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RESEARCH ARTICLE

CLINICAL EMPATHY OF MEDICAL STUDENTS

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Abstract

Empathy is an essential quality for all in their social and family relations, but it becomes more important when it comes to the doctor-patient relationship; it is a skill future doctors must master. Our objective was to assess the level of empathy among medical students through the Jefferson scale and highlight the factors influencing empathy and its evolution during medical studies. Our aim was to provide elements to help improve the level of empathy. For the purpose of conducting our research, we asked students from the third to sixth year of medicine at University Hospital Mohammed VI in Marrakech to complete an anonymous questionnaire divided into two sections: personal and socio-demographic information and the Jefferson scale of attitudes of empathy in its French adaptation, which measures clinical empathy in three components. We retained 433 usable questionnaires: 59% of which belonged to female students. The average age was of 22 and the average Jefferson score of 88.69 points. We found that students' empathy was associated with gender and that girls showed higher levels than boys. Moreover, we found an association between empathy and financial aid: students with a scholarship were more empathetic. This empathy was also associated with a family history of chronic illness, chronic or personal psychiatric illness; the presence of one of these factors makes students more empathetic. However, as the age and academic level of the students increased, the level of empathy decreased. This allowed us to conclude that the levels of empathy among students were declining over time. In conclusion, we discuss the nature of empathy: Is it an innate or learned ability? Can it be taught? Or can it be improved by psychotherapy measures?

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Introduction:-

According to common and ancient belief, one of the first qualities of a doctor is the empathy he has for his patients. In fact, if the doctor-patient relationship is a fundamental component of providing quality treatment, empathy has a strong place in this communication-based relationship. Actually, it is a relationship between a listener and a sufferer. But if empathy is an essential element of the doctor-patient relationship and if it is part of the standard medical training, then everything seems to correspond, and it appears pointless to be interested in it. However, this is not what the observations in the report on ill-treatment would suggest.

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The Toronto consensus of 1991 pointed to the shortcomings noted in doctor-patient communication: interrupting patients too quickly, a lack of agreement on the reason for consultation, and a lack of recognition of the patient's concerns [1]. In 1997, a team of physicians evaluated the use or not of empathic communication in primary care consultations [2]. The direct or indirect signals emitted by the patient regarding their emotions and concerns have been called "empathic opportunities". In most cases, they remained unexplored by the doctor, leading to the patient's insistence on this subject or to its "closure" to the detriment of listening. Using this methodology, another study in oncology found that only one-tenth of these opportunities were recognized and triggered a physician response [3]. This lack of expression has prompted many attempts at explanation. There may be many reasons for these results, from conscious avoidance for fear of losing objectivity to the belief that it takes too long, but the most obvious of these reasons is that "maybe they just don't know how to answer? » [4].

Our work therefore comes to highlight the degree of precision with which medical students understand the point of view of patients. Faced with this observation, we carried out a measurement of empathy among students inspired by the work of Hojat, with the idea of finding useful training tracks. In this sense, the objectives of our work were to define the determinants of clinical empathy and its evolution among medical students.

Method:-

It is a one-year cross-sectional descriptive study of 433 medical students from Marrakech's Faculty of Medicine and Pharmacy. Prospective recruitment was carried out with 433 medical students from the third to sixth year during their visits to the medical and surgical services, as agreed by the service heads. We included informed students who wished to participate in this study. And we excluded those not wishing to participate.

Data collection was carried out using a previously designed, structured, anonymous questionnaire consisting of two parts: the first for socio-demographic data and the second for the Jefferson scale of empathy attitudes.

Excel was used to enter and code the data, then the statistical analysis was performed using SPSS software, version 21.0. The quantitative variables were expressed in means and standard deviations, the qualitative variables in numbers and in percentages. The comparison between the qualitative variables was measured by the Pearson chi-square test.

Results:-

Sociodemographic aspects

In our sample, the average age of students was 22 +/- 1.7 years, with extremes ranging from 19 to 29 years. For gender, there is a female predominance with a sex ratio (M/F) of 0.68. There were 97% of students who were single, 2.3% who were married, and 0.7% who were divorced. In terms of study level, 26% were third-year students, 25% were fourth-year students, 28% were fifth-year students, and 21% were sixth-year students. We also found that 75% of the students surveyed financed their studies solely with help from their families, compared to only 25% who were on scholarships. 71% of the students wished to do medicine, compared to 29% who did not. Regarding housing, 35% lived in shared accommodations, 30% in a family home, 25% in a university residence, and 10% in individual rentals. For transportation, 36% of students needed more than 30 minutes to reach the hospital, 33% between 10 and 30 minutes, and 31% less than 10 minutes. Thus, 42% of students lived between 100 and 400 km from their parental residences, 30% less than 10 km, 23% more than 400 km, and 5% between 10 and 100 km. 79% of students surveyed reported having a family history of chronic disease; 12% of students had a chronic illness; and 39% of students declared having a psychiatric illness.

The Jefferson Scale of Empathetic Attitudes

The responses of the surveyed students to the Jefferson Attitudes of Empathy Scale items were as follows (Table 1). Thus, items 2, 4, 5, 9, 10, 13, 15, 16, 17, and 20 corresponded to the dimension taken from perspective; items 1, 7, 8, 11, 12, 14, 18, and 19 to the dimension of emotional understanding; and items 3 and 6 to the dimension of putting oneself in the place of the patient.

Table 1:- Mean scores of 3rd to 6th year medical students for each item of the Jefferson Empathy Attitudes Scale.

Questionnaire item	Effective	Score average	standard deviation
Jefferson Scale of Attitudes of Empathy			
1 / My understanding of the feelings of my patients and their	433	4.34	1.265

families does not influence my medical or surgical treatment			
2 / My patients feel better when I understand their feelings.	433	4.20	1.297
3 / It is difficult for me to see things from the point of view of my patients.	433	4.15	1.284
4 / In caregiver-patient relationships, I consider understanding my patients' body language to be as important as understanding verbal communication.	433	4.24	1.264
5/ I have a good sense of humor which I think contributes to better clinical results.	433	4.25	1.254
6 / It is difficult for me to see things from the perspective of my patients because each person is different.	433	4.13	1.252
7 / When I ask my patients about their history or their physical health, I try not to pay attention to their emotions.	433	4.21	1.283
8 / Being attentive to the experience of my patients does not influence the results of their treatments.	433	4.15	1.328
9 / When I treat my patients, I try to put myself in their shoes.	433	4.22	1.416
10/ My patients value the fact that I understand their feelings, which is therapeutic in itself.	433	4.23	1,370
11/ Patients' illnesses can only be cured by medical or surgical treatment; thus, the emotional bonds with my patients do not have significant influences on the medical or surgical results.	433	4.51	1.419
12/ Asking patients about what is happening in their personal life(s) is not helpful in understanding their complaints related to their physical condition.	433	4.50	1.395
13/ I try to understand what is going on in the minds of my patients by paying attention to non-verbal cues and body language.	433	4.55	1.360
14/ I think that emotion has no place in the treatment of physical illness.	433	4.64	1.487

For the students surveyed, the average score was:

1. "Jefferson total" was 88.69 +/- 21.49, with a low of 27 and a high of 130.
2. "Perspective Taking" was 45.1 +/- 11.51, with a high of 67 and a low of 13.
3. "Emotional Understanding" was 35.30 +/- 8.28, with a high of 52 and a low of 12.
4. "Putting yourself in the patient's shoes" the score was 8.28 +/- 2.37, with a maximum of 14 and a minimum of 2.

The analytical study

We carried out a bivariate analytical study in order to specify the determinants of empathy and its evolution among the students surveyed. The averages of the total Jefferson scores and the three scores of the subscales or dimensions of empathy among students according to the sociodemographic factors studied were as follows (Table 2).

Table 2:- Distribution of the means of the dimensions of empathy among the students surveyed according to the socio-demographic factors studied.

Factors	(min -max)	Average "Total Jefferson" scores	Average "Perspective" scores	Average of "Emotional understanding" scores	Average of "Put yourself in the patient's shoes" scores
Age	19	98.66	50.09	39.04	9.53
	20	95.77	48.71	37.97	9.09
	21	92.05	46.32	36.74	8.99
	22	90.04	45.01	36.12	8.91
	23	85.60	42.34	34.95	8.31
	24	82.57	40.79	33.61	8.17
	25	81.18	39.99	33.21	7.98
	26	79.10	39.08	32.87	7.15
	27	75.99	38.21	31.10	6.68

	28	72.10	36.78	29.32	6.00
	29	68.13	34.92	27.66	5.55
Gender	Male	82.96	42.11	33.12	7.73
	Feminine	94.19	48.03	37.33	8.86
marital status	Bachelor	88.60	45.06	35.28	8.26
	Married	89.73	45.91	35.40	8.42
	Divorce	88.40	45.01	35.19	8.20
	widow/widower	0.00	0.00	0.00	0.00
Study level	3rd year	97.53	49.15	38.96	9.41
	4th year	94.00	47.42	37.44	9.12
	5th year	84.83	43.26	33.77	7.79
	6th year	76.25	39.66	30.11	6.48
Funding	only family	84.74	43.98	32.66	8.10
	Aid or	98.38	49.77	39.22	9.39
	scholarship	0.00	0.00	0.00	0.00
	work and study				
Desire to do medicine	Yes	89.69	45.91	35.66	8.30
	No	88.53	45.11	35.21	8.21
Accommodation	University campus	89.47	45.60	35.55	8.32
	Family house	88.94	45.31	35.33	8.30
	Collective rent				
	Individual rent	88.29	45.01	35.11	8.17
		88.31	44.97	35.15	8.19
Transportation	0 to 10 mins	88.77	45.18	35.33	8.26
	10 to 30 mins	88.73	45.11	35.32	8.30
	More than 30 mins	88.53	45.02	35.26	8.25
The parental residence	0 to 10km	88.55	45.04	35.29	8.22
	10 to 100km	88.71	45.11	35.31	8.29
	100-400km	88.69	45.14	35.28	8.27
	More than 400 km	88.68	45.08	35.32	8.28
Family history of chronic disease	Yes	96.24	49.11	38.78	8.35
	No	82.05	41.22	32.66	8.17
Personal chronic illness	Yes	95.67	48.02	37.88	9.77
	No	84.62	43.52	33.76	7.34
Personal psychiatric illness	Yes	96.77	47.33	40.06	9.38
	No	82.74	44.00	30.76	7.98

Statistical analysis was performed by calculating the significance p for each of the factors studied. (Table 3)

Table 3:- Results of the significance tests of the bivariate analysis of the students.

Factors	“Total Jefferson” Score	“Perspective” score	“Emotional understanding” score	“Put yourself in the patient’s shoes” score
Age	p = 0.013	p = 0.166	p = 0.001	p = 0.198
Gender	p = 0.001	p = 0.099	p = 0.001	p = 0.157
marital status	p = 0.227	p = 0.118	p = 0.575	p = 0.288
Education level	p = 0.009	p=0.154	p = 0.001	p = 0.087

Funding	p = 0.003	p = 0.001	p = 0.073	p = 0.042
Desire to do medicine	p = 0.405	p = 0.802	p = 0.321	p = 0.288
Accommodation	p = 0.631	p = 0.112	p = 0.889	p = 0.816
Transportation	p = 0.204	p = 0.288	p = 0.157	p = 0.197
The parental residence	p = 0.817	p = 0.528	p = 0.670	p = 0.480
Family history of chronic disease	p = 0.021	p = 0.004	p = 0.233	p = 0.106
Personal chronic illness	p = 0.008	p = 0.103	p = 0.111	p = 0.002
Personal psychiatric illness	p = 0.001	p = 0.098	p = 0.017	p = 0.001

Discussion:-

Empathy is a concept that arises whenever we are interested in the doctor-patient relationship. It seems to be an indispensable tool for an effective relationship. However, Neumann [5] synthesized our knowledge of empathy in the doctor-patient relationship. This synthesis allows us to understand the current state of knowledge and the aspects that still need to be explored.

Our study tried to measure empathy in medical students through the Jefferson scale, highlight the factors influencing this empathy as well as its evolution, and compare our results with those of the literature with the ambition of bringing forward elements to improve empathy.

Factors associated with total Jefferson and the three dimensions of empathy

a. Gender:

Our results highlight a significant association between empathy through its "emotional understanding" dimension and the gender of students. These results agree with those of a French study done in 2015 [6], which found that female students are more empathetic than male ones. The explanation is provided by the work of Hojat [7], who explain that women are more receptive to emotional cues than men.

b. Age:

Our study finds a significant association between student age and empathy through its "emotional understanding" dimension. These results are consistent with those of a French study [6], which found that young day students are more empathetic. The explanation given by Hojat [8] was that externs lost their empathic capacities during their training and in particular from the 3rd year of medical studies, the year in which externship internships in hospitals began.

c. Level of study:

The results of our work objectify a significant association between the level of study and empathy by its dimension "emotional understanding" of students. In particular, the more the level of study increased, the more the empathy scores - in particular those of the "emotional understanding" dimension - decreased. These results join and are explained by the studies of Hojat [8] who find a decline in empathy from the 3rd year of medical studies.

d. Funding of studies:

Our work highlights a significant association between the financing of studies and empathy, through the double bias of these dimensions "taking perspective" and "putting oneself in the patient's place". Students who financed their studies by aid or scholarship had higher empathy scores, in particular those of the dimensions "taking perspective" and "putting themselves in the patient's shoes". The explanation refers to the hypothesis that students with financial difficulties had a greater capacity to understand the patient's point of view and put themselves in their shoes.

e. Family history of chronic disease:

The results find a significant association between the family history of a chronic illness in the student and empathy by its "perspective taking" dimension. Students with a family history of chronic disease had higher empathy scores, particularly those of "perspective taking". These results are in line with those of a German study [9] which had studied the relationship between empathy and the presence of a person with a chronic pathology in the environment,

and explains these results by the notion of what has already been experienced, which helps to develop a better understanding of patients.

f. Personal chronic illness:

Our study demonstrates a significant association between the student's chronic illness and empathy through "putting yourself in the patient's shoes". Notably, students with chronic conditions had higher empathy scores, especially on the "putting themselves in the patient's shoes" dimension. These results are consistent with those of a German study [9], which explains the association with the idea of having previously experienced it.

g. Personal psychiatric illness:

Our results find a significant association between students' psychiatric illness and empathy through the dual biases of "emotional understanding" and "putting oneself in the patient's shoes". Students with a psychiatric illness had higher empathy scores. The explanation was that students with chronic psychiatric conditions developed greater emotional vulnerability, which increased the size of their emotional receptors.

Factors not associated with total Jefferson

a. Marital status:

Our study finds no association between the marital status of students and their empathy. Notably, students' empathy scores did not vary significantly across marital status variables. These results agree with those of Carmel [10] for whom empathy was not associated with marital status. The study of this factor was based on the assumption that couple life and emotional stability could enhance the dimensions of empathy in our students.

b. Desire to do medicine:

Our results find no association between the desire to study medicine and the empathy of the students surveyed. However, no study in the literature has taken this factor into consideration in their research on student empathy. Yet, the study of this factor was based on the fact that students in hospital internship wishing to do medical studies could better develop the dimensions of empathy.

c. Accommodation:

Our study does not show a significant association between accommodations and student empathy. However, no study in the literature has investigated the association of this factor with the dimensions of empathy. The study of this factor was based on the assumption that students with comfortable accommodations would better develop the dimensions of empathy.

d. Transportation:

Our results find no association between transportation and student empathy. Thus, we note that no study in the literature has studied this factor in its association with the empathy of medical students. Namely, the study of this factor was based on the assumption that the time it takes to arrive at the hospital might affect the way the students develop the dimensions of empathy.

e. The parental residence:

Our results find no association between parental residence and the empathy of the students surveyed. No study in the literature has studied this factor. However, the study of this factor was based on the hypothesis that the comfort of a close parental residence would lead to an improvement in the dimensions of students' empathy.

Our study compared to the literature

Table 4:- Comparison of the means of the "total Jefferson" scores of our study with those of the literature.

STUDIES	Populations	Tools	Averages of "total Jefferson" scores
Ingrid (Vienna – Austria)	516 medical students	JSPE	110.52
Hojat (USA)	265 health professions students	JSPE	115.1
Nadja (Germany)	127 medical students	JSPE	113.26

Seved (Iran)	1187 medical students	JSPE	101.4
Our study (Marrakech, Morocco)	433 medical students	JSPE	88.69

Evolution of empathy

Our study finds a decline in empathy among our surveyed students (Figure 1). These findings are consistent with the literature, particularly those of Hojat [8], who explains them as a loss of empathic abilities in medical students during medical training.

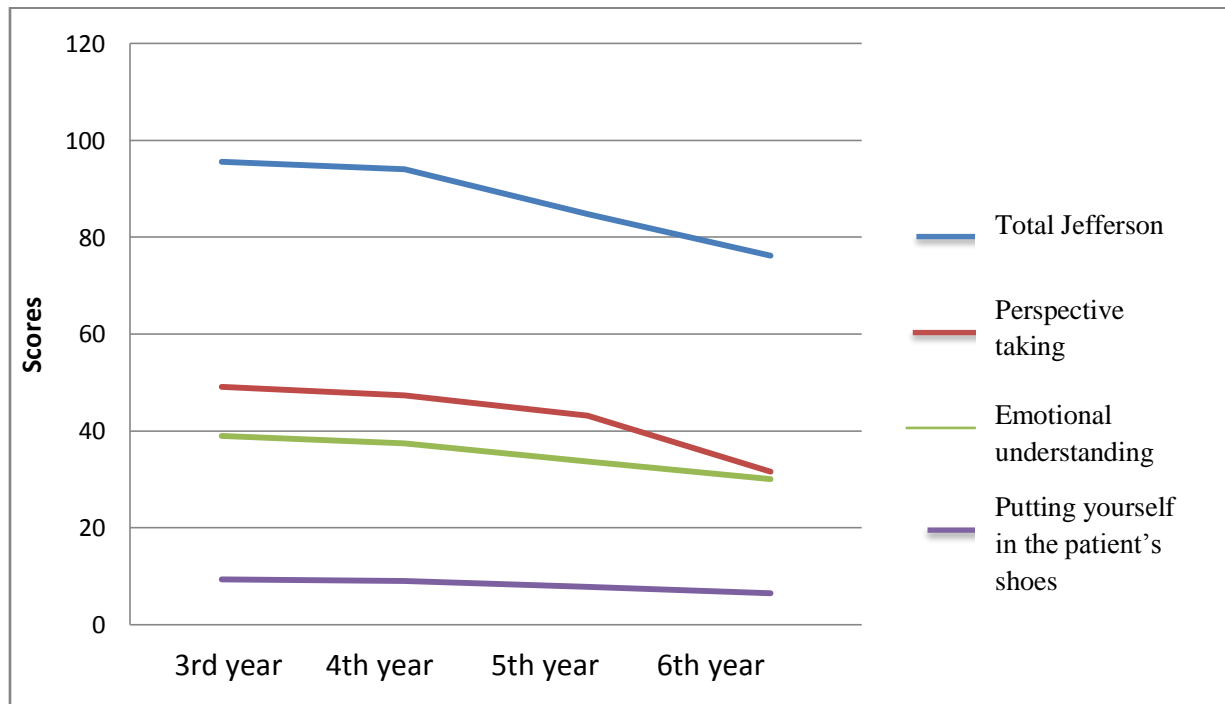


Figure 1:- Evolution of empathy scores of students from 3rd to 6th year.

Conclusion:-

Empathy, or the ability to understand the experiences, the point of view of the other and the capacity to communicate this understanding to him, is the basis of an effective doctor-patient relationship. During the 21st century, it has been the subject of many articles that have demonstrated its multiple implications for both the patient and the doctor. Its recognized importance makes it a necessary skill to be validated during the training of medical students. Despite this, both our study and others in the literature found a decrease in empathy during medical studies. This raises the question of its teaching. Indeed, several approaches have been studied; workshops on communication skills, simulations, and acting classes. Some have shown their effectiveness, but there remains the problem of putting them into practice within a long and dense medical training. But if bad behavior can be contagious, then perhaps empathy and compassion can be as well?

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