Empathy Level among Dental Students of Bangladesh Utilizing the Cambridge Behavior Scale

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ABSTRACT

Background: Empathy is the capacity to appreciate what another individual is feeling and suffering from within the other individual's setting or orientation, i.e., the capacity to accommodate individuality in another's shoes. Thereafter, empathy permits an individual to intermingle efficiently in the community. Then empathy acts as superglue of the universes of discourse, pulling us to support others and end from hurting others. Methods: This was a cross sectional study. The study populations were Dental students of Dhaka Dental College and Mandy Dental College, Dhaka, Bangladesh. Data was collected early part of 2017. The universal sampling method was adopted. Cambridge Empathy Scale Questionnaire was utilized for the data collection.

Results: There was no statistically significant (p=0.079) difference observed in empathy level between male (38±9.1) and female (39.8±8.6). However statistically significant (p<0.001) differences were observed between public and private dental schools. The study found that 83.4% (297) and 16.6% (59) of SP had good and poor level empathy respectively.

Conclusions: Empathy is imperative in the physician-patient rapport. Females scored higher empathy level than their male counterparts. Additionally, empathy level was higher in Year-I than other years of study.

Keywords: Empathy, Dental Students, Bangladesh.

INTRODUCTION

Over one hundred years back English-born psychologist Edward Bradford Titchener translated the German word Einfühlung (to protect yourself into what you observe) into English as empathy in 1909 [1, 2]. Empathy is the capacity to appreciate what another individual is feeling and suffering from within the other individual's setting of orientation, i.e., the capacity to accommodate individuality in another's shoes [3].

The spirit of empathic communication is in precise understanding of another person's state of mind [4]. Empathy pronounces "exactly what occurs in far too many human relationships, including the practice of medicine" [5]. This is the power of comprehension and appreciation of another individual's frame of mind is the basis of the physician-patient relationship [4]. Thereafter, empathy permits an individual to intermingle efficiently in the community. At that point empathy acts as superglue of the universes of discourse, pulling us to support others and end from hurting others [6].

In eighteenth and nineteenth-century concepts of sympathy were reforming of an old vocabulary of identification. In the psychological intellect identifying oneself with virgin term sympathy, first coined in the mid-eighteenth century by Jean-Jacques Rousseau [7]. There is a different opinion that the word sympathy entered English in the mid-1500s with a very broad meaning of "agreement or harmony in qualities between things or people" [8]. In these days' sympathy is principally used to convey commiseration, disappointment, or feelings of sorrow for somebody who is undergoing hard luck [8].
Sympathy and Empathy, these two nouns are not used interchangeably, but often come across them in contexts where their distinction is diminished or perhaps not pertinent, providing no clear suggestion why one was selected over the other [9].

The difference in denotation is typically explained with some difference of the following: sympathy is when you share the feelings of another; empathy is when you understand the feelings of another but do not necessarily share them” [9]. Hence, “sympathy is a feeling of compassion or sorrow and empathy is more personal and specific” [10].

The root for both sympathy and empathy is compassion, a merger of understanding and acceptance of others that is being consequent or improved by knowledge and wisdom. Compassion distinguishes me in you, the shared aims of feelings between persons. Both sympathy and empathy suggest caring for another person, but with empathy, the caring is improved or protracted by being able to feel the other individual's emotions [11].

Very briefly the straightforward difference in the middle of empathy and sympathy is that empathy means intellectual comprehension [12, 13]. Furthermore, empathy has been designated as a perception linking cognitive along with affective or emotional domain [14]. The cognitive empathy involves the capacity to realize another individual's internal experiences and frame of mind and a competence to assess the outside world from the other individual's viewpoint [15].

The affective domain comprises the power to enter or join the experiences and emotional state of another person [5, 15]. The affective associations that provoke emotional response are theoretically more pertinent to sympathy than to empathy [16].

Dental societies around the world are taking an interest that dental surgeon and patient should have relation in sharing plan of action for treatment, its' outcome, and societies also except dentist will understand emotional state patient to achieve the highest professional goal [17, 18]. Empathy has been considered as the most effective way to develop such professional skill and how dental surgeon outlines empathy within his heart and applies for his / her patients [19].

The Accreditation Council for Graduate Medical Education is exceedingly concern about six core competencies: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice among residents [20, 21].

In detail, residents are anticipated to form “effective therapeutic relationships with patients and families, to build relationships through listening, narrative or nonverbal skills, and to develop skill in education and counseling of patients and their families all of which are relevant to physician-patient empathic engagement” [22].

Moreover, the Association of American Medical Colleges on the Medical School in their policy paper mentioned that medical schools are anticipated to teach noble and self-sacrificing physicians who must be kind-hearted and empathetic while treating their patients [23].

Bangladeshi common people similarly have expected from doctor “good behavior, cordiality, sympathy, advice in different health aspects including diet and prevention, availability of doctor in need, caring attitude, proper history taking and clinical examination, correct diagnosis, and treatment, degree, knowledge, and skill of doctor, prompt and easily available and appropriate emergency service, information about disease, confidentiality, low-cost treatment, referral, ownership in decision making” [24]. Another research study reported that “the patients were satisfied with most of the service quality factors except communication, responsiveness and empathy” [25]. Although people and patients of Bangladesh have similar expectations of empathy from their dental surgeon nonetheless not a single word found regarding empathy in both undergraduate and postgraduate course curriculum [26, 27]. Therefore, dental surgeons in Bangladesh learn their empathetic skill of their own or family teaching or personal effort and technique of individual teacher of the dental school. To best of author's knowledge, there has been no published document regarding empathy level among students and dental surgeons of Bangladesh. Therefore, it is expected this study finding will provide a baseline data for future utilization.
MATERIALS AND METHODS

Study Design: This was a cross-sectional study. Study Population: The study populations were Dental students of Dhaka Dental College (DDC) and Mandy Dental College (MDC), Dhaka, Bangladesh. DDC and MDC are public and private medical college respectively. Study Period: Data was collected between January 30 to February 1-2017. Sampling Method and Sample Size: Universal sampling method was adopted. All dental students of both dental schools were invited [506 (DDC) + 127 (MDC) = 633] to participate this research study. Universal sampling was adopted. Researchers had an apprehension that certain portion will not want to participate in the study because of ongoing preparatory leave for professional examination. In Bangladesh, both public and the private dental school follow a unique curriculum [26]. Every year professional examination held twice and in the month of February and August. Henceforth, 291 and 65 (356) from DDC and MDC respectively join in this research. Techniques of Data Collection: Cambridge Empathy Scale Questionnaire was utilized for the data collection. This was a validated instrument. The necessary permission was obtained Autism Research Centre (ARC), the University of Cambridge, Department of Psychiatry, Douglas House, 18b Trumpington Road, Cambridge CB2 8AH UK(http://www.autismresearchcentre.com/ar c_tests), dated September 29-2016. The questionnaire was again pretested and validated in the local context. The questionnaire was administered to 40 (25+15) dental students of DDC and MDC; who did not participate in the primary study. Their responses were collected and analyzed for validity and reliability. The Cronbach alpha was calculated as 0.69. The data was collected in the lecture hall in pre-decided time. Although all students were invited but may be because preparatory leave examination 356 students joined in this study and 356 questionnaires were distributed. The scoring scale revealed that a useful cut-off with which to separate the groups is equal to or fewer than 30 points. So, it was <30 as poor and 30> above as good [6].

Data Analysis and Interpretation: Simple descriptive statistics were used to generate frequencies and percentages using SPSS Version 21 (IBM Corporation, Armonk, NY, USA).

RESULTS

The response rate was 100%. The total study population (SP) was 356. Among the current SP 26.4% (94) and 73.6% (262) were male and female respectively. Among the SP 81.7% (291) and 18.3% (65) were from the public (DDC) and private (MDC) dental school respectively. The details of the SP were depicted in Table 1 and Figure 1. The reliability and Validity of the Questionnaire regarding local context were Cronbach’s alpha 0.686 and convergent validity -0.139 – 0.518 (Table 2). The minimum, maximum and mean score was 18.0, 61.0 and 39.4±8.7 respectively (Table 3). There was no statistically significant (p=0.079) difference observed in empathy level between male (38±9.1) and female (39.8±8.6) [Table 4]. But statistically significant (p<0.001) differences between public and private dental schools [Table 4].

The study found that 83.4% (297) and 16.6% (59) of SP had good and poor level empathy respectively (Table 5). Additionally, 77.7% (73) and 22.3% (21) male SP possess good and poor respectively. Again, 85.5% (224) and 14.5% (38) female SP possess good and poor respectively. Once again, 89% (259) and 11% (32) of DDC SP good and poor respectively. Over again, 58.5% (38) and 41.5% (27) of MDC SP good and poor respectively (Table 6).

There was statistically significant (p<0.05) difference observed regarding empathy level when compared between years utilizing one-way ANOVA test (Table 7). The highest [88.2% (90)] and lowest [74.7% (62)] good level of empathy were found among Year-II and Year-IV students respectively (Table 8).
Figure 1: Sociodemographic Characteristics of the Participants Completed Empathy Scale Questionnaires (N=356)

Table 1: The socio demographic characteristics of the study respondents (N=356)

<table>
<thead>
<tr>
<th>Variables</th>
<th>N (%)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td>Male 94 (26.4)</td>
<td>Female 262 (73.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year of study</td>
<td></td>
<td>I 101 (28.4)</td>
<td>II 102 (28.7)</td>
<td>III 70 (19.7)</td>
<td>IV 83 (23.3)</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td>Muslim 298 (83.7)</td>
<td>Non-Muslim 54 (15.2)</td>
<td>Missing 4 (1.1)</td>
<td></td>
</tr>
<tr>
<td>Admitted</td>
<td></td>
<td>Public 291 (81.7)</td>
<td>Private 65 (18.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name of the college</td>
<td></td>
<td>Dhaka Dental College 291 (81.7)</td>
<td>Mandy Dental College 65 (18.3)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Reliability and validity of the empathy quotient questionnaire

<table>
<thead>
<tr>
<th>Domains</th>
<th>Cronbach’s Alpha</th>
<th>Convergent Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total score</td>
<td>0.686</td>
<td>-0.139 – 0.518</td>
</tr>
</tbody>
</table>

Table 3: Minimum and maximum scores and mean scores of empathy quotient questionnaire

<table>
<thead>
<tr>
<th>Domains</th>
<th>Number of item</th>
<th>N</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total score</td>
<td>40</td>
<td>356</td>
<td>18.0</td>
<td>61.0</td>
<td>39.4 ± 8.7</td>
</tr>
</tbody>
</table>

Total score should be 80; Missing=14 person

Table 4: Comparison of Total Empathy Quotient Score by Sex and College (N=356)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sex (N=356)</th>
<th>Dental College (N=356)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male (n=94)</td>
<td>Female (n=262)</td>
</tr>
<tr>
<td>Total score</td>
<td>38.0 (9.1)</td>
<td>39.8 (8.6)</td>
</tr>
</tbody>
</table>

Values were presented as mean (standard deviation); *p value <0.05; Independent t-test
Table 5: Total interpretation of empathy level

<table>
<thead>
<tr>
<th>All (n=356)</th>
<th>Poor (n=59)</th>
<th>Good (n=297)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>59 (16.6%)</td>
<td>297 (83.4%)</td>
</tr>
</tbody>
</table>

Values presented as frequencies (percentage)

Table 6: Interpretation of EQ score based on sex and college (N=356)

<table>
<thead>
<tr>
<th></th>
<th>Male (n=94)</th>
<th>Female (n=262)</th>
<th>DDC (n=291)</th>
<th>MDC (n=65)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>21 (22.3%)</td>
<td>73 (77.7%)</td>
<td>38 (14.5%)</td>
<td>27 (41.5%)</td>
</tr>
<tr>
<td>Good</td>
<td>73 (77.7%)</td>
<td>19 (19.1%)</td>
<td>224 (85.5%)</td>
<td>38 (58.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>94 (100%)</td>
<td>246 (100%)</td>
<td>262 (100%)</td>
<td>65 (100%)</td>
</tr>
</tbody>
</table>

Values presented as frequencies (percentage)

Table 7: Comparison of Total Empathy Quotient Score Based on Years of Study (N=356)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Year I (n=101)</th>
<th>Year II (n=102)</th>
<th>Year III (n=70)</th>
<th>Year IV (n=83)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total score</td>
<td>40.9 (9.1)</td>
<td>40.7 (8.8)</td>
<td>38.6 (8.4)</td>
<td>36.5 (7.7)</td>
<td>I and IV = 0.004</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>II and IV = 0.005</td>
</tr>
</tbody>
</table>

Values were presented as mean (standard deviation); *p value <0.05; One-way ANOVA

Table 8: Interpretation of EQ score based on years of study (N=356)

<table>
<thead>
<tr>
<th></th>
<th>Year I (n=101)</th>
<th>Year II (n=102)</th>
<th>Year III (n=70)</th>
<th>Year IV (n=83)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>13 (12.9%)</td>
<td>12 (11.8%)</td>
<td>13 (18.6%)</td>
<td>21 (25.3%)</td>
</tr>
<tr>
<td>Good</td>
<td>88 (87.1%)</td>
<td>90 (88.2%)</td>
<td>57 (81.4%)</td>
<td>62 (74.7%)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Values presented as frequencies (percentage)

DISCUSSION

Empathy has been identified as the most influential element in the patient-physician relationship, while it was over and over again overlooked by medical and dental practitioners [28]. In general practice, empathy has been defined as the backbone of the patient-centered approach and is considered a vital part of professionalism by both patients and physicians [29].

The response was 100%. As there was ongoing pre-examination leave only 56.24% (356) of SP voluntarily came to the lecture hall in a pre-decided hour. Thereafter, researchers have distributed 356 (291+65) questionnaires were distributed and all of them returned. As data collection was conducted in the lecture hall and SP voluntarily came to participate the study. Consequently, all of them returned the questionnaires. One study compiled eight paper-based surveys reported that the overall response rate was 56% on an average [30]. Another study identified 33.3% response rate the paper-based survey [31]. Therefore, even if it was considered 56.24% response rate, this finding also corresponds with the mentioned multiple studies [30, 31].

Most of the SP was females. Several earlier Bangladeshi studies were similarly females were much high in number [32-34]. Bangladesh is largely being a Muslim country [35]. Therefore, study findings were in the same line that Muslims SP was far majority. Cronbach’s alpha: below 0.00 (poor); 0.00-0.20 (Slight); 0.21-0.40 (Fair); 0.41-0.60 (Moderate); 0.61-0.80 (Substantial) and 0.81-1.00 (Almost Perfect or Excellent). The convergent validity, most of the items correlate moderately to excellent to their own domain (p<0.05). Accordingly, the instrument empathy questionnaire possessed acceptable level of internal consistency reliability and validity [36].

Globally mainstream population in any community has attitudes, ideas, images, and perspectives that women have a better dimension for understanding others’ point of view and mental state than do men [37]. Correspondingly, multiple research studies revealed that gender variance in empathy ordinarily specify women have greater levels of empathy than do men [38-42]. Although current study found that females had a higher score but it was not statistically significant. Nevertheless, the current study finding has a similar observation of earlier research studies. Anyway, one Indian study reported that male clinical dental student’s level was higher than their female colleagues [43].

One Malaysian study reported that dental students registered at a public university had statistically significantly (p<0.001) higher mean empathy score when compared with students’ private university [44]. The current study also in the same way found statistically
significant (p<0.001) higher level of empathy among students of a public dental school. The majority of the current study SP had a good level of empathy which corresponds with a number studies [41, 42]. There was also statistically significant (p<0.05) differences observed was between the year of study. This finding also similar with multiple studies [43,45].

This was a cross-sectional study with its’ own inherent limitations. The research sample restricted to two dental institutes of Dhaka City, Bangladesh with a very minimum number of the study sample. Hence, the study findings cannot be generalized because of small sample size and of only capital city data. There are at least 15 dental colleges throughout Bangladesh [46]. Further studies are required on a longitudinal basis to explore various aspects involving more students of multiple dental institutions.

CONCLUSION

Empathy is imperative in the physician-patient rapport and improves vibrantly welfares for the patient and the physician. Females scored higher empathy level than their male counterparts. Furthermore, empathy level was a statistically significant difference observed between the years of study.

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CONFLICT OF INTEREST

Authors possess no conflict of interest.

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REFERENCES


