Original Article

Perception of Health Sciences Students about Impact of Hidden Curriculum on Burnout and Empathy

Komal Atta, Saadia Ijaz

ABSTRACT

Objective: The main objectives of this study were to investigate how the implicit curricular aspects such as the hidden curriculum affect student empathy and burnout and we sought to describe the link between them.

Methodology: This mixed methods study included validated measures of both empathy and burnout which were distributed in three institutes of three different cities in Pakistan followed by focus group interviews. The study cohort included students of health sciences. 2000 questionnaires were distributed of which complete data of 1100 (55%) were retrieved. The second part of the study included formation of two focus groups of 15 students each per campus for in-depth discussion of aspects relating to the hidden curriculum, burnout and empathy. Descriptive statistics, correlations and frequencies were analyzed by SPSS 22 and focus group discussions underwent thematic analysis after transcription.

Results: Medical students followed by and physical therapy students experienced the greatest amount of burnout syndrome (p-value0.02 and p-value0.04, respectively) as compared to the other disciplines Final year students of each discipline reported higher rates of burnout as compared to all other years (p-value0.01).Medical students had lesser empathy as compared to other disciplines of health sciences. This finding showed statistical significance (F=4.66.p-value0.03). Furthermore, results shows females (5.56±0.72) had statistically significant higher empathy scores than male students (4.46±0.65) (p-value 0.04). The focus groups established that the hidden curriculum was a key player in student wellbeing and not just limited to subconscious attributes of the teacher but it also includes administrative issues, patient behavior, peer interaction, sociodemographic and national policy issues.

Conclusion: Medical students experienced the greatest amount of burnout and subsequently reported lesser empathy reflecting the negative relation between them. Burnout and hidden curriculum are important factors in determining empathy in health care students. More positive role modeling, better understanding of the surrounding and a good distribution of work load will help the students handle burnout and act as positive factors of the hidden curriculum, hence increasing empathy.

KEYWORDS: Empathy, Hidden curriculum, Burnout, Undergraduate, Medical students

INTRODUCTION

Empathy is a crucial part of any medical and allied health science career, practice or even apprenticeship. It is the one thing which links us directly not by science but by emotions to our patients, hence it is stressed upon in all medical and allied health science disciplines to give an increasing amount of empathy training and exposure to their students.[1,2] Psychologists now believe that empathy is an amalgam of both acquired skills as well as specific person. Many measures of empathy now exist thanks to the vast array of research done now relating to this issue, the Jefferson Scale-student edition (JSE-S) is one of the most widely used questionnaire to judge student empathy. It has been validated multiple times in various countries of the world. [4,5] On the other hand, burnout can be defined as a constellation of negative and energy draining symptoms in an individual, that consists of syndromic exhaustion physically and also emotionally, decreased personal accomplishment and feelings of depersonalization.[6] This is one of the commonest features of medical practice and education owing to the long working hours, grueling study routines, schedules and cut throat competitiveness in the field, as well as external factors such as patient non-cooperation, lack of support among peers etc.[7] The Maslach burnout inventory is a verified scale exploring causes of burnout in various domains in a person. It has been used in multiple studies worldwide to assess the causes and effects of burnout.[8,6] The hidden curriculum refers to the impact made by the social structures, tacit dogmas and other circumstances in the environment other than academic learning which impact a person's social and professional behavior.[9] This is of particular relevance to medical education

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and health care professionals where students are always passively exposed to tacit learning in activities such as "shadowing", "mirroring" senior fellows and teachers and are often asked to adopt dehumanizing elements such as "developing thick skin" and becoming "robotic" to survive in a contemporary medical practices.[10,11] In Pakistan in particular, less emphasis is given to empathy and effects of the hidden curriculum in the medical education.[5]These areas are highly unexplored as compared to the didactic curriculum and formal methods of teaching. Apart from this due to very high patient load in our clinical setups as well as teaching hospitals, students are subjected to greater levels of burnout.[12] The objective of our study is to correlate the effects of the hidden curriculum and the rate of burnout on the empathy levels of medical and health sciences students so we may be able to evaluate our setups and teaching styles in order to create a safer, calmer and healthier environment for our students to study and grow into mature, empathetic health care providers.

METHODOLOGY

This study was carried out from March 2019 to March 2020. Ethical Approval was taken from the Research and Ethical Review Committee of "The University of Faisalabad" with letter#:TUF/Dean/2019/14.Validated questionnaires were distributed in three different institutes which catered for both Medical as well as Allied Health Sciences students. Main university where the research was conducted was in Faisalabad where as other two universities were Lahore and Islamabad based. The total population of the three universities combined was about 14907 students. Sample size (n=2000) was calculated at 95% confidence interval, with ±2% margin of error, using formula: $n=[DEFF*Np(1-p)]/[(d^2/Z^2_{1-\alpha/2}*(N-1)+p*(1-p)]$
Where n=sample size, N=population size, p-value hypothesized frequency of outcome in a population d=margin of error, DEEF= design effect for cluster surveys.[13] In the first phase of the study from March 2019 to May 2019, on a sample size of 2000 a small structured questionnaire regarding sociodemographic characteristics including gender, year of study, program of study and the Maslach Burnout Inventory (student edition) and the Jefferson Empathy Scale (student version) were distributed randomly in health science departments at the three institutions. Of these, complete data of 1100 forms were retrieved (55%).Submission of responses by the students were the willingness of participation in the study and were included in the study. students who did not submitted their proforma were excluded from the study.

The Maslach Burnout Inventory is a self-administered closed format questionnaire with 15 questions subdivided into three scales of emotional exhaustion(5items),cynicism (4 items) and professional efficacy (6 items). Scoring is done on a 6-point likert scale; however we use the scale inverted when measuring professional efficacy. The Crohn Bach alpha for each factor respectively came out to be 0.77 ,0.8 and 084 which was considered good compared to previous studies using the same scale.[14–16] as followed from previous literature burnout was identified at higher levels based on the following scoring system: Emotional exhaustion>14, cynicism> 6 and professional efficacy >23. The Jefferson Empathy Score, students version is a 20 item questionnaire rated on a 7-point Likert scale. It composes of both negative and positive correlations.[15]

Statistical analysis: was carried out on SPSS version 22.Descriptive statistics were applied on all demographic data, the MBI-SE items were evaluated using backward linear regression analysis, bivariate analysis to compare various descriptive with individual descriptive components, Chi square test was applied to see the impacts of gender, year of study and discipline of study on burnout.

JSPE scores were reported as mean± standard deviation of each item, the evaluation of empathy with advancing years of study and different disciplines were evaluated using Analysis of variance (ANOVA) and independent t-test was employed to find out the difference in empathy between genders. A p value was rendered significant if $p \leq 0.05$. In the second phase of the study, two focus groups of 15 students were formed in each specialty at all three institutes by multistage sampling technique. Total 90 students were in focused groups These groups were monitored by two mentors each who were not directly involved in teaching that specific cohort of students which they were assigned. Various themes that emerged in the discussions were transcribed and repetitive or common elements were considered for the study.

RESULTS

Of the 1100 students who responded, the population was predominantly female (59%), more students of first year and final year responded and the highest responding discipline was Medical Sciences, as shown in table 1. According to the MBI-SE, alarming 40% students were falling in the defined criteria of Burnout Syndrome. Separate analysis of each individual items

Table 1: Descriptive data collected for all students who responded with completed questionnaires (n=1100)

Variable	Frequency (n=1100)	Percentage (%)
Gender		
Male	450	40.90%
Female	650	59.09%
Year of study		
1st year	250	22.72%
2nd year	189	17.18%
3rd year	166	15.09%
4th year	245	22.27%
5th year	250	22.72%
Discipline of study		
Medical Sciences (MBBS and BDS)	554	49.45%
Physiotherapy	261	23.72%
Medical Laboratory Techniques	85	7.7%
Optometry	200	18.18%

scale showed that a larger part of our sample population had higher means in high cynicism (7.2±5.6 α=0.77), high professional efficacy (28.0±5.7,α=0.81) and high emotional exhaustion (16.8± 5.9,α=0.84)

Table 2: Of gender, year of study and discipline of study on empathy. (n= 1100)

Source	F statistic	Significance
Discipline* year of study	0.86	0.01*
Discipline*gender	0.95	0.49
Gender*year of study	0.99	0.54
Discipline*year study*of gender	0.89	0.23

p- value ≤ 0.05 was considered significant

The Cronbach alpha is used as a determinant of reliability of this study, it verified good internal consistency (α=0.70) The reliability of this study, assessed by Cronbach's alpha, verified that the subscales of emotional exhaustion (0.83), cynicism (0.78) and professional efficacy (0.80) presented good internal consistency(alpha.0.70) The burnout syndrome was more significant in medical science and physical therapy students (p-value 0.02 and p-value 0.04, respectively) as compared to the other disciplines. Final year students reported higher rates of burnout as compared to all other years (p-value 0.01). Effects of gender were insignificant when related to burnout. The JSE-Student edition reported mean score per item for our population to be 4.62±0.57, where a maximum score of seven was possible. Females (5.56±0.72) had higher empathy scores than their male counterparts (4.46±0.65) according to the independent t-test and this was significant (p-value0.04). ANOVA was employed to see difference of empathy across 5 academic years, this showed no statistical significance.(F=.86, p-value 0.44).The various disciplines of health sciences when compared with empathy showed statistical significance (F=4.66. p-value 0.03) and it was seen that students in Medical Sciences has a lower empathy score than those in Optometry and Medical Laboratory Techniques.

ANOVA was administered to see the effects of gender, year of study and discipline of study on Empathy. There was a significant difference was found concerning empathy between year of study and discipline (F=0.86,p-value0.01). Post hoc tukey's test showed that 3rd year students had a higher score of empathy as compared to other years (n=166, mean score 5.65±0.75) (Table 2)

Table 3: Main themes relating to empathy and the hidden curriculum (n=90)

Theme/similar statement	Students reporting this theme n(%)
Negative/positive role modelling affects empathy	32 (35.5)
Sociopolitical scenario of the country affects empathy and patient dealing	49 (54.4)
Patient behavior affects empathy	59 (65.5)
Lack of proper incentives in medical field, extreme stress and burnout	49 (54.4)
Ambience and administration of the institute	36(40)

In the second stage of the study qualitative open-ended questioning was performed by using focus groups. Two focused groups comprised of 15 students of mixed disciplines were selected from each of university Total 6 groups of all three universities were comprised of 90 students. Mentor who was not teaching any of the students was appointed for each focused group to start discussions pertaining to empathy, burnout and the hidden curriculum. Themes which emerged more commonly were tabulated and answers of the students recorded.(Table 3)

DISCUSSION

Our study showed that a high percentage of students suffered from burnout especially students of medical sciences and those is advanced years of their study, this is probably because of the intense pressure and increasing amount of work load on these students and also increased expectations. These results are corroborated by other previous studies, such as a study

conducted in medical colleges of Lahore showed similar results[12], similarly the MBI-SS conducted in a university in Israel had similar findings also.[15]Our study reported a much higher rate of burnout syndrome (40%) than most of the reported literature (falling in the ranges of 10-25%),[16–19]this is most likely as most studies are done in developed countries with a well-structured support system and medical facilitates and proper defined working hours for residents, as compared to them the healthcare system in Pakistan is in infancy, hence there is lack of proper facilities in hospitals as well as lack of proper teaching time and techniques in medical colleges which makes it more likely that our students suffer from higher rates of mental and emotional exhaustion. [12] In current study, the Jefferson Empathy Score determined that there was a bell shaped distribution in empathy curve over the five years of a health science degree program, with a low level of empathy in 1st two years, then a rise in the third year and again low levels in the next two years. This was corroborated by some articles which also stated that empathy levels of medical students declined with senior years.[20,21] The rise in third year is likely due to the fact that our clinical training usually starts in third year and most students start this time with much zeal and fervor, these effects die down by the time they reach final year due to various issues such as the influences of hidden curriculum, higher rates of burnout, peer pressure etc.[22]

In our study a negative relation was seen between empathy and burnout, showing that students, who exhibited higher rates of burnout, had lower empathy scores. This correlation has also previously been established in some studies done in ICU residents and nursing professionals.[23,24] The qualitative portion of our study showed some novel concept relating empathy and burnout to the hidden curriculum. Conventionally, the hidden curriculum is limited to the actions and behavior of the teacher or immediate classroom surrounding that the student takes in subliminally,[9] however our study showed that the hidden curriculum is an elusive term and includes a much larger field of things than just behavioral attributes of the teacher. It also includes the type of administration of the institute, the overall ambience of the surroundings, mentorship by teachers as well as seniors. Our study showed that most students mimicked the behavior of their teachers as a result of negative or positive role modelling and this was a contributing factor to their rise in empathy or fall there off. This has also been reported to a smaller extent in previous literature.[8,21,23] We also found that student empathy was considerably affected by sociopolitical conditions of the country. During times of stress, empathy levels were reported to decline and during times of well-being they rose. A huge factor reported by most students regarding empathy was patient behavior during the ward rotations, those who had negative experiences or rude encounters with patients reported decrease in empathy.

Limitation: Limitation is we did not do in depth interview, which would have generate more data, furthermore we did not take into account cultural and social factors of different institutes and different specialties.

CONCLUSION

In conclusion, our study showed that burnout is highly prevalent in students of health sciences in particular Medical students and it has a negative impact on empathy levels, which are declining in health care professionals with senior students having less empathy as compared to juniors. When we explored the caused, we found that stress and the hidden curriculum were significant players in this problem. Where normally we focus more on the academic curriculum, our study reveals that the hidden curriculum and particularly its more unentertained aspects (effects of sociopolitical conditions, administration, and patient behavior) are all very important and crucial for health, wellbeing and empathy of health science students. Hence, tending to the hidden curriculum trying to eliminate its negative and highlight its positive aspects is the need of the day to avoid the burnout and empathy in our student population.

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Author's Contribution:

Dr. Komal Atta	Study design, data collection statistical analysis, manuscript writing and revising
Dr. Saadia Ijaz	Study design, data collection, manuscript writing and reviewing it for intellectual content and approve the article
	Both authors are responsible for research work , data integrity of the data and the accuracy of the data analysis

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