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PERCEPTION OF STUDENTS REGARDING INFECTIONS

Physiology

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ABSTRACT

This cross-sectional descriptive study was conducted using the chain sampling technique, to determine the perceptions of medical students - 76 females (38.38%) and 62 males (31.31%) and non-medical students - 41 females (20.71%) and 19 males (9.60%) - regarding infections since students comprise an educated sub-group of society. A pre-tested and pre-validated questionnaire was administered via Google forms. The mean age of female medical students was 20.18 +/- 1.75 years, while that for the male medical students was 20.19 +/- 1.68 years. The mean age of female and male non-medical students was 19.37 +/- 1.16 years and 20.37 +/- 2.14 years, respectively. The gender difference in mean age was not significant for both medical students (Z=0.034; p=0.972) and non-medical students (Z=1.910; p=0.056). The gender difference in responses to most parameters was also not significant. Awareness campaigns regarding infectious diseases should be coupled with information to reduce irrational fears of acquiring a disease.

KEYWORDS

Infection, Perception, Medical student, Non-medical student

INTRODUCTION

Despite the progress in overcoming infectious diseases and even eliminating certain infectious diseases, an illogical fear of infection seems to gripped the human psyche since the great plagues of the middle Ages. This disproportionate fear causes irrational behaviour. [1] During an outbreak, the patient is both a victim and a possible source of infection. In order to control an outbreak, there is possibility of infringement of personal rights of the affected individuals and consequent stigmatization and discrimination. Information campaigns can contribute to reducing stigmatization. [2]

A series of ethical dilemmas applies to the control of infectious diseases. [2] An ethical dilemma is the consequence of clash between feelings and decisions. [3] The practice of isolation and quarantine may make stigmatization unavoidable and this dilemma may enhance the fear of infection. Control of a large-scale infectious disease outbreak may require demand the infringement of individual liberties and civil rights. [4] Ethical dilemmas also involve the content of public communications. It is difficult to decide how much actual information can be handled by the public without panicking. [5] "Filtering" and "sugar-coating" of information may infringe on the "right to know". Some journalists have accused scientific personnel of hiding the truth and misinforming the public. [6-8] Fear of infection is also aggravated by fictional dramatizations in movies. [9]

During infectious disease outbreaks, people who do not have knowledge of a health hazard are more likely to rely on mass media to learn about the hazards. [10] Mass media shapes the risk perceptions by the public. [11] On the positive side, when people become aware that they are susceptible to a risk, they get encouraged to engage in preventive health behaviours. [12] Fear-arousing sensational coverage of an infectious disease outbreak can amplify risk perception by the public. [13] Social media serve as an immediate source of information when traditional media do not provide relevant and timely information. [14, 15]

Communities are heterogeneous, comprising sub-groups of individuals, with diverse socio-economic and educational backgrounds. [2] The responses of these sub-groups to threats of infection would depend on their level of access to health-related information and their level of comprehension of this information.

Many health care personnel who were fearful of contracting tuberculosis in the workplace develop psychological defence and coping mechanisms over a period of time and they pass on their beliefs regarding their own "invincibility" to younger cadres. [16] The increasing number of health care personnel diagnosed with tuberculosis leads to strain between denial and the recognition of danger in the workplace. [17]

The purpose of the present study was to determine the perceptions of medical and non-medical students regarding infections since students comprise an educated sub-group of society.

MATERIALS AND METHODS

This cross-sectional descriptive study was conducted using the chain sampling technique. A pre-tested and pre-validated questionnaire was administered via Google forms to students aged 18+ years, of either gender, who were enrolled in graduate courses in various colleges in the state of Maharashtra, Western India. Informed consent was taken on the Google forms. The data were adapted to Microsoft Excel spreadsheet (Microsoft Corporation, Redmond, WA, USA) and analyzed using SPSS statistical software Windows Version 25.0 (IBM Corporation, Armonk, NY, USA). The percentage of responses and the standard error of difference between two sample proportions were calculated. For continuous data, the standard error of difference between two means was calculated. 95% Confidence interval (CI) was stated as: [Mean-(1.96)*Standard Error)] - [Mean+(1.96)* Standard Error)]. The statistical significance was determined at $p<0.05$.

RESULTS AND DISCUSSION

There were a total of 198 respondents, of which, 76 females (38.38%) and 62 males (31.31%) were students who were enrolled for MBBS (medical) course, while 41 females (20.71%) and 19 males (9.60%) were students who had enrolled for graduation in non-medical courses. The mean age of female medical students was 20.18 +/- 1.75 years (95% CI: 19.79–20.58 years), while that for the male medical students was 20.19 +/- 1.68 years (95% CI: 19.76–20.60 years).

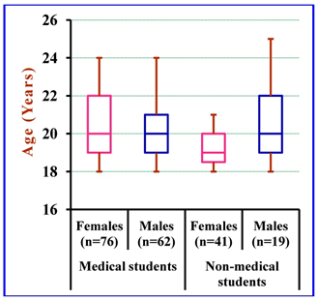

Fig-1: Box plot of age distribution of respondents

The mean age of female and male non-medical students was 19.37 +/- 1.16 years (95% CI: 19.01–19.72 years) and 20.37 +/- 2.14 years (95% CI: 19.41–21.33 years), respectively. The gender difference in mean age was not statistically significant for medical students (Z=0.034; p=0.972) as well as non-medical students (Z=1.910; p=0.056). Among medical students, the maximum age, median, first quartile and minimum age were identical for females and males, while the third quartile was higher for female students. (Fig-1). Among the non-medical students of both genders, only the minimum age was identical. The ages of female non-medical students were compactly distributed, with maximum age (21) and minimum age (18). However, the age distribution for their male counterparts was more dispersed, with maximum age (25), third quartile (22), median (20), first quartile (19) and minimum (18). (Fig-1).

Female medical students reported significantly higher level of attendance (Z=2.175; p=0.029) and higher level of fatigue at the end of working day (Z=3.044; p=0.002), as compared their male counterparts. (Table-1)

Female non-medical students reported significantly higher level of attendance (Z=2.083; p=0.037) as compared their male counterparts. (Table-2) Paradoxically, significantly higher number of male non-medical students (Z=2.240; p=0.025) reported fatigue at the end of working day, as compared to females non-medical students. The differences in responses to queries on other parameters were not statistically significant. (Table-2)

Table-1: Responses of medical students

Parameter	Females (n=76)	Males (n=62)	Z value	'p' value
Clinic attendance of 1-3 hours per working day	69 (90.79%)	48 (77.41%)	2.175	0.029 *
Rating of level of cleanliness place of posting (“Average”)	47 (61.84%)	41 (66.13%)	0.521	0.603
Rating of level of cleanliness place of posting (“Good”)	27 (35.53%)	21 (33.87%)	0.203	0.841
No history of fever in the past one year	14 (18.42%)	16 (25.81%)	1.046	0.293
No history of respiratory infection in the past one year	28 (36.84%)	25 (40.32%)	0.418	0.674
No major illness after starting clinical postings	75 (98.68%)	60 (96.77%)	0.765	0.441
No history of fungal infections after starting clinical postings	63 (82.89%)	54 (87.10%)	0.683	0.496
No history of immunodeficiency inducing disease since childhood	74 (97.37%)	60 (96.77%)	0.207	0.833
Self-rated level of personal hygiene (“Good”)	60 (78.95%)	50 (80.65%)	0.246	0.802
Self-rated risk of exposure to infections (“High”)	63 (82.89%)	42 (67.74%)	2.075	0.037 *
Fatigue at the end of working day	39 (51.32%)	16 (25.81%)	3.044	0.002 *

Z = Standard error of difference between two proportions; *Significant

Table-2: Responses of non-medical students

Parameter	Females (n=41)	Males (n=19)	Z value	'p' value
College attendance of 1-3 hours per working day	34 (82.92%)	11 (57.89%)	2.083	0.037 *
Rating of level of cleanliness in place of learning (“Average”)	25 (60.98%)	13 (68.42%)	0.556	0.575
Rating of level of cleanliness place of learning (“Good”)	16 (39.02%)	06 (31.58%)	0.556	0.575
No history of fever in the past one year	13 (31.71%)	08 (42.11%)	0.785	0.429
No history of respiratory infection in the past one year	17 (41.46%)	07 (36.84%)	0.339	0.727
No major illness in the past one year	38 (92.68%)	18 (94.74%)	0.296	0.764
No history of immunodeficiency inducing disease since childhood	38 (92.68%)	18 (94.74%)	0.296	0.764
Self-rated level of personal hygiene (“Good”)	23 (56.10%)	11 (57.89%)	0.130	0.896
Fatigue at the end of working day	25 (60.98%)	17 (89.47%)	2.240	0.025 *

Z = Standard error of difference between two proportions; *Significant

CONCLUSION

Awareness campaigns regarding infectious diseases should be coupled with information to reduce the fear of infection amongst the public as well as amongst the health care personnel. The de-stigmatization campaigns are necessary to prevent stigmatization of the affected persons and their family members. Once irrational fears of acquiring a disease are reduced, an environment is created where people can seek information and treatment.

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