Communication skills training and clinicians’ defenses in oncology: an exploratory, controlled study

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Abstract

Objective: The underlying mechanisms modifying clinician’s communication skills by means of communication skills training (CST) remain unknown. Defense mechanisms, defined as psychological processes protecting the individual against emotional stress, may be a mediating factor of skills improvement.

Methods: Using an adapted version of the Defense Mechanism Rating Scale—Clinician, this study evaluated clinicians’ defense mechanisms and their possible modification after CST. Interviews with simulated patients of oncology clinicians (N = 57) participating in CST (pre-/post-CST with a 6-month interval) were compared with interviews with the same simulated patients of oncology clinicians (N = 56) who did not undergo training (T1 and T2 with a 6-month interval).

Results: Results showed (i) a high number (mean = 16, SD = 6) and variety of defenses triggered by the 15-min interviews, (ii) no evolution difference between groups, and (iii) an increase in mature defenses after CST for clinicians with an initial higher level of defensive functioning.

Conclusions: This is the first study describing clinicians’ defensive functioning; results indicate a possible mediating role of defenses in clinician–patient communication.

Introduction

Communication has been recognized as a central element of cancer care [1]; some of its aspects, such as breaking bad news, communication in end of life care or error disclosure are perceived as highly stressful by oncology clinicians [2–4]. Ineffective communication contributes to patients’ confusion and uncertainty, and increased difficulty in asking questions, expressing feelings and understanding information [5,6], and to clinicians’ lack of job satisfaction and emotional burnout [7]. On the other hand, effective communication contributes to patient’s psychological adjustment and quality of life [5,8,9], adherence to treatment [9], enhanced information recall [8] and patient satisfaction [8,10], as well as clinician satisfaction and reduced levels of profession-related stress [7].

Based on these findings, communication skills training (CST) for oncology clinicians has been widely developed over the last decade. Recently, three systematic reviews on the effectiveness of CST [11–13] reported increased confidence of clinicians, and improvement of specific skills.

Little is known, however, about the underlying mechanisms mediating these improvements. While several studies have pointed out the emotional difficulties encountered by oncology clinicians in the context of strong affective load and confrontation with the patient’s distress [3,4,14,15], a more detailed description of how clinicians respond to these challenges is lacking. A possible framework to investigate these issues is the concept of defense mechanisms.

Operating without conscious effort and triggered by anxiety-provoking situations, defenses contribute to the individual’s adaptation to and protection from stress [16]. Usually described in patients, for example as denial when facing threatening news, defenses operate also in clinicians under distress. Different types of defense mechanisms have been described [17] and classified depending on their degree of adaptation to or distortion of reality, ranging from ‘immature defenses’, such as projection or denial, to ‘mature defenses’, such as displacement or intellectualization [17,18]. While patient’s defense mechanisms are extensively studied in psychotherapy research [19], they have never been investigated in clinicians, not even in psychiatrists or psychotherapists.

However, clinicians also protect themselves, as do patients, by means of defense mechanisms in
distressing situations [1,20]. The clinician thus avoids or reduces threatening emotions, but also distorts reality, which diminishes his ability to integrate all aspects of the situation, to foster the therapeutic or working alliance, and to perceive the patient’s needs. In such moments, the clinician may be perceived by the patient as detached and less empathic. Moreover, repeated use of immature defenses may increase the risk of professional distress and emotional exhaustion [21] this might also be the case for clinicians (burnout).

The ability to deal with stress differs from one clinician to another [7,22,23] and the defenses triggered not only depend on the amount of external threat of a given situation, but also on inner resources. Perry refers to the term ‘defensive functioning’ to define how people face emotional difficulties [16]. Defensive functioning may be adaptive if individuals resort to mature defenses or inadaptive if individuals rely on immature defenses. Psychotherapy research has recently established that defenses are not static, but undergo changes even during very brief interventions, such as the Brief Psychodynamic Investigation (BPI) [24]. From a clinical point of view, the situation of CST is comparable to BPI: participants are enabled to share their stressors with trainers and peers, to experience new ways of dealing with difficult situation and to gain new competences and to feel less anxious about these issues and reassured. It might therefore be possible that clinicians’ defenses may be modified by CST, and as such become a mediating factor for improvement of communication skills, allowing a more adequate patient-centered way to communicate.

This study aimed to (i) examine the occurrence of defense mechanisms of oncology clinicians triggered by an interview with (simulated) patients, and to (ii) evaluate the effect of CST on clinicians’ defense mechanisms. Based on the results of a pilot study [25], we hypothesized that CST improves clinicians’ defensive functioning, with a decrease in immature defenses and an increase in mature defenses, and that in clinicians with a lower level of defensive functioning (LDF) CST increases their defensive functioning toward more mature levels compared to clinicians with a higher level of defensive functioning (HDF).

Methods

This study was designed as a two parallel groups pre–post controlled trial of clinicians who underwent CST (CST group) and of clinicians who did not participate in training (CTRL group).

Sample

One hundred and thirteen medical oncologists and nurses participate in the study. In the CST group (N = 57), 43 (75.4%) participants were women, mean age was 37.9 (SD = 7.2) and 30 (52.6%) were medical oncologists and 27 (47.4%) nurses. In the CTRL group (N = 56), 35 (62.5%) participants were women, mean age was 39.4 (SD = 9.3) and 21 (37.5%) were medical oncologists and 35 (62.5%) nurses. These and other major sociodemographic variables, such as years of professional experience, did not significantly differ between groups.

Study design

The Swiss CST [26] consists of a 2-day retreat, where participants are trained by means of case discussions, role play and video analyses of simulated patient interviews, followed by 4–6 individual supervisions over the next 6 months and another half-day training session. Each participant conducts two 15-min video-taped interviews with simulated patients before training and 6 months later. Short written instructions are given to the clinician and the actors (simulated patients) prior to the interviews, specifying the type of cancer (five different scenarios), the age of the patient (between 30 and 40 years), the type of treatment (curative or palliative) and the objectives of the interview (physicians: announcing the diagnosis of a curable cancer, lymphoma or testicular cancer, or explaining transition from curative to palliative treatment for stomach cancer; nurses: preparing the patient for curative or palliative chemotherapy for the same cancers mentioned before). Participants of the CTRL group conducted also two 15-min video-taped interviews with the same simulated patients, the same scenarios and the same instructions with a 6-month interval. The actors, scenarios and instructions of the simulated interviews were equally distributed in both groups. Participants of the CST and CTRL group were recruited from different hospitals in the French part of Switzerland.

Defense Mechanism Rating Scales for Clinicians (DMRS-C)

The Defense Mechanism Rating Scales for Clinician (DMRS-C), developed to assess clinician’s defenses, is an observer-rated instrument, which can be applied to audio or video recordings or written transcriptions of medical interviews or psychotherapy sessions. The adaptation and the reliability of the DMRS-C, discussed in a precedent study [27], were based on the DMRS [28]. The DMRS was developed to rate a patient’s defense mechanisms as they occur during the interview.
The DMRS-C rates the clinician’s defenses induced by the emotional content in the patient’s discourse. It may be marked by three types of markers: the direct or indirect expression of affects, the presence of representations linked to emotionally charged themes and the patient’s defense mechanisms. The DMRS-C [29] was added as an appendix to the DMRS providing a rating procedure and, for each defense, a summary of the DMRS definition, an additional explanation for its application to the clinician if necessary, and at least two commented examples of coding.

The reliability and validity of the DMRS has been largely demonstrated in psychotherapy research [16,24,30–32]. As the DMRS, the DMRS-C has been largely demonstrated in psychotherapy re-

Comparison between CST and CTRL groups and between clinicians with LDF and with HDF was effectuated using general linear models with repeated measures. ANOVA with ODF as within-subjects variable and MANOVA with the seven defense levels as within-subjects variables, and groups as between-subjects fixed factor were performed.

All analyses were computed using the statistical software SPSS 15.0 and G*power 3.0. According to Cohen [33], partial \( \eta^2 \) effects sizes (\( \eta^2_p \)) were computed for the general linear models with repeated measures, \( f \) effect sizes were computed for the MANOVA and \( d \) effect sizes were computed for the ANOVA and the \( t \)-tests. All tests were two-tailed and the \( z \) was set at 0.05.

**Results**

Clinicians’ defense mechanisms

For both groups, the number of defense mechanisms in each interviews ranged from 4 to 35, with a mean of 15.9 defenses (SD = 6), the most prevalent defensive levels were ‘neurotic’ (30.8%), ‘disavowal’ (28.4%) and ‘obsessional’ (18%), and among the 30 defense mechanisms of the scale, 24 were coded at least once; the three most common mechanisms were displacement (20%), rationalization (19.1%) and intellectualization (12.1%), ODF varied between 3.07 and 6.00 (\( M = 4.44, SD = 0.56 \)).

Mean ODF and the frequency distribution among the seven defense levels are similar for both groups (see Table 2), and no difference was observed for gender, professional experience, actor or scenario (curative or palliative). The only significant difference concerned the profession was that physician used more often intellectualization (14.9 vs 9.8%; \( t (111) = -2.48, p = 0.015, d = -0.47 \)) and nurses used more often displacement (22.5 vs 16.9%; \( t (111) = 2.72, p = 0.008, d = 0.51 \)).

Change in clinicians’ defense mechanisms after CST

No evolution between time 1 and time 2 for the two groups and no difference between groups on the ODF and on the seven defense levels were observed (see Table 2 and Figure 1).

Change in clinicians’ defense mechanisms after CST based on prior defensive functioning

Considering the defensive functioning of the clinician at study inclusion, the sample was divided into two sub-groups according to the mean ODF score at time 1 (\( M = 4.4, SD = 0.6 \)):

(i) HDF with an ODF \( \geq 4.4 \) (\( N = 35 \) in the CST group and \( N = 23 \) in the CTRL group); and

(ii) LDF with an ODF < 4.4 (\( N = 22 \) in the CST group and \( N = 33 \) in the CTRL group).

Considering the ODF scores, results indicated an interaction effect (CST/CTRL group×LDF/HDF group; \( F(1, 112) = 4.16, p = 0.044 \)).

For clinicians with LDF, results indicate a global change of the ODF (\( F(1, 53) = 33.656, p = 0.000, \eta^2_p = 0.388 \)) but no difference between CST and CTRL group. For clinicians with HDF, results indicate a global change of the ODF (\( F(1, 56) = 22.467, p = 0.000, \eta^2_p = 0.286 \)) and a
difference between CST and CTRL groups ($F(1, 56) = 6.031, \ p = 0.017, \ \eta^2_p = 0.097$), with the HDF clinicians of the CST group diminishing less on ODF over time (see Figure 2).

A separate analysis for the HDF group comparing CST and CTRL was conducted (see Table 3). A difference was found for the seven defense levels ($F(1, 56) = 2.44, \ p = 0.034, \ f = 0.40$) and subsequent ANOVAs showed a difference for the obsessional defense and the disavowal defense. Group contrasts effect sizes were moderate to strong.
Table 3. Comparison of defensive functioning and defense levels between CST and CTRL groups for clinicians with higher defensive functioning (HDF) at time 2

<table>
<thead>
<tr>
<th>CST</th>
<th>CTRL</th>
<th>F</th>
<th>p</th>
<th>d</th>
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<tbody>
<tr>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>Overall defensive functioning</td>
<td>4.6</td>
<td>0.5</td>
<td>4.3</td>
<td>0.4</td>
</tr>
<tr>
<td>Defensive levels (%)</td>
<td>11.6</td>
<td>10.0</td>
<td>8.6</td>
<td>6.5</td>
</tr>
<tr>
<td>Mature</td>
<td>22.0</td>
<td>11.2</td>
<td>14.7</td>
<td>9.6</td>
</tr>
<tr>
<td>Obsessional</td>
<td>27.8</td>
<td>11.5</td>
<td>29.4</td>
<td>10.0</td>
</tr>
<tr>
<td>Other neurotic</td>
<td>8.9</td>
<td>8.1</td>
<td>6.5</td>
<td>6.8</td>
</tr>
<tr>
<td>Minor image distorting</td>
<td>23.9</td>
<td>10.8</td>
<td>32.6</td>
<td>12.5</td>
</tr>
<tr>
<td>Disavowal</td>
<td>2.0</td>
<td>4.5</td>
<td>0.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Major image distorting</td>
<td>4.1</td>
<td>6.2</td>
<td>6.9</td>
<td>8.3</td>
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CST, group with the communication skills training; CTRL, control group without the communication skills training.

Discussion

At first glance, CST did not influence clinician’s defensive functioning or specific defense levels. While clinicians of both groups with an LDF increased their ODF after CST, clinicians of both groups with an HDF changed in an unexpected direction to lower ODF. However, a closer look on the data may call for a different interpretation.

First, a high number and a great variety of defenses were observed, which indicate high levels of stress induced by these interviews, confirming the interest to investigate defenses. The most frequently observed defense mechanisms were displacement, intellectualization and rationalization. Displacement for example—more often observed in physicians—displaces the affect on a less troubled theme, i.e. on the patient’s affects during the last weeks. Intellectualization—more often observed in physicians—refers to the excessive use of medical or technical explanations when facing the patient’s emotional distress. Repeated use of these defense mechanisms tends to neutralize the subjective and emotional reality of the patient, which may be perceived as lack of empathy. Rationalization refers to the disavowal of the patient’s emotional experience by providing reassuring explanations (‘we never knows how a cancer evolve’, ‘every person is different and react differently to the treatment’) or by justifying with good reasons taken from the external reality (‘you will feel better after the treatment’, ‘you should see things in a positive way because you have good probabilities of being cured’). These arguments are not false in themselves but are focused only on the external reality at the expense of what the patient is experiencing. These explanations may strain the therapeutic alliance when repeatedly used.

With regard to the first hypothesis, CST seems not to have an impact on the clinicians’ defenses. This may be due to the fact that defense mechanisms are relatively stable processes, which cannot be modified by CST. Indeed CST does not focus on clinicians’ defense mechanisms, except during the confrontation with the video-taped interviews illustrating the effect of defenses (examples mentioned above) and the individual supervisions, when the underlying anxiety of a given situation is discussed with the supervisor. Some authors have underlined that the affective dimension has been neglected in these training programs at the expense of cognitive and behavioral dimension and modeling [4,34]. The absence of differences between groups may also be due to a lack of impact of the training. This possibility will have to be ruled out in a further analysis of the data by using tools, such as the Roter Interaction Analysis System [35], to measure outcome. An other explanation may be that DMRS-C was not sensitive to pick up differences and that results may be due to ‘regression to the mean’; again, only a follow-up study using communicational outcome will confirm or infirm this hypothesis.

With regard to the second hypothesis, the decrease in lower defensive levels of the HDF clinicians may also be explained by the observation that HDF clinicians increasingly identify patients’ distress after training and may therefore regress to more immature defenses. Indeed, indices of burnout and psychological distress among clinicians are linked to the perception of the suffering of the patients, particularly in oncology [7,36]. Since they regress less than physicians of the CTRL group, it might therefore be that HDF clinicians tended to protect the therapeutic relationship at the expense of their own needs before training and better articulate these two aspects, self and the protection of the therapeutic relationship, after training. HDF clinicians without training, when the stress generated by the situation diminished in the second interview, may protect themselves more and their defensive functioning drops. In other words,
adequately regulated HDF clinicians may become empathic, but sufficiently in touch with their own needs after CST.

On the other hand, LDF clinicians may have been less receptive to elements of the training focusing on patients’ needs and more inclined to integrate the proposed ‘tools’ to manage an interview (structuring the interview, techniques for exchange of information, etc.). The increased overall defensive functioning in both the groups could be understood by accentuation of the stress generated by the situation: the use of videos [13,37] actually stresses health professionals, but they may better tolerate the second interview.

Some limitations of the study have to be mentioned. The study has been realized with simulated patients, which does not correspond to a ‘real life setting’. Second, defenses of patients might influence clinicians’ defenses; this has not been assessed. If defenses of (simulated) patient and clinicians defenses match—which from communicational point of view produces different results than in case of unmatched defenses—this would be an additional variable to be taken into account. Third, the selection of the two groups was not totally equivalent: on a voluntary basis for the CST group, since CST has become mandatory for obligation for some of the clinicians in the CST program, whereas for the control group they represented a voluntary account. Third, the selection of the two groups was not totally equivalent: on a voluntary basis for the physicians of the CTRL group, and under the obligation for some of the clinicians in the CST group, since CST has become mandatory for specialization in oncology during the study period. And fourth, simulated patient interviews were included in the training as a pedagogic tool, whereas for the control group they represented a research purpose; therefore the stress induced by the situation may have been different.

In conclusion, this study has addressed defense mechanisms of oncology clinicians under specific conditions. It is the first study investigating defenses not in patients, but in clinicians. The results of the study are not conclusive; therefore, this first project addressing a new field of research will have to be followed by measuring behavioral outcomes of the interviews.

Acknowledgements

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