = −0.47; P = 0.003) communication with the healthy parent appeared to have an independent effect on intrusion (total R² = 0.17; F = 5.75; P ≤ 0.001). Female gender (β = −0.15; P = 0.036) and more problem communication with the ill parent (β = −0.31; P = 0.038) had unique effects on avoidance (total R² = 0.18; F = 6.04; P ≤ 0.001). Female gender of the adolescent (β = −0.20; P = 0.005) and recurrent disease (β = 0.15; P = 0.040) had independent effects on total distress (total R² = 0.19; F = 6.51; P ≤ 0.001).

Discussion

Our first aim was to examine parent–adolescent communication in families of a parent diagnosed with cancer by comparing it with a reference group of adolescents not confronted with parental cancer. Adolescents communicated less openly with...
mothers with cancer than adolescents of a reference group with mothers, but the clinical relevance appeared to be small. Open communication between adolescents and ill and healthy fathers, and that between adolescents and healthy mothers, was comparable to that found in the reference group. Furthermore, we found no differences in problem communication between groups. This suggests that a stressful event such as parental cancer marginally affects communication patterns in families. This finding is largely in line with the results of a recent study using a small sample (n = 31) that revealed no differences in parent–adolescent communication between families of a parent with cancer and ‘healthy’ families [30]. No relationships were found between time from 1–5 years after diagnosis and communication patterns, suggesting that time did not affect communication. It may well be that these communication patterns found in the families resemble a stable level of general communication, while communication could be affected in the acute phase of the illness. Therefore, a study should be performed in adolescent children of parents recently diagnosed with cancer to gain insight into the communication patterns during the acute phase of the illness.

Why adolescents in the current study experienced less open communication with ill mothers is not fully elucidated. It may be caused by an attempt to protect themselves and each other [13–19]. This control strategy has been described in research into pediatric oncology as ‘the phenomenon of double protection’ [31].

Our second aim was to identify relationships between communication and PTSS in children. We could only demonstrate one positive effect of open communication on child functioning. Daughters reported fewer PTSS when they communicated more openly with healthy parents. Still, daughters perceived the communication with healthy parents as less open than that with ill parents. It may well be that this was not based on parents’ health status but on parents’ gender. The majority of parents with cancer in our study were mothers (84%) and consequently most healthy parents were fathers. Earlier research has shown that children tend to talk more easily with parents of the same sex [20, 21]. In contrast to open communication, problem communication was almost consistently related to PTSS in both sons and daughters. The relationship between child functioning and problem communication with parents has been found previously [32, 33]. Our finding is also comparable to results of a recent study in adolescent children of cancer patients, which found more anxiety in adolescents who perceived a less positive relationship with the parents [34]. As adolescents with PTSS experience symptoms of intrusion and avoidance, it may be that they avoided conversations with parents because they did not want to be reminded of their parent’s illness.

Multivariate analyses showed that communication patterns particularly affected PTSS of daughters. Moreover, our study suggests that problem communication with parents has more impact on PTSS than open communication. Problem communication with the healthy parent was the strongest predictor of intrusion, while problem communication with the ill parents was the strongest predictor of avoidance. The reason for this last result is unclear, and could be the focus of further study.

Our third aim was to investigate associations between communication and parental illness-related characteristics. Our results show that sons report more problem communication with parents who had recurrent disease. It seems that recurrent disease, and consequently a greater fear of losing the parent [30], raised additional barriers in the communication. The intensity of treatment was also important in the present study. When parents received non-intensive treatment, daughters perceived communication with both parents as more open and sons experienced fewer problems in communication with ill parents. This may be explained by the shorter duration of such a treatment regimen, fewer side-effects and a less visibly ill parent, less frequent absence from home of parents, and a more favorable prognosis. This may have eased communication.

This study differs from previous research in the large study sample, the separate analyses for sons and daughters, comparisons with a reference group and data on communication with parents with cancer as well as healthy parents. The distribution of ill mothers and fathers was skewed, but this is inherent in the incidence of cancer in this age group [35]. As our study was cross-sectional, we relied on a single time point of data collection. Therefore, we did not gain insight into possible changes in communication and PTSS, changes in associations between

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**Table 2. Descriptive statistics of the communication of adolescents with parents with cancer and healthy parents, and differences between communication of adolescents with ill versus healthy fathers, and with ill versus healthy mothers**

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<th>Fathers</th>
<th></th>
<th>Mothers</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>n (dyad)</td>
<td>Range (observed)</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Open communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adolescents—ill parents</td>
<td>35</td>
<td>21–49</td>
<td>37.4</td>
<td>6.4</td>
</tr>
<tr>
<td>Adolescents—healthy parents</td>
<td>142</td>
<td>17–50</td>
<td>37.4</td>
<td>7.2</td>
</tr>
<tr>
<td>Problem communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adolescents—ill parents</td>
<td>35</td>
<td>18–44</td>
<td>35.4</td>
<td>5.8</td>
</tr>
<tr>
<td>Adolescents—healthy parents</td>
<td>144</td>
<td>18–50</td>
<td>36.4</td>
<td>6.6</td>
</tr>
</tbody>
</table>

SD, standard deviation.
variables over time and causality. Furthermore, the response rate of the present study was low (43%), which may have caused sampling bias. In more than 44% of the families, more than one child was a participant. One suggestion is to use multilevel analyses in future research to account for dependency of sibling data.

In addition, the coefficient alphas of the subscales of the PACS ranged from 0.72 to 0.83. Alphas of 0.70 are considered as reasonable for short tests [36]. Although the alphas in this study were sufficiently high, such alphas could indicate a certain amount of unreliability. Moreover, the PACS assessed openness and barriers in everyday communication. This means that adolescents did not specifically rate the communication pertaining to the parent’s disease and treatment. We assumed that general family communication patterns would apply to communication about cancer as well, but this should be confirmed in future studies.

Until now, it was not known whether communication is affected when a family is confronted with parental cancer. Our findings suggest that communication in these families differs little from that in families not confronted with parental cancer, but that characteristics related to the parent’s illness affect communication negatively. Moreover, we discovered that problems in communication have more impact on child functioning than a lack of openness, which is important information for parents confronted with cancer. Because the parent is the patient in these families, the primary attention of health professionals is focused on him or her. Therefore, clinicians have little or no direct contact with children of patients and depend on information the parents provide. However, they could discuss with parents the importance of communication with children, especially when they observe difficulties in communication, in the case of intensive treatment or recurrent disease. Furthermore, they could make healthy parents (mainly fathers) aware of the significance of open communication with their daughters.

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References