Rates of Expressed Emotions in Pakistani Relatives of Patients with Schizophrenia

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ABSTRACT

Background: Studies have reported substantial cross-cultural variations in rates of Expressed Emotions (EE) in relatives of patients with schizophrenia. As a first attempt from Pakistan, this study aimed to measure the components of EE among relatives of patients with schizophrenia in a different socio-cultural set-up.

Method: Thirty-two key family members were interviewed using the Camberwell Family Interview (CFI) and Five Minute Speech Sample (FMSS).

Results: Seventy-five percent of the family members appeared to be high EE with the majority (59%) rated so on the basis of hostility alone. Moreover, symptomatic behavior of the patient contributed more to the rating of relatives’ hostility. Pakistani relatives showed higher levels of emotional over-involvement and hostility as compared to many other cultures. In comparison to CFI, the FMSS showed lower sensitivity for identifying high EE relatives, thus it may not be very suitable to use on its own in Pakistan for cultural reasons.

Limitations: Lack of follow-up data and small sample size limit the scope of the study.

Conclusions: Pakistani relatives appeared to be more hostile yet emotionally over-involved and warm toward their sick relatives as compared to the households reported in many previous studies. Psycho-educational programs need to be initiated for the concerned families to reduce their level of hostility. Outcome studies are also warranted in order to understand any link between high EE and relapse of schizophrenia in Pakistan.

Expressed emotions (EE) refers to a global index of particular emotions, attitudes and behaviors expressed by relatives toward a family member. Expressed emotions are known to have harmful effects and often ignite psychiatric relapse (1). The assessment of EE is usually made through an interview schedule known as the Camberwell Family Interview (2) which is traditionally a tape recorded interview which is rated along five dimensions of emotions, namely criticism, hostility, emotional over-involvement (EOI), positive remarks, and warmth. However, the rating of EE is derived only from the scores on the first three scales.

Despite a general consensus about the link between relapse and EE (3-5) studies have shown a wide and varying range of EE index in different cultures (6, 7). Overall, studies conducted in a western cultural context (8) have shown higher rates of EE as compared to those reported from nonwestern cultures (9, 10). However, the lower rates of EE are not consistently reported from all nonwestern cultures. For example, considerably higher rates of EE have been found in Egypt (11), Israel (3), Japan (4), and China (12).

Nonetheless, it may be concluded that relatives’ emotional responses to an ill family member are determined by how a culture defines family life and what behavior patterns are considered appropriate for interpersonal interactions in kin relationships. For example, displacement of hostility, ridicule, protection, and devotion may vary according to individual family dynamics (13). In Mexican-American families, for instance, a high degree of involvement in the family affairs by the household relatives is culturally conventional (14). A similar observation was made for Pakistani relatives living in Britain (6) and native Pakistanis (15). This also seems true for other components of EE. For example, anger is readily shown in Israel and
failure to show one's anger is considered a sign of weakness (3). Thus criticism and hostility may bring false-positives from Israel and emotional over-involvement from Pakistani, Mexican or some other cultures. This may lead to the conclusion that the normative levels of overt expressions of emotions may differ between cultures and that the impact of these emotions varies for different cultural groups. For example, as compared to western studies, Egyptian patients were more likely to tolerate higher levels of criticism before relapse (11). Similar observations were made for EOI, when conventional criteria of high EE were predictive of relapse in white families but not in Pakistani families living in the U.K. (6). These studies suggest that there are culturally acceptable levels of overt emotions that an individual can tolerate or expect in a given culture, and therefore the ratings of EE must be adjusted in relation to the norms of the culture under study (3).

To the best of our knowledge, no study has attempted so far to measure rates of EE in Pakistan using standardized methodology. Previously two studies have measured EE in Pakistani families using self-constructed measures (15, 16) the reliability of which was not known. Moreover, the results generated from these studies are not comparable with the studies conducted in other countries because of methodological differences. The only study with Pakistani families using CFI was conducted in Britain more than a decade ago. In that study families with Pakistani origin showed higher levels of hostility and EOI compared to British Sikh and white families (6). However, no attempt has been made so far to assess the prevalence of EE in local Pakistanis using standard methodology. The current work was undertaken to fill this gap in EE literature and aimed to investigate the rates of EE among relatives of patients with schizophrenia in Pakistan and compare the results to those obtained from other countries. Considering the conceptualization of over-involvement, it appears quite likely that the Pakistani relatives with elaborate family orientations and close-knit familial ties will show more of such behaviors in their social interactions with family members. It was hypothesized that Pakistani relatives will show a great deal of emotional over-involvement. A previous community survey also provided some evidence that many kinds of sacrificing and over-involved behaviors considered pathological in family relations are culturally appropriate in Pakistan (17). The study also aimed to assess whether a higher incidence of hostility observed in British-Pakistanis (6) was a consequence of some stress of living in a “foreign” culture or may be considered a characteristic of socialization in Pakistani culture.

METHOD

PHASE I: TRANSLATION AND TRAINING PHASE

The CFI (2) was translated into Urdu by two bilingual speakers. An attempt was made to translate the conceptual, rather than literal, meaning of all items of the CFI. The second author (KS) then compared the two translations and the original English version, and picked up the Urdu items best matched with those in English. Those English items which did not convey meaning appropriately in Urdu language were again translated into Urdu by two different bilingual speakers, and the process was repeated until all items were satisfactorily translated. The translated version was shown to five psychologists for indicating problems of understanding in any of the items, whether linguistic or cultural. The experts did not point out any problem. The CFI is a semi-structured interview schedule and relies mostly on the detailed information as described by the interviewee. Moreover, the main items are simple enough to understand and are not specific to any culture. Hence, the CFI was considered safe to use with Pakistani families.

The second author (KS), who had acquired official training to use and rate CFI from the University of California at Los Angeles, trained the first (AI) and third (SZJ) authors to conduct CFI interviews and then rate different components associated with EE. This training was conducted with CFI interviews used in another study. Interviewing in the second phase was started after both trainees (AI & SZJ) obtained sufficient inter-rater reliability indices with the second author on all main components of EE, i.e., 80 or higher. The inter-rater reliability was obtained in about 25 interviews.

PHASE II: RATING OF EE

Sample

Patients consecutively admitted to two psychiatric units of Lahore, provincial capital of Pakistan, during January to December 2007 inclusive with a diagnosis of schizophrenia were initially recruited to assess expressed emotions in their key family members. The inclusion criteria for the patients were: a clinical diagnosis of schizophrenia by the consultant psychiatrist; age range of 18-60 years; the patient lived with at least one key member of his or her family. Thirty-seven patients satisfying these criteria were referred by the consulting psychiatrists. Both patients and their relatives were contacted to seek their permission to carry out this study. The refusal rate was 8% which included refusals from one patient and two relatives. Two patients were
excluded later as further questioning revealed that they had not sufficient contact with any family member and used to live at different places before the current admissions. The remaining 32 patients were assessed through DSM-IV-TR for broadly defined schizophrenia criteria (295.30, 295.10, 295.20, 295.90, 295.60, 295.40, 295.70, 297.1, 298.8, & 297.3 [18]) which all patients fulfilled. The inclusion criteria for the key relative were that s/he must be 18 years old or above and should have face-to-face interaction of 35 hours or more per week with the patient for at least three months before the current admission. In Pakistan, the majority of the patients live with their extended family, hence the criterion of face-to-face interaction of sufficient duration was not difficult to fulfill. An attempt was made to interview that relative in each case who was involved in the day-to-day care of the patient. However, in a few cases, the relative having the maximum contact was not available or willing for some reason. In that case the next relative with the maximum contact was taken. The criterion of at least 35 contact hours per week was nevertheless retained in all cases. The mean ages of patients and relatives were 33.84 (SD = 8.75; age range = 20-53) and 46.69 (SD = 14.88; age range = 18-70) respectively. Sixty-five percent of both patients and relatives were educated up to 12th grade, with 20% patients and 25% relatives being educated up to graduate level. Majority of the patients were unmarried (72%), whereas 75% of the relatives were married. Only 15% of the patients used to work before the current admission, and 45% of the relatives were housewives. Majority of the carers were mothers (n=14, 44%), followed by brothers (n=8, 25%), sisters and fathers (n= 4 each, 12.5%), and then husbands (n=2, 6%).

**Instruments**

*Camberwell Family Interview*

The Camberwell Family Interview was used to extract family emotions. It is a semi-structured interview schedule which is used to obtain information about circumstances in the home, three months preceding a patient's admission to hospital for an acute, psychotic episode, and also to observe a relative's behavior in the interview situation. The CFI consists of five scales: criticism, hostility, over-involvement, warmth and positive remarks. High EE is defined on the basis of six or more critical comments, presence of hostility, or a score of three or above on EOI.

*Five Minute Speech Sample (FMSS)*

The Five Minute Speech Sample (FMSS) is a brief measure of EE in which a relative is asked to speak for five minutes uninterruptedly about the patient and how the two of them get along (19). The FMSS requires much less time and energy as compared to the CFI. In the current study, the FMSS was used to assess the extent of correlation between both measures on EE indicators so that FMSS could be used as a substitute for the CFI in future large scale studies, in case both measures correlate well.

High EE was rated on FMSS when a respondent made at least one critical comment anywhere in the speech sample; presence of all three or any two components from the statements of attitude, use of excessive details, and five positive remarks; and presence of hostility. The comparison between FMSS and CFI was made on the basis of the number of relatives identified as high or low EE on both measures assessed through kappa correlation as a measure of extent of agreement between both.

**Procedure**

Families of the patients were contacted through the hospital administration. The study was explained to the patients and relatives as an investigation to look at the family interactions to understand the course of illness in the patients. Before taking interviews, written informed consent describing the purpose of the study and participants’ rights was obtained from all the participants. Other ethical issues concerning confidentiality and privacy were carefully handled throughout the course of the research. All interviews were conducted on the hospital premises. Relatives were informed that their conversation with the interviewer will be audio-recorded. Both first (AI) and third (SZJ) authors conducted CFI and FMSS interviews. Each interview was completed in approximately one and half hours on average, while the scoring of the same usually took three hours. The FMSS was administered first followed by the CFI. Both interviewers as well as the second author independently transcribed and rated CFI and FMSS interviews. Reasonably high coefficients of intrarater reliabilities were obtained for the CFI (K = .90) and FMSS (K = .86). The EE ratings used in this study were decided after discussions held among three authors to reach consensus ratings for each interview.

**RESULTS**

The results of this study were analyzed using SPSS Version 10.00. Table 1 displays the rates of EE derived from the current data as well as those from studies conducted in other parts of the world. This cross-cultural comparison indicates higher levels of overall index of EE in Pakistani
as compared to the rates reported from many other countries. Analysis on individual components of EE again showed the higher rates of hostility and EOI as compared to many other countries. However, the current rate of EOI was very consistent with 55% high EOI relatives reported in the only study conducted with Pakistanis living in Britain (6). Mean CC score of Pakistani relatives was comparable to that found in Chinese (20), and lower than those observed in British-Pakistanis, British-Sikhs and white British (6), and Mexican-Americans (21). However, like other components of EE, it remained higher than the mean score of CC in Indian families (10). As far as nonclinical scales of CFI are concerned, Pakistani relatives appeared to be slightly higher in their rating on warmth with the average rating being 3.33. In contrast to the display of warmth, Pakistani families expressed fewer positive remarks on average as compared to those expressed by families in Britain (6, 22), India (10), and China (20).

Table 2 presents breakdown of the sample according to their EE levels. Among all relatives, mothers were more emotionally over-involved. There was a disproportionate number of all relatives, although these differences do not contribute much to the conclusions. This Table also shows the rating of EOI using both Pakistani (17) and conventional (23) criteria. As a result, the number of high EOI relatives was dropped from 17 (53%) to 8 (25%) with the Pakistani criteria. A rather dramatic change occurred in the rating of high EOI for women (66% vs. 28%) as compared to men (36% vs. 21%), which suggests that Pakistani culture expects more sacrificing and devoted behavior from female family members.

Inter-correlations between different components of EE are illustrated in Table 3. The scores on EOI showed significant positive correlations with warmth scores and the number of positive remarks, however, only the former association reached statistical significance. Similarly, scores on hostility correlated significantly with the number of critical comments. All other inter-correlations were non-significant.

As CFI has been identified as a standardized and reliable measure of EE across studies, it was considered as the criterion measure for comparison with the ratings obtained on the FMSS. The relatives’ five minute speech samples were transcribed and rated on all five components of CFI. Kappa coefficient between the CFI and FMSS produced a low agreement on the rating of high and low EE relatives (K=.30, p ≤.11) and the FMSS could only detect 37% of all high EE relatives as identified on the CFI. However, the FMSS could accurately identify all low EE relatives.

### Table 2. Types of High Expressed Emotion Relatives and Components of High EE (N=32)

<table>
<thead>
<tr>
<th>EE Component</th>
<th>Relative (n, %)</th>
<th>CC ≥ 6 n (%)</th>
<th>Hostility N(%)</th>
<th>EOI- Conventional n (%)</th>
<th>EOI - Pak n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td>(14, 43.75)</td>
<td>3 (21.43)</td>
<td>8 (57.14)</td>
<td>11 (78.58)</td>
<td>5 (35.71)</td>
</tr>
<tr>
<td>Father</td>
<td>(4, 12.50)</td>
<td>1 (25.00)</td>
<td>2 (50.00)</td>
<td>2 (50.00)</td>
<td>1 (25.00)</td>
</tr>
<tr>
<td>Sister</td>
<td>(4, 12.50)</td>
<td>1 (25.00)</td>
<td>3 (75.00)</td>
<td>1 (25.00)</td>
<td>0</td>
</tr>
<tr>
<td>Brother</td>
<td>(8, 25)</td>
<td>2 (25.00)</td>
<td>6 (75.00)</td>
<td>2 (25.00)</td>
<td>1 (12.50)</td>
</tr>
<tr>
<td>Husband</td>
<td>(2, 6.25)</td>
<td>0</td>
<td>0</td>
<td>1 (50.00)</td>
<td>1 (50.00)</td>
</tr>
<tr>
<td>Total</td>
<td>(7, 21.87)</td>
<td>19 (59.37)</td>
<td>17 (53.38)</td>
<td>8 (25)</td>
<td></td>
</tr>
</tbody>
</table>

### Table 1. Distribution of EE Components Among Pakistani Relatives and Those from other Cultures

<table>
<thead>
<tr>
<th>Location</th>
<th>Population (N)</th>
<th>Critical Comments / %</th>
<th>Hostility (%)</th>
<th>Warmth</th>
<th>Positive Remarks</th>
<th>EOI%</th>
<th>High EE %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lahore (current study)</td>
<td>Pakistani (22)</td>
<td>3.8</td>
<td>59</td>
<td>3.33</td>
<td>1.17</td>
<td>53</td>
<td>75</td>
</tr>
<tr>
<td>Birmingham [6]</td>
<td>British-white (20)</td>
<td>6.05</td>
<td>15</td>
<td>3.15</td>
<td>3.20</td>
<td>25</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>British-Sikh (20)</td>
<td>5.0</td>
<td>20</td>
<td>3.20</td>
<td>2.35</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>British-Pakistani (20)</td>
<td>6.65</td>
<td>25</td>
<td>2.85</td>
<td>2.25</td>
<td>55</td>
<td>80</td>
</tr>
<tr>
<td>Iran [28]</td>
<td>Iranian (97)</td>
<td>21%</td>
<td>41.80*</td>
<td>-</td>
<td>26.50*</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>Hong Kong [5]</td>
<td>Chinese (33)</td>
<td>2.4%</td>
<td>66</td>
<td>-</td>
<td>-</td>
<td>26</td>
<td>45</td>
</tr>
<tr>
<td>China [20]</td>
<td>Chinese (71)</td>
<td>3.93</td>
<td>16</td>
<td>2.14</td>
<td>1.72</td>
<td>85</td>
<td>28</td>
</tr>
<tr>
<td>London [2]</td>
<td>White</td>
<td>8.40</td>
<td>18</td>
<td>2.30</td>
<td>2.60</td>
<td>36</td>
<td>54</td>
</tr>
<tr>
<td>India [10]</td>
<td>Indians (104)</td>
<td>1.9</td>
<td>16</td>
<td>2.00</td>
<td>0.80</td>
<td>4.0</td>
<td>23</td>
</tr>
<tr>
<td>Denmark [17]</td>
<td>Danish (28)</td>
<td>4.5</td>
<td>21</td>
<td>2.50</td>
<td>3.10</td>
<td>56</td>
<td>54</td>
</tr>
</tbody>
</table>

*rates derived for only high EE group
The results of this work indicated higher levels of EE (75%) in Pakistani as compared to those reported from many other countries (see Table 1). However, this finding is in reasonable accordance with those of a minority of studies, for example, 74% in Los Angeles (8), 66% in France (24) and 80% in the only study conducted in Britain with British Pakistanis (6). The current high rates of EE are not congruent with the Chandigarh study (10) conducted in a cultural setting very similar to that in Pakistan. The researchers found relatively few households in Chandigarh which were high in EE (23%) and, in contrast to previous studies, no relative scored high on the EOI factor. They suggested that the low incidence of EE in India may be due to a lesser proportion of the Indians living in nuclear households, where emotions generated by having a relative with a psychotic disorder might be distributed throughout the network of an extended family. The protecting factor of extended families also applied to Pakistan (68% of current families lived in joint family system), which indicates that some specific cultural factors may be responsible for these opposing results from similar cultures. Since Lahore is an urban center it may be more appropriate to make the comparison with Chandigarh city, which had 30% high EE relatives compared with 8% in rural areas. Although this slightly narrows the gap between the ratings obtained from India and Pakistan, it does not exclude the possibility of involvement of some peculiar socio-cultural differences between both.

Cultural factors also appeared to influence the rating of emotional over-involvement; 34% of Pakistani relatives were markedly over-involved (i.e., scored 4 or 5 on the 6-point scale). A high rating of EOI in both native and British-Pakistanis (6) suggests that emotional over-involvement may be a fundamental feature of kin relationships in Pakistani families which remains intact even after moving to another cultural setting. Hashemi and Cochrane (6) concluded that the early socialization and up-bringing of a child in Pakistan is done in a way that is very likely to increase closeness and sacrificing behaviors toward immediate family members. The authors also explain a lower level of EOI in Indian relatives (10) by suggesting that most of the Indian relatives did not socially isolate themselves because of the patient and continued their social interaction which was missing in Pakistani caregivers.

The conceptualization of EOI also makes it more likely to be higher in close-knit societies like Pakistan. These family patterns are true of many cultures, including Mexican-Americans (25) and Egyptians (11). Significant positive correlation between scores on EOI and warmth also suggests that in Pakistan emotional over-involvement is a culturally distinct feature of concern for the relative and is expected in family relationships.

Among 17 high EOI relatives, the majority were females (n =12) who all were mothers except one sister. This observation has been made in earlier (26) and later EE studies (20). The finding of high EOI among women and mothers is not surprising given the cultural dimensions it taps, such as caretaking and affective attachments ideally relegated to women (13). The presence of more mothers in this sample nevertheless increases the probability of more mothers in any category of high EE. However, Pakistani mothers exhibited all characteristics of high EOI; though many of such behaviors are considered a norm in Pakistan if displayed by a mother. Jafri (17) measured the cultural validity of EOI construct in a community survey in Pakistan and showed that many of the behaviors, which are taken as evidence of high EOI according to the conventional criteria, were expected in Pakistan and such expectations were mainly from female relatives. Gender differences in rating of EOI on both conventional and Pakistani criteria in the current investigation also suggest that Pakistani culture expects more sacrificing and devoted behavior from female family members. This emphasizes the need to validate the construct of EOI across cultures. It has been suggested earlier that because of diverse acceptable degrees of protection and care for the patient in different cultures, EOI has not always been associated with relapse in schizophrenia (6). However, outcome studies are warranted to elucidate these connections in Pakistan.

Hostility appeared to be the most prominent component of interpersonal relations in Pakistani families with a psychiatric patient at home. Although 59% of the total sample showed the presence of hostility, 79% of the high

<table>
<thead>
<tr>
<th>Components</th>
<th>Critical Comments</th>
<th>Hostility</th>
<th>EOI</th>
<th>Warmth</th>
<th>Positive remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Comments</td>
<td>--</td>
<td>.37*</td>
<td>-.23</td>
<td>-.22</td>
<td>-.24</td>
</tr>
<tr>
<td>Hostility</td>
<td>--</td>
<td>.14</td>
<td>-.34</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>EOI</td>
<td>--</td>
<td></td>
<td>.39*</td>
<td>.33</td>
<td>--</td>
</tr>
<tr>
<td>Warmth</td>
<td>--</td>
<td></td>
<td>--</td>
<td>.18</td>
<td></td>
</tr>
<tr>
<td>Positive Remarks</td>
<td>--</td>
<td></td>
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</table>

*p<.05
EE relatives exhibited hostility and thus hostility appeared to be the most common component that contributed to the rating of high EE. This figure is closer to a previous finding reported from Iran, where 80% of the high EE relatives expressed hostile comments about their sick family members (27). The current families appeared to be higher in hostility compared to those in other cultures, as shown in Table 1. The higher frequency of hostility in Pakistani caregivers may be attributed to the following factors. Firstly, Pakistani families’ concern about the family name and honor may be one reason of this hostility. Secondly, lack of self-control in patients may have caused hostility in the relatives considering the general observation that self-control is appreciated here as a personality trait. Ajmal (29) pointed out that most Pakistani households start preaching the virtue of self-restraint and self-control from the very beginning, and that is how a child learns through socialization that it is wicked to lose control over oneself. Consistently, a large-scale survey showed that not being able to control one's symptomatic behavior in psychosis was considered as weakness of character by a sizable proportion of people in Pakistan (30). The perception of the family that the patient is capable of controlling the symptomatic behavior associated with psychosis but is not making much effort to do so may enhance hostility in the care-taker. A recent study with Mexican-American families showed that high-EE caregivers perceive the expression of symptoms as caused by ill relative’s agency more frequently than low-EE caregivers (8, 30). Thirdly, the societal attitude toward deviant behavior will also determine the reaction toward a mentally sick person. There is some indication that psychiatric illness is stigmatized in Pakistan due to the lack of self-control in patients may have caused hostility. Lastly, lack of objectivity shown by the relatives. Although a majority of the relatives were empathic and considered that the symptoms of the patient were due to the illness, some attributed the illness to paranormal agents, such as black magic, bad spells and evil eye.

To understand the association between criticism and hostility, critical comments contributing to the rating of hostility were examined separately. This analysis revealed that symptomatic behaviors of the patient (e.g., derailed, disorganized, lack of will-power, lethargic, and “everything wrong”) contributed most to the relatives’ hostility followed by not doing household work/chores and then a disrespectful attitude toward parents. This analysis also suggests that lack of awareness about mental health problems may be one of the main reasons creating interpersonal discords between family members and patients.

The current findings are not very consistent with those of many previous studies where verbal criticism appeared to be the most salient component of high-EE (11, 13, 20, 32). In previous British and American studies (6, 21) hostility always occurred in the context of excessive criticism conjunction, whereas in Pakistan 74% of the hostile relatives scored below the threshold of critical comments for high criticism (6 or above). Consistent with this, 29% of Chandigarh relatives making hostile comments scored below this level of criticism. A higher proportion of hostile but moderately critical relatives in Pakistan may lead to the speculation that people may be more inhibited in expressing criticism toward family members due to the cultural importance and teaching of self-restraint and self-control (28), although unintentional criticism may still reflect in the form of hostility.

The impact of culture was also evident on the target of criticism. Pakistani relatives primarily focused on socially embarrassing behavior (38.79%), followed by faulty personality traits (26.72%), symptomatic behaviors (21.12%), and then work-related behaviors of the patient (13.36%). Families were more intolerant of behaviors which cause harm to the family reputation and were very concerned what “others” would say. This attitude is largely attributed to the stigma attached to mental illness (33, 34), which may risk damaging the family name. Consistent with this, Mexican Americans (25) and Chinese households in Hong Kong (5) criticized disrespectful and disruptive behaviors of the patients. On the contrary, British and Anglo-American relatives considered the negatively valued personality traits and psychotic symptoms more problematic (21, 22) because of the cultural significance of certain
As the first attempt to rate expressed emotions in Pakistani relatives using standardized methodology, this study made it possible to compare findings across cultures. However, certain methodological weaknesses should be kept in mind while generalizing from the results obtained from this study. Firstly, lack of follow-up data limits the scope of the study and thus no association can be made between family EE and relapse in the patients. Secondly, only one relative having maximum contact with the patient was interviewed from each household. The ideal situation would be that as many key relatives as possible would be interviewed from each household, which not only would provide an overall idea of the emotional climate of the family but also would indicate the maximum levels of all EE components in a particular family. Thirdly, the Urdu version of CFI may not have been able to pick up elements of EE as accurately as it does in the English language. Anyway, an attempt was made to resolve this problem and EE ratings for each interview were determined by independent transcriptions and ratings by the raters who were trained to rate EE according to criteria employed in previous studies (23). Fourthly, the sample size was rather small to draw unequivocal conclusions. Moreover, the key relatives were predominantly mothers, but that reflects the natural distribution of carers in Pakistan. As a pioneering attempt this study nevertheless provided a ground for future investigations which may be conducted with relatively large samples and a rich mix of all relations.

The clinical significance of present findings can only be established by the outcome studies in Pakistan which are required to determine whether hostility as the most prominent component of interpersonal relations and emotional over-involvement in family relations are pathological or shall be considered a part of culture. Moreover, the cut-off scores for qualifying as high for any component of EE need to be determined in relation to outcome of the disorder. Meanwhile, the current findings can be used as a strong base to initiate psycho-education programs in hospitals for families to create awareness about the psychosis and the related symptomatic behavior of the patient. These programs may be able to reduce the level of hostility among the relatives hypothesized to be caused by the ignorance about severe mental health problems.

**CONCLUSIONS**

The current findings provided important information regarding the prevalence of EE in Pakistani relatives of patients with schizophrenia. The results of this work sug-
gest that the components of EE are not culture specific and are observable in Pakistan with the similar features observed in other cultures. The findings of this work also yielded some differences. The Pakistani relatives appeared to be more hostile yet emotionally over-involved and warm toward their sick relatives as compared to the households reported in many previous studies. The present findings have strong implications for mental health professionals who can initiate psycho-education programs for the families to reduce their level of hostility. Outcome studies are nevertheless warranted in Pakistan to determine whether hostility, as the most prominent component of interpersonal relations and emotional over-involvement in kin relations, is pathological or to be considered a part of the culture.

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References