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# Exploring Attitude Towards Mental Illness as one of the Barriers to Mental Healthcare Utilization Amongst Non-Psychiatry Resident Doctors at a Tertiary Level Care Centre in India

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**ABSTRACT**

In population such as resident doctors who lives in a close proximity to tertiary care health centres, Attitudinal barriers to healthcare utilization becomes very important. Identification of such barriers to mental healthcare among resident doctors will help in improving mental health services in medical colleges across India. This study was conducted to evaluate the attitude of Non-Psychiatry residents and to identify the potential barriers to mental healthcare access among them. One To quantitatively and qualitatively assess and compare attitudes of residents across various Non-Psychiatry branches 2. Explore the impact of these attitudes over their decision of seeking help for mental issues. Cross sectional (observational), Descriptive survey Qualitative arm: Thematic analysis Site of study. Tertiary Healthcare enter in western India Study duration. March to May 2022 Sample size for quantitative arm 242 Sample size for qualitative arm 15. A mixed study design, employing an initial cross sectional, descriptive survey with a later qualitative interview based study. The web based self-report version of Beliefs Towards Mental Illness scale (BTMI) questionnaire was used. BTMI is a 21 item self report measure of negative stereotypical views of mental illness. Items are rated on a six higher score reflecting more negative beliefs. For qualitative phase, 15 Non-Psychiatry resident doctors who were selected purposively engaged in longer interviews to provide data about their attitude towards mental illness. The overall analysis of the total scores obtained from BTMI scale shown predominantly positive attitude towards mental illness in the study population with a mean score 2.14 out of 5. But in comparative analysis we found various branches performing significantly poor on overall scale as well as on various subscales. Non Clinical branches such as Biochemistry, Pathology etc. performed poorly overall and especially in the “Incurability” subscale. Amongst Clinical Non Surgical branches Anaesthesia and Radiology shown significantly poor attitude towards mental illness, whereas Paediatrics and Dermatology performed significantly better. In qualitative analysis themes such as self-stigma, fear of isolation, lack of convenient access to psychiatric help etc. were identified. Non-Psychiatry Post-Graduates at a tertiary care hospital in India have an overall positive attitude towards mental illness. However there are significant differences among various branches.

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**Key Words**

Attitude towards mental illness, resident mental health, barrier to mental healthcare utilization

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## INTRODUCTION

SA number of studies from the western hemisphere have explored the negative beliefs held by individuals towards people with mental illness[1-3]. Yet there is limited work done in non western societies on psychiatric stigma and almost nil that evaluates the attitude of health care personnel towards mental illness.

In our society many supernatural, religious, moralistic and magical approaches to illness and behaviour exist. This complicates the perception of mental disorders held by the general population. People including doctors tend to have strong beliefs about the mentally ill. Many of these concepts are based on prevailing local systems of belief[4]. These attitudes not only affect the way people seek help individually, it also has enormous implications on the development of policy at a national level[5].

A number of studies have defined and described barriers to mental health care. Major types of these barrier are structural and attitudinal barriers as described in the literature[18]. Structural barriers include financial cost of services[6-8] and lack of availability of services[9,10] Attitudinal barriers include lack of perceived need for treatment[11-13] the belief that the disorder will get better on its own[16] the view that mental illness is a result of personal weakness, stigma[16,17] and the desire to deal with the problem on one's own[14]. Attitudinal barriers have emerged as the more critical type of barrier in many studies especially in the developed countries[14-17].

Studies have found the prevalence of depression and anxiety disorders in medical students being higher than that in the general population[19]. Despite the significantly higher prevalence of depression and anxiety disorders among medical students and resident doctors, they do not readily seek treatment[20]. While it is relatively easy to understand and analyse the Structural barriers encountered by the general population in a developing country like India the low mental health care utilization amongst the resident doctors who live and breathe in proximities of national standard hospitals which consist well-functioning Psychiatry departments is really alarming. Research that aims to identify and address the barriers to mental healthcare seeking would help improve the resident doctor's mental well-being[19].

This study aims to quantitatively assess and compare attitudes of residents across various branches (other than psychiatry). We have also approached this subject with a qualitative lens that can supplement the data collected by the conventional quantitative manner. The objective is to offer a larger insight to the attitude of Non-Psychiatry resident doctors and how it affect their help seeking behaviour as far as mental health is concerned.

## MATERIALS AND METHODS

This study was conducted in two phases phase 1 was a cross sectional, descriptive survey while, phase 2 was a qualitative study. Both were designed to assess and compare attitudes of resident doctors of various branches other than Psychiatry (i.e. Non-Psychiatry residents) at a tertiary level health care centre situated in western India. Study protocol was approved by the relevant ethics committee.

For the quantitative phase convenience sampling method with snow balling was employed. A google form was made consisting 3 parts An informed consent form, A standardized semi structured proforma for sociodemographic and other relevant details and the web based self-report version of Beliefs Towards Mental Illness scale (BTMI) questionnaire[21]. The google forms were distributed online mainly via WhatsApp and email using snowballing. Vigilance regarding anonymity and confidentiality was maintained throughout the study. Each google form was assigned a numerical code instead of using names to ensure confidentiality.

After completion of the quantitative phase, a qualitative phase of data collection was held with 15 Non-Psychiatry resident doctors who were selected purposively according to their interest and willingness to engage in longer interviews to provide data about their attitude towards mental illness. A special informed consent of audiotaping the interview was obtained. Participants were given a time-limited right to withdraw (i.e upto one month post interview), combined with the opportunities to review and edit the transcripts of the interviews for accuracy.

**Brief introduction to tools:** Belief Towards Mental Illness scale BTMI is a 21 item self report measure of negative stereotypical views of mental illness. Items are rated on a six Likert scale ranging from "completely disagree"(0) to "completely agree" (5), with higher scores reflecting more negative beliefs. The attitude is scored on various individual questions as well as in four subscales based on factor analysis provided by the author of the scale. The factors are Dangerousness, Social Dysfunction, Incurability and Embarrassment. The four factor version of the scale is included in the annexure. An iterative semi-structured interview schedule for brief interviews Semi structured, brief (~20 min) interview with each participant was conducted in the choice of environment that ensure comfort and confidentiality. The main objective of the interviews was to assess more in-depth and supplement the quantitative data.

**Statistical analysis:** Consistent with the scoring provided by Hirai *et al.*[21], attitudes were scored on a 0-5 based on the Likert scale responses in all the 21 items. The 21 items were then summed to yield an

overall attitude score along with scores for specific questions and subscale. Data were analysed using the statistical software SPSS. Descriptive statistics were calculated for each question of the questionnaire (mean±standard deviation) and differences in means were tested using various appropriate Non-Parametric tests of significance such as Pearson's Chi-square test. Post-hoc analysis was also carried out using appropriate post-hoc tests. The α error was set at p<05. For the qualitative phase, all recorded data from the interview was transcribed and then subsequently translated (as and when vernacular languages were used). All transcriptions were read carefully and thoroughly and then thematic analysis was done manually in order to regenerate meaning and structure to the data collected. Different themes were identified from transcripts and similar phrases and words that commonly occurred in the transcripts were categorized under the heading of one theme.

## RESULTS

The study included total of 242 participants who consented and completed the google form. The mean age of the population was 27.12±3.59 years. Some of the collected sociodemographic information which were deemed significant is tabulated in Table 1. The participants are divided and analysed according to various variables such as gender, religion, year of residency, speciality, type of speciality (Clinical/Non-Clinical), type of clinical speciality (Surgical/Non-surgical), past history of psychiatric consultation, family history of psychiatric illness etc.

Notably, only 96 out of the 242 participants felt that they had adequate exposure to mental health training during their MBBS and internship period. There was no significant difference in the attitudes of the both the gender in our study, though male residents were found to be performing significantly poor on 4th, 12th and 17th questions which are consisted in the "Embarrassment" subscale.

The overall analysis of the total scores obtained from BTMI scale shown predominantly positive attitude towards mental illness in the study population with a mean score 2.14 out of 5. But interestingly while performing a comparative analysis within the population we found various branches performing significantly poor on overall scale as well as on various subscales.

We found no significant difference between Surgical and Non-Surgical branch clusters. Amongst Surgical branches Ophthalmology performed significantly better than the rest, while E.N.T. and General Surgery performed poor. Tables 2,3 and 4 summarizes few of the categories, their scores as well as individual sub-category and paired sub category wise analysis of various branches across all

Table 1: Annexure

| Basic details | Mean±SD \|\| frequency (%) |
|---|---|
| Age (Years) | 27.12±3.59 |
| **Gender** | |
| Male | 122 (50.02%) |
| Female | 120 (49.08%) |
| **Religion** | |
| Hindu | 215 (88.15%) |
| Muslim | 8 (3.28%) |
| Jain | 10 (4.1%) |
| Christian | 1 (0.4%) |
| Athiest | 8 (3.28%) |
| **Locality** | |
| Urban | 205 (84.05%) |
| Rural | 37 (15.95%) |
| **Type of specialty** | |
| Clinical | 198 (81.2%) |
| Non-clinical | 44 (18.8%) |
| **Type of clinical specialty** | |
| Surgical | 82 (33.64%) |
| Non-surgical | 116 (47.54%) |
| **Specialty** | |
| Anesthesia | 14 (5.8%) |
| Biochemistry | 2 (0.8%) |
| Community medicine | 1 (0.4%) |
| Dermatology | 18 (7.4%) |
| E.N.T. | 8 (3.3%) |
| General medicine | 56 (23.1%) |
| General surgery | 35 (14.5%) |
| Microbiology | 2 (0.8%) |
| OBGYN | 18 (7.4%) |
| Ophthalmology | 9 (3.7%) |
| Orthopedics | 12 (5.0%) |
| Pathology | 21 (8.7%) |
| Pediatrics | 10 (4.1%) |
| Pharmacology | 12 (5.0%) |
| Physiology | 6 (2.5%) |
| Radiology | 16 (6.6%) |
| Radiotherapy and nuclear medicine | 2 (0.8%) |
| **Non clinical branch of study** | |
| Biochemistry | 2 (4.5%) |
| Community medicine | 1 (2.3%) |
| Microbiology | 2 (4.5%) |
| Pathology | 21 (47.7%) |
| Pharmacology | 12 (27.3%) |
| Physiology | 6 (13.6%) |
| **Clinical branch of study** | |
| Anesthesia | 14 (7.1%) |
| Dermatology | 18 (9.1%) |
| E.N.T. | 8 (4.0%) |
| General medicine | 56 (28.3%) |
| General surgery | 35 (17.7%) |
| OBGYN | 18 (9.1%) |
| Ophthalmology | 9 (4.5%) |
| Orthopedics | 12 (6.1%) |
| Pediatrics | 10 (5.1%) |
| Radiology | 16 (8.1%) |
| Radiotherapy and nuclear medicine | 2 (1.0%) |
| **Clinical non-surgical branch of study** | |
| Anesthesia | 14 (12.1%) |
| Dermatology | 18 (15.5%) |
| General medicine | 56 (48.3%) |
| Pediatrics | 10 (8.6%) |
| Radiology | 16 (13.8%) |
| Radiotherapy and nuclear medicine | 2 (1.7%) |
| **Clinical surgical branch of study** | |
| E.N.T. | 8 (9.8%) |
| General surgery | 35 (42.7%) |
| OBGYN | 18 (22.0%) |
| Ophthalmology | 9 (11.0%) |
| Orthopedics | 12 (14.6%) |
| **PG-Year of study** | |
| 1st Year | 34 (14.0%) |
| 2nd Year | 71 (29.3%) |
| 3rd Year | 40 (16.5%) |
| 4th Year | 97 (40.1%) |
| Past history of psychiatric consultation (yes) | 79 (32.4%) |
| Family history of psychiatric illness (yes) | 98 (40.2%) |
| Adequate exposure to MH training (yes) | 96 (39.4%) |

Table 2: Specialty

| Parameters | Anesthesia (n = 14) | Biochemistry (n = 2) | Dermatology (n = 18) | E.N.T. (n = 8) | General medicine (n = 56) | General surgery (n = 35) | OBGYN (n = 18) | Ophthalmology (n = 9) | Orthopedics (n = 12) | Pathology (n = 21) | Pediatrics (n = 10) | Pharmacology (n = 12) | Radiology (n = 6) | Physio (n = 16) | p-value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Question 1 | 4.29 ± 0.47 | 4.00 ± 1.41 | 2.06 ± 0.94 | 3.88 ± 0.99 | 2.07 ± 1.33 | 3.00 ± 1.51 | 3.89 ± 1.32 | 2.00 ± 0.87 | 2.42 ± 1.00 | 3.29 ± 1.35 | 1.20 ± 1.40 | 2.08 ± 0.90 | 3.00 ± 0.89 | 3.50 ± 0.97 | <0.001[1] |
| Question 2 | 4.36 ± 0.63 | 3.00 ± 1.41 | 3.89 ± 1.28 | 3.62 ± 0.92 | 3.82 ± 1.45 | 4.34 ± 1.06 | 3.44 ± 1.62 | 2.78 ± 1.56 | 4.17 ± 0.83 | 4.29 ± 0.96 | 1.60 ± 1.26 | 2.92 ± 1.38 | 4.33 ± 0.52 | 4.06 ± 1.00 | <0.001[1] |
| Question 3 | 2.14 ± 1.61 | 3.00 ± 1.41 | 0.72 ± 0.96 | 1.88 ± 1.36 | 0.55 ± 0.83 | 1.54 ± 1.69 | 0.44 ± 0.70 | 0.22 ± 0.44 | 1.50 ± 1.17 | 1.38 ± 1.53 | 0.00 ± 0.00 | 2.42 ± 1.62 | 2.17 ± 1.17 | 1.94 ± 1.18 | <0.001[1] |
| Question 4 | 3.14 ± 1.75 | 3.50 ± 0.71 | 0.89 ± 0.76 | 2.62 ± 1.85 | 1.14 ± 1.39 | 1.49 ± 1.29 | 1.56 ± 1.82 | 1.89 ± 1.83 | 2.17 ± 1.75 | 1.95 ± 1.69 | 0.60 ± 0.70 | 2.00 ± 1.65 | 2.83 ± 1.72 | 2.81 ± 1.68 | <0.001[1] |
| Question 5 | 2.76 ± 1.72 | 3.50 ± 0.71 | 1.89 ± 1.68 | 3.50 ± 1.20 | 2.79 ± 1.73 | 2.97 ± 1.71 | 2.56 ± 1.46 | 2.22 ± 1.56 | 4.00 ± 0.60 | 1.76 ± 1.34 | 1.30 ± 1.25 | 3.17 ± 1.27 | 4.33 ± 0.52 | 2.88 ± 1.15 | <0.001[1] |
| Question 6 | 2.21 ± 1.19 | 4.00 ± 1.41 | 1.11 ± 0.76 | 2.25 ± 1.16 | 1.48 ± 1.58 | 1.91 ± 1.40 | 2.22 ± 1.44 | 1.33 ± 1.80 | 3.17 ± 1.47 | 2.24 ± 1.51 | 0.20 ± 0.42 | 3.17 ± 1.70 | 2.83 ± 0.75 | 2.19 ± 0.60 | <0.001[1] |
| Question 7 | 3.93 ± 1.00 | 3.50 ± 2.12 | 3.44 ± 0.86 | 4.12 ± 0.83 | 3.18 ± 1.43 | 3.77 ± 1.19 | 3.56 ± 1.29 | 3.67 ± 0.87 | 3.08 ± 1.08 | 3.57 ± 1.12 | 1.70 ± 0.95 | 4.17 ± 0.94 | 4.33 ± 0.82 | 4.25 ± 0.93 | <0.001[1] |
| Question 8 | 3.43 ± 1.34 | 3.00 ± 1.41 | 1.33 ± 1.33 | 4.00 ± 1.07 | 2.43 ± 1.52 | 3.09 ± 1.52 | 2.44 ± 1.46 | 1.67 ± 0.87 | 3.17 ± 1.40 | 3.29 ± 1.52 | 1.10 ± 1.10 | 3.00 ± 1.13 | 4.00 ± 1.26 | 2.75 ± 1.73 | <0.001[1] |
| Question 9 | 3.21 ± 1.37 | 2.50 ± 0.71 | 1.33 ± 0.97 | 1.25 ± 0.89 | 1.39 ± 1.36 | 2.83 ± 1.69 | 0.78 ± 0.81 | 2.00 ± 1.73 | 1.25 ± 0.87 | 3.43 ± 1.50 | 0.50 ± 1.08 | 2.58 ± 1.51 | 3.00 ± 1.41 | 2.50 ± 1.51 | <0.001[1] |
| Question 10 | 3.86 ± 0.77 | 2.00 ± 1.41 | 2.11 ± 0.90 | 3.00 ± 1.31 | 2.54 ± 1.58 | 3.51 ± 1.54 | 2.56 ± 1.46 | 3.00 ± 1.66 | 1.67 ± 0.98 | 3.38 ± 1.07 | 1.50 ± 1.18 | 3.17 ± 0.94 | 3.83 ± 1.17 | 3.38 ± 1.26 | <0.001[1] |
| Question 11 | 2.93 ± 1.33 | 3.00 ± 2.83 | 1.44 ± 0.86 | 2.50 ± 1.20 | 1.70 ± 1.48 | 2.57 ± 1.52 | 1.89 ± 1.32 | 0.44 ± 0.73 | 2.83 ± 1.03 | 2.76 ± 1.04 | 1.20 ± 0.92 | 2.75 ± 0.87 | 4.17 ± 0.75 | 2.75 ± 1.44 | <0.001[1] |
| Question 12 | 1.86 ± 1.56 | 3.00 ± 0.00 | 0.72 ± 1.07 | 1.50 ± 1.41 | 1.64 ± 1.77 | 1.09 ± 1.25 | 0.56 ± 0.70 | 0.22 ± 0.44 | 1.25 ± 0.87 | 1.29 ± 1.06 | 0.40 ± 0.52 | 2.08 ± 1.83 | 0.00 ± 0.00 | 1.94 ± 1.48 | <0.001[1] |
| Question 13 | 1.64 ± 1.39 | 1.50 ± 2.12 | 0.78 ± 0.88 | 2.62 ± 1.30 | 0.80 ± 1.09 | 1.14 ± 1.35 | 0.56 ± 0.51 | 0.78 ± 0.97 | 1.92 ± 1.68 | 1.62 ± 1.32 | 0.00 ± 0.00 | 2.08 ± 1.51 | 0.33 ± 0.52 | 2.00 ± 1.37 | <0.001[1] |
| Question 14 | 2.14 ± 1.23 | 1.00 ± 1.41 | 1.56 ± 1.20 | 3.88 ± 1.13 | 2.11 ± 1.56 | 2.74 ± 1.48 | 1.22 ± 1.06 | 1.78 ± 1.64 | 2.67 ± 1.37 | 2.52 ± 1.54 | 0.50 ± 0.97 | 3.42 ± 1.24 | 3.00 ± 1.26 | 2.88 ± 1.15 | <0.001[1] |
| Question 15 | 1.50 ± 1.51 | 0.50 ± 0.71 | 0.50 ± 1.04 | 1.25 ± 1.16 | 0.73 ± 1.20 | 0.49 ± 0.74 | 0.11 ± 0.32 | 0.22 ± 0.44 | 0.92 ± 0.90 | 0.71 ± 0.85 | 0.80 ± 0.92 | 2.42 ± 1.88 | 0.00 ± 0.00 | 0.44 ± 0.89 | <0.001[1] |
| Question 16 | 2.86 ± 1.75 | 2.50 ± 0.71 | 1.28 ± 0.89 | 2.75 ± 1.58 | 1.32 ± 1.73 | 2.11 ± 1.59 | 0.56 ± 0.98 | 1.44 ± 1.13 | 2.67 ± 1.44 | 2.38 ± 1.80 | 0.60 ± 0.70 | 1.83 ± 1.11 | 3.33 ± 1.86 | 2.00 ± 1.86 | <0.001[1] |
| Question 17 | 2.43 ± 1.40 | 4.00 ± 1.41 | 1.33 ± 0.91 | 3.12 ± 1.96 | 1.23 ± 1.31 | 2.09 ± 1.50 | 1.11 ± 1.02 | 1.89 ± 1.54 | 0.83 ± 0.72 | 2.00 ± 1.30 | 0.00 ± 0.00 | 2.83 ± 1.34 | 2.33 ± 0.52 | 2.62 ± 1.15 | <0.001[1] |
| Question 18 | 2.57 ± 1.28 | 3.50 ± 0.71 | 1.94 ± 1.39 | 4.25 ± 0.46 | 2.45 ± 1.74 | 3.31 ± 1.62 | 0.89 ± 0.76 | 1.56 ± 1.59 | 3.33 ± 1.37 | 4.05 ± 1.10 | 0.80 ± 1.75 | 1.92 ± 1.51 | 3.83 ± 0.98 | 2.56 ± 1.63 | <0.001[1] |
| Question 19 | 3.29 ± 1.20 | 4.50 ± 0.71 | 1.78 ± 1.26 | 3.62 ± 1.30 | 2.46 ± 1.44 | 3.09 ± 1.62 | 2.67 ± 0.97 | 3.00 ± 1.73 | 2.67 ± 0.89 | 3.57 ± 1.36 | 1.50 ± 1.65 | 3.33 ± 1.15 | 3.67 ± 1.51 | 2.62 ± 1.45 | <0.001[1] |
| Question 20 | 3.14 ± 1.56 | 3.00 ± 0.00 | 1.33 ± 0.91 | 1.12 ± 0.99 | 1.36 ± 1.58 | 1.51 ± 1.44 | 1.56 ± 1.38 | 1.33 ± 1.00 | 1.50 ± 1.09 | 2.71 ± 1.71 | 0.80 ± 1.75 | 2.25 ± 1.48 | 2.67 ± 1.03 | 2.56 ± 1.36 | <0.001[1] |
| Question 21 | 1.79 ± 1.25 | 1.50 ± 0.71 | 1.22 ± 0.81 | 1.50 ± 0.93 | 1.50 ± 1.28 | 1.97 ± 1.38 | 1.67 ± 1.37 | 1.78 ± 1.20 | 2.67 ± 1.56 | 2.52 ± 1.40 | 0.70 ± 0.67 | 2.83 ± 1.40 | 2.50 ± 0.55 | 2.12 ± 1.20 | <0.001[1] |

21 questions of BTMI scale. Table 5 consist of concise thematic depiction of qualitative data. For the purpose of better readability elaboration of these themes and relevant excerpts from the interview transcripts are discounted. (Tables are included in the Annexure)

## DISCUSSIONS

The current study is the first among Indian Post Graduate resident doctors, exploring their attitude towards mental illness as a barrier to accessing the mental health facilities which are readily available to them. This study has employed a survey based cross sectional study design along with a qualitative study design to provide a well-rounded understanding of the phenomenon under study.

Attitude is defined by Rezler as "an emotionally linked, learnt belief around an object or situation predisposing one to respond in some preferential manner"[22]. As per the KAP model of research, attitudes are major determinants of Behaviour and practices[23] in this regard if we can manipulate the resident doctor's attitude in a positive way, it might help to encourage their help seeking behaviour and also improve their patient care.

The "Mentally ill" are often seen as a group of people who are "impaired and "deficit". Though impairment in cognitive, emotional and behavioural aspects is quite frequent, it is not the rule. People diagnosed with a more permanent, disabling condition like Schizophrenia or a relatively temporary yet psychotic condition like Mania do exhibit irresponsible, unpredictable or reckless behaviour time to time. Vivid recollections of such event along with poor image of a mentally ill person circulated and perpetuated via various media for years are responsible for stigma and discrimination to the people with mental illness.

The patients with mental illness are considered as "labelled" persons and they face difficulties in social relationships, experience social isolation, social withdrawal, social distance, homelessness, unemployment and institutionalisation[24].

**Quantitative assessment of the attitude:** The primary goal of this study was to analyse the attitude of the Non-psychiatry Resident doctors and link that to the under utilization of the mental health care systems in the established tertiary care hospitals. We found that though the findings in our study were positive and the residents were having overall positive attitude towards mental illness compare to the study conducted by Yadav *et al.*[20] on Under-Graduate students, there were significant differences in attitudes among various

1. A mentally ill person is more likely to harm others than a normal person.

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

2. Mental disorders would require a much longer period of time to be cured than would other general diseases

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

3. It may be a good idea to stay away from people who have psychological disorders because their behavior is dangerous

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

4. The term “psychological disorder” makes me feel embarrassed

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

5. A person with a psychological disorder should have a job with minor responsibilities

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | | 2 | 3 | 4 | 5 |

6. Mentally ill people are more likely to be criminals than non-mentally ill people

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

7. Psychological disorders are recurrent

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

8. I am afraid of what my boss, friends and others would think if I were diagnosed as having a psychological disorder

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

9. Individuals diagnosed as mentally ill will suffer from its symptoms throughout their life

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

10. People who have once received psychological treatment are likely to need further treatment in the future

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

11. It might be difficult for mentally ill people to follow social rules such as being punctual or keeping promises

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 34 | 5 | |

12. I would be embarrassed if people knew that I dated a person who once received psychological treatment

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

13. I am afraid of people who are suffering from psychological disorders because they may harm me

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

14. A person with a psychological disorder is less likely to function well as a parent

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

15. I would be embarrassed if a person in my family became mentally ill

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

16. I do not believe that psychological disorders are ever completely cured

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

17. Mentally ill people are unlikely to be able to live by themselves because they are unable to assume responsibilities

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

18. Most people would not knowingly be friends with a mentally ill person

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

19. The behavior of people who have psychological disorders is unpredictable

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

20. Psychological disorders are unlikely to be cured regardless of treatment

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

21. I would not trust the work of a mentally ill person assigned to my work team

| completely disagree | mostly disagree | slightly disagree | slightly agree | mostly agree | completely agree |
|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 |

Table 3: Post-hoc pairwise tests for kruskal-wallis test performed using dunn test method with sidak correction

| Pairwise comparison of subcategories of clinical non-surgical branch of study | Factor/subscale | Question No. | Adjusted p-value |
|---|---|---|---|
| Anesthesia-dermatology | Dangerousness | 1 | <0.01 |
| Anesthesia-pediatrics | | 1 | <0.01 |
| Anesthesia-general medicine | | 1 | <0.01 |
| Radiology-pediatrics | | 1 | <0.05 |
| Radiology-general medicine | | 1 | <0.05 |
| Radiology-dermatology | | 1 | <0.05 |
| Radiology-pediatrics | | 3 | <0.01 |
| Radiology-general medicine | | 3 | <0.01 |
| Anesthesia-pediatrics | | 3 | <0.01 |
| Radiology-dermatology | | 3 | <0.05 |
| Anesthesia-general medicine | | 3 | <0.05 |
| Radiology-pediatrics | | 6 | <0.05 |
| Radiology-pediatrics | | 13 | <0.01 |
| Anesthesia-pediatrics | | 13 | <0.05 |
| Radiology-general medicine | | 13 | <0.05 |
| General medicine-pediatrics | Social dysfunction | 14 | <0.05 |
| Radiology-pediatrics | | 14 | <0.01 |
| Anesthesia-pediatrics | | 17 | <0.01 |
| Radiology-pediatrics | | 17 | <0.01 |
| Dermatology-pediatrics | | 17 | <0.05 |
| Radiology-general medicine | | 17 | <0.05 |
| Anesthesia-pediatrics | | 19 | <0.05 |
| Pediatrics-radiology | | 21 | <0.05 |
| | | | <0.05 |
| General medicine-pediatrics | Incurability | 2 | <0.01 |
| Radiology-pediatrics | | 2 | <0.05 |
| Anesthesia-pediatrics | | 2 | <0.05 |
| Radiology-pediatrics | | 7 | <0.01 |
| General medicine-pediatrics | | 7 | <0.05 |
| Dermatology-pediatrics | | 7 | <0.05 |
| Anesthesia-pediatrics | | 7 | <0.05 |
| Anesthesia-pediatrics | | 9 | <0.01 |
| Anesthesia-general medicine | | 9 | <0.05 |
| Anesthesia-dermatology | | 9 | <0.05 |
| Pediatrics-radiology | | 9 | <0.05 |
| Pediatrics-radiology | | 10 | <0.05 |
| Anesthesia-pediatrics | | 10 | <0.05 |
| Anesthesia-dermatology | | 10 | <0.05 |
| Anesthesia-general medicine | | 16 | <0.05 |
| Anesthesia-general medicine | | 20 | <0.05 |
| | | | <0.05 |
| General medicine-radiology | Embarrassment | 4 | <0.05 |
| Pediatrics-radiology | | 4 | <0.05 |
| Dermatology radiology | | 4 | <0.05 |
| Anesthesia-dermatology | | 8 | <0.05 |
| Anesthesia-pediatrics | | 8 | <0.05 |

branches/specialities of Post-Graduate students. The Non-Clinical branches shown significantly poor attitude towards mentally ill than the Clinical branches. Here, lack of exposure to mentally ill and lack knowledge regarding mental illness can be vital factors at play. Among Clinical branches Anaesthesia and Radiology residents had significantly poor attitude. While there was no statistical difference between Surgical vs. Non-Surgical group, among Surgical branches General Surgery and ENT had poor performance. The year of study (seniority) had no impact on the attitude towards mentally ill.

There are studies which show poor utilization of mental health care services by the medical students and residents doctors. The data regarding suicides amongst medico tells a similar story. A total of 358 suicide deaths among medical students (125), residents (105) and physicians (128) were reported between 2010 and 2019.The specialty of anaesthesiology (22.4%) followed by obstetrics-gynaecology (16.0%) had the highest suicide deaths[25]. Although these attitudes are not found to be exclusively associated with the help seeking behaviour of all the residents but in absence of the role Infrastructural barriers these attitude has a very prominent role to play.

**Qualitative assessment of the attitude:** Supplementing this quantitative data, participants have also narrated a rich qualitative data regarding their attitudes, perceptions to and expectation from the mental health services. The resident doctors participated in the study described a fear of social isolation and ostracism by the medical community, which shown through very pro minently in the qualitative analysis. Some of them described a fear of gossiping networks that include Psychiatry residents as well. A fear that the consulting psychiatrist will violate the confidentiality because of the proximity with multiple mutual friends was a very repetitive theme during the analysis. Although it was

Table 4: Post-hoc pairwise tests for kruskal-wallis test performed using dunn test method with sidak correction

| Pairwise comparison of subcategories of clinical surgical branch of study | Factor | Question No. | Adjusted p-value |
|---|---|---|---|
| E.N.T.-ophthalmology | Dangerousness | 1 | <0.05 |
| Obgyn-ophthalmology | | 1 | <0.05 |
| Obgyn-orthopedics | | 1 | <0.05 |
| E.N.T.-obgyn | | 13 | <0.05 |
| | | | <0.05 |
| Ophthalmology-orthopedics | | 11 | <0.05 |
| General surgery-ophthalmology | Social | 11 | <0.05 |
| E.N.T.-obgyn | dysfunction | 14 | <0.01 |
| E.N.T.-orthopedics | | 17 | <0.05 |
| Obgyn-orthopedics | | 19 | <0.05 |
| General surgery-obgyn | | 19 | <0.05 |
| E.N.T.-obgyn | | 19 | <0.05 |
| | | | <0.05 |
| General surgery-ophthalmology | Incurability | 2 | <0.05 |
| General surgery-obgyn | | 9 | <0.01 |
| General surgery-orthopedics | | 10 | <0.05 |
| Obgyn-orthopedics | | 16 | <0.05 |
| E.N.T.-oBGYN | | 16 | <0.05 |
| E.N.T.-ophthalmology | Embaressment | 8 | <0.05 |

Table 5: Concise thematic representation of qualitative data

| Superordinate theme | Subordinate theme |
|---|---|
| Stigma | Self-stigma/how will I be perceived weakness fear of isolation |
| Fear of being seen | Gossip |
| Time constraint | Lack of convenient access |
| Lack of knowledge | Dependent on medication life long “ill” |
| I’ll manage by myself | Think positively/ toughen up psychiatrists pathologizes “normal worry” “Walk-in” counselling rooms |
| Feedback | dedicated helpline 24/7 mental health camps |

not the case with all the participants, for some actual experience of being victim of workplace gossip caused them to withdraw not only from treatment but from social participation altogether.

Some participants in the study indicated that they would feel less anxious if the consultation rooms were situated independent and segregated to the psychiatry ward. In these participants fear of being seen while accessing mental health services was quite prominent. Similar qualitative study in the USA reported time constraints, lack of convenient access, concerns about confidentiality and a preference to manage problems on their own were reported to be among the barriers to seek mental health treatment among medical interns[26].

To remedy this situation, intensive education on the causes and management of mental disorders for the Non-Psychiatry resident doctors is necessary. Residents in the 1st year should be prioritised for mental health education. Apart from the delivery of mental health knowledge, strategies should aim to increase social contact with persons having mental illness. Such measures could be considered in an attempt to overcome stigmas and discrimination in the community. Tracking the attitudes toward mental illness can serve as an indicator of the mental health literacy and mental health care utilisation among various populations, including resident doctors

## CONCLUSIONS

Barriers to seeking healthcare services differ for mental and physical health issues. Many attitudinal based barriers such as self-stigma, confidentiality issues and fear of ostracism of service location were reported by students. Non-Psychiatry Post-Graduates at a tertiary care hospital in india have an overall positive attitude towards mental illness. However there are significant differences among various branches. Institutional programmes should be conducted to study and use this information for improving the usage, satisfaction and effectiveness of mental healthcare delivery systems for resident doctors. Adequate modifications to existing curriculum in various branches of Post Graduation would help improve attitude of medical students towards mentally ill.

**Limitation:** The scope of the study was limited as the sample was entirely collected from one institute. Inclusion of subjects from more institutes could provide a better estimate and far more generalizable findings. The qualitative phase of the study was designed to supplement the quantitative data only. The interviews were brief as oppose to in-depth interviews which are typical of a qualitative study.

**Beliefs toward mental illness scale (btmi):** Using the scale below, please indicate the level of your agreement with the following items by choosing the number that most closely corresponds with your beliefs.

**The 4-factor structure (new):** Hirai, M., Vernon, L.L., and Clum, G.A. (2018). Factor structure and administration measurement invariance of the Beliefs Toward Mental Illness Scale in Latino college samples: Paper-pencil vs. internet administrations. *Assessment, 25*(6), 759-768.

- **factor 1: dangerousness/harm:** α = 0.84 (PP), 0.84 (online)
- 1, 3, 6, and 13
- **factor 2: social dysfunction:** α = 0.86 (PP), 0.84 (online)
- 5, 11, 14, 17, 18, 19 and 21
- **factor 3: incurability:** α = 0.85 (PP), 0.83 (online)
- 2, 7, 9, 10, 16, and 20
- **factor 4: embarrassment:** α = 0.77 (PP), 0.70 (online)
- 4, 8, 12 and 15

**Iterative interview schedule:**

**Part I:**

**Focus:** Attitude and perception of mental illness

- What are your thoughts on mental illness?
- Do you think mentally ill are different than the rest of the society? Elaborate the response
- How would you approach a patient who develops any neuropsychiatric complaints?
- Do you feel that, you can also succumb to a mental illness? Elaborate the response
- Would you consider consulting the Psychiatry department in your institute for your mental health problems? Elaborate the response
- How would you feel if someone close to you is diagnosed with a mental illness?

**Part III**

**Focus:** Feedback:

- In your opinion, what are the barriers that limit a non-psychiatric resident doctor approaching the psychiatry department for help? Suggest solutions

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