

## Medical students' endeavour to make use of their mental capabilities

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### Abstract

**Objective:** To identify and compare awareness of intellectual wellness in male and female medical students of Karachi.

**Methods:** The cross-sectional questionnaire-based survey comprised randomly selected 800 medical students of both gender. It was conducted from January to December 2010 in 8 medical colleges of Karachi. Responses - never, sometimes, mostly and always (numbered 0-4) - were analysed in terms of frequency, proportion and percentages by Predictive Analysis Software version 18. Chi square test was applied for comparison of intellectual wellness in both genders. Results were considered significant at  $p < 0.05$ .

**Results:** Of the 800 questionnaires distributed, 736 (92%) were received fully completed; 526 (71.5% of them from females. Intellectual wellness was significantly higher in females due to an increasing aptitude towards book reading ( $p < 0.0001$ ), selection of movies ( $p < 0.03$ ) and analytical thinking ( $p < 0.002$ ). Male students derived help from mentors ( $p < 0.03$ )

**Conclusion:** Females were found to be better in terms of intellectual wellness compared to the males. However, males used mentorship support to acquire intellectual wellness.

**Keywords:** Wellness wheel, Intellectual wellness, Mentors. (JPMA 63: 568; 2013)

### Introduction

A magnitude of people think "intellectual wellness (IW)" to be dull or boring, but its spectrum, which inculcates learning by reading, creative hobbies, exercise etc, prove this assumption false. Reading is a great, but not the lone, way to learn new things; one can make use of other avenues like print and electronic media to promote an intellectual aspect of wellness. Creativity is a complex<sup>1</sup> multicomponent process which one can exercise to improve intellectual abilities. It makes use of three key domains; first is the divergent thinking which affects the cognitive flexibility, second is the convergent thinking for the evaluation of new ideas, and the last one is the analogical thinking which trains the mind to get familiar to problem-solving tasks.

In the world of medical education, students from different educational and cultural backgrounds get exposed to a stressful, demanding and voluminous curriculum.<sup>2</sup> According to the National Institute of Health, 80% of all diseases are caused by accumulated, unmanaged stress. Lack of creative, recreational activities worsens the scenario.<sup>3,4</sup> This proves hazardous to the physical and mental (psychological) wellbeing of students which may impair their behaviour, diminish learning, destroy

personal relationships, negatively affect scholastic performance<sup>5,6</sup> as well as the psychosocial makeup of a medical student that can have depressive outcomes. The knowledge, attitude and practice (KAP) to enhance intellectual wellbeing at this moment may help the individual to withstand hazards of stress and think of coping strategies.

IW can be applied by medical students in a number of ways; reading, listening, observing, learning new skills, taking part in hobbies, and becoming creative. A piece of advice by a senior regarding selection of books, exploration of internet and any other associated problem might turn out to be the defining moment. That senior could be a mentor who guides another (usually younger) individual (mentee) in learning and growth in his profession.<sup>7</sup> We keep talking about wellness, but such programmes cannot be offered unless a theoretical assessment model is available. At the same time, the biological differences between men and women with a wide range of distinct metabolic and hormonal factors have to be considered.<sup>8</sup> The objective of the current study was to assess and compare awareness of IW in both the genders, and to find its association with mentoring help. The information gained may then be incorporated to design a compatible curriculum accordingly and to incorporate changes along the way.

### Subjects and Methods

The cross-sectional questionnaire-based survey was conducted from January to December 2010 at Bahria

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University Medical and Dental College, Karachi, after approval from the Research and Ethical Committee and acceptance by the selected medical colleges of Karachi. A total of 800 students from First Year MBBS were randomly selected from three government and five private medical colleges. Students from both genders,

aged 18-24 years, belonging to all ethnic groups who gave consent were included. Students with acute or chronic illnesses were excluded. The close-ended questionnaire, tailored from the Wellness wheel,<sup>9</sup> evaluated aspects of IW on four points ranked never, sometimes, mostly, always (annexure); numbering 0-4 from the lowest to the highest ranks). The subjects were enquired about any help from mentors in this regards on the same scale. Computation of frequency, proportion and percentages were executed for categorical variables with the help of Predictive Analysis Software (PASW) version 18. Sample size was based on a population of 3,000 with e (margin of error) of 5% and z (confidence interval) of 95%. Mean and standard deviation were computed for continuous variables. For measuring consistency among the responses, the reliability of scores was measured using Cronbach's Alpha. For the comparison of categorical variables of intellectual wellness, chi-square test was used. P value less than 0.05 was considered significant.

**ANNEXURE**

**Demographics: Answer all questions using following abbreviations:**

**1= No. 2= Sometimes. 3=Usually. 4= Yes/Always**

**Intellectual dimensions:**

|    |   |   |   |   |   |
|----|---|---|---|---|---|
| 1  | I try to take active part in intellectual discussions             | 1 | 2 | 3 | 4 |
| 2  | I search books, internet and other aids to acquire knowledge      | 1 | 2 | 3 | 4 |
| 3  | I try to keep abreast of local and international current affairs. | 1 | 2 | 3 | 4 |
| 3  | I am interested in creative and mental activities                 | 1 | 2 | 3 | 4 |
| 4  | I enjoy reading all kinds of books                                | 1 | 2 | 3 | 4 |
| 5  | I carefully select movies and television programmes               | 1 | 2 | 3 | 4 |
| 7  | I have a command on the subject                                   | 1 | 2 | 3 | 4 |
| 8  | I am interested in learning new things                            | 1 | 2 | 3 | 4 |
| 9  | I seek resources to achieve                                       | 1 | 2 | 3 | 4 |
| 10 | I think a continuing educational programme is important           | 1 | 2 | 3 | 4 |
| 11 | I make an effort to improve my verbal & written skills            | 1 | 2 | 3 | 4 |
| 12 | I analyze, synthesize and see more than one side of a an issue    | 1 | 2 | 3 | 4 |
| 13 | Do you seek help from mentors in your intellectual development    | 1 | 2 | 3 | 4 |

**Results**

A total of 800 questionnaires were distributed out of

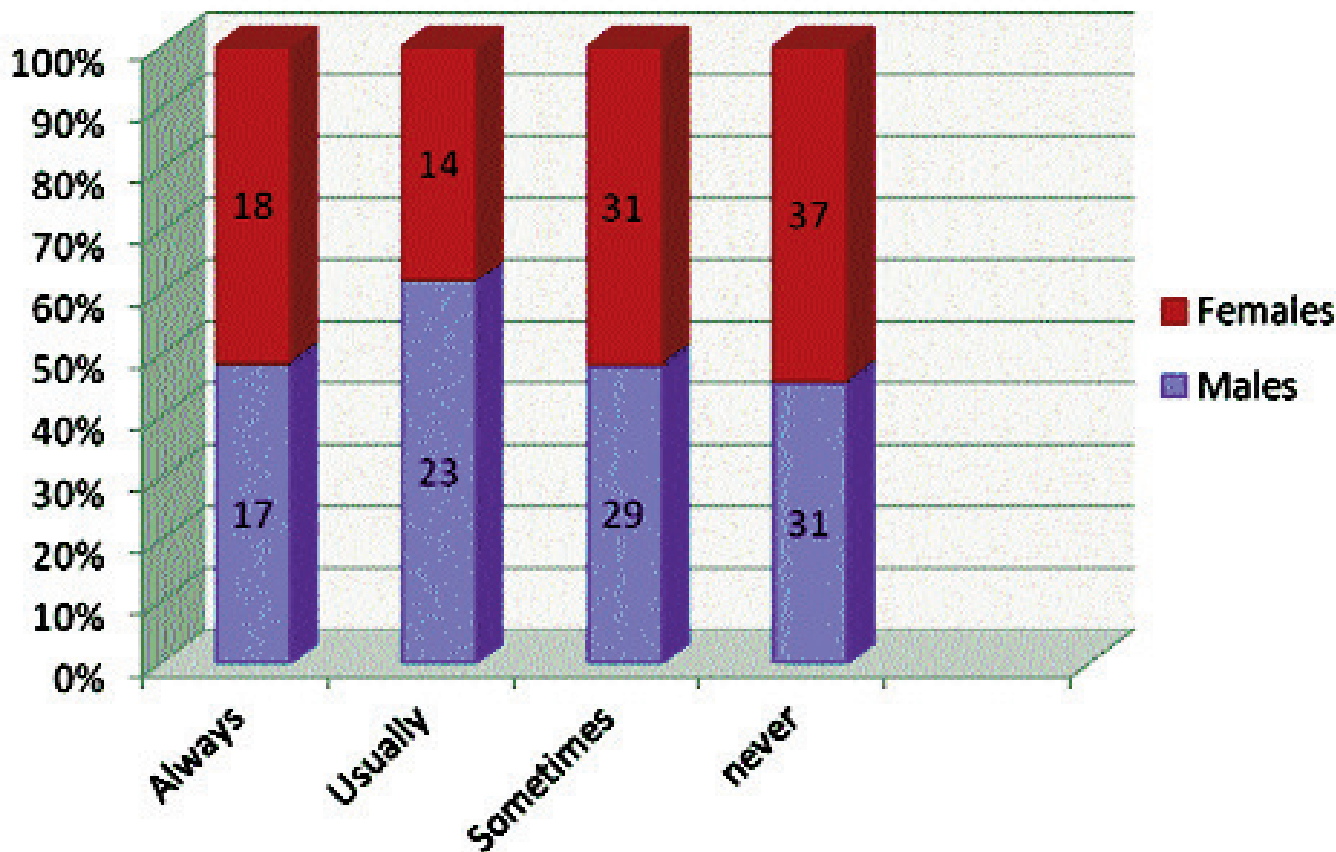


Figure: Dependence on mentoring support in both genders.

Table: Comparison of Intellectual Wellness responses in both genders.

| Parameter  | Response  | Males       | Females     | Total | P value |
|--|-----------|-------------|-------------|-------|---------|
| Intellectual Discussions                                   | Always    | 82 (22.46)  | 283 (77.53) | 365   | 0.004   |
|  | Usually   | 60 (34.48)  | 114 (65.52) | 174   |         |
|  | Sometimes | 44 (33.08)  | 89 (66.31)  | 133   |         |
|  | Never     | 24 (37.5)   | 40 (62.5)   | 64    |         |
| Use Resources to Acquire Knowledge                         | Always    | 67 (24.72)  | 204 (75.28) | 271   | 0.053   |
|  | Usually   | 63 (27.15)  | 169 (72.34) | 232   |         |
|  | Sometimes | 64 (32.5)   | 132 (67.5)  | 196   |         |
|  | Never     | 16 (43.24)  | 21 (56.76)  | 37    |         |
| Current Affairs  | Always    | 59 (34.41)  | 111 (65.29) | 170   | 0.157   |
|  | Usually   | 56 (28.71)  | 139 (71.29) | 195   |         |
|  | Sometimes | 62 (24.50)  | 191 (75.50) | 253   |         |
|  | Never     | 33 (27.96)  | 85 (72.73)  | 118   |         |
| Creative & Mental Activities                               | Always    | 114 (29.84) | 268 (70.15) | 382   | 0.693   |
|  | Usually   | 61 (28.77)  | 151 (71.23) | 212   |         |
|  | Sometimes | 27 (24.10)  | 85 (75.90)  | 112   |         |
|  | Never     | 8 (26.50)   | 22 (73.33)  | 30    |         |
| Enjoy Reading  | Always    | 55 (20.0)   | 220 (80.0)  | 275   | <0.0001 |
|  | Usually   | 48 (26.37)  | 134 (73.52) | 182   |         |
|  | Sometimes | 66 (37.71)  | 109 (62.28) | 175   |         |
|  | Never     | 41 (39.42)  | 63 (60.57)  | 104   |         |
| Select Movies  | Always    | 97 (24.43)  | 300 (75.56) | 397   | 0.036   |
|  | Usually   | 53 (30.45)  | 121 (69.54) | 174   |         |
|  | Sometimes | 34 (36.17)  | 60 (63.33)  | 94    |         |
|  | Never     | 26 (36.51)  | 45 (63.38)  | 71    |         |
| Command On Subject   | Always    | 92 (26.30)  | 250 (73.70) | 342   | 0.106   |
|  | Usually   | 76 (31.56)  | 164 (68.33) | 240   |         |
|  | Sometimes | 25 (22.52)  | 86 (77.47)  | 111   |         |
|  | Never     | 17 (39.53)  | 26 (60.46)  | 43    |         |
| Interested in learning new things                          | Always    | 94 (27.16)  | 252 (72.33) | 346   | 0.216   |
|  | Usually   | 72 (33.30)  | 141 (66.19) | 213   |         |
|  | Sometimes | 33 (25.38)  | 97 (74.51)  | 130   |         |
|  | Never     | 11 (23.40)  | 36 (76.59)  | 47    |         |
| A continuing educational programme is important            | Always    | 68 (28.33)  | 167 (71.76) | 235   | 0.674   |
|  | Usually   | 54 (27.0)   | 146 (73.0)  | 200   |         |
|  | Sometimes | 60 (31.4)   | 131 (68.6)  | 191   |         |
|  | Never     | 28 (25.45)  | 82 (74.54)  | 110   |         |
| Effort to improve written and verbal skills                | Always    | 91 (29.16)  | 221 (70.33) | 312   | 0.060   |
|  | Usually   | 65 (34.0)   | 125 (66.0)  | 190   |         |
|  | Sometimes | 28 (26.16)  | 79 (73.33)  | 107   |         |
|  | Never     | 26 (20.47)  | 101 (79.52) | 127   |         |
| Analyse, synthesise and see more than one side of an issue | Always    | 116 (30.4)  | 265 (63.55) | 381   | 0.002   |
|  | Usually   | 49 (36.72)  | 87 (63.37)  | 136   |         |
|  | Sometimes | 23 (27.73)  | 61 (72.27)  | 84    |         |
|  | Never     | 22 (16.29)  | 113 (83.71) | 135   |         |

which 736 (92%) completed forms were included for analysis. Among them, 526 (71.5%) were females and the rest were males. The mean age of the subjects was  $18 \pm 2$  years, and they belonged to various ethnic backgrounds. The reliability of the responses was 85.3%. Awareness of IW was found to be different in the two genders (M vs F:  $11.22 \pm 3.39$  vs  $11.88 \pm 3.26$ ;  $p < 0.012$ ). Almost half of the participants ( $n = 365$ ; 49.5%) had

taken part in class intellectual discussions actively, and females were significantly involved in such discussions more than the males ( $p < 0.0004$ ). Girls searched other aids to acquire knowledge more than the boys ( $p < 0.053$ ). Nearly one quarter of the participants ( $n = 170$ ; 23%) always tried to keep abreast of local and international affairs. About half of the participants ( $n = 382$ ; 52%) were interested in creative and mental

activities. Females significantly enjoyed reading books and carefully selected movies and television programmes than the males (Table). The attempt to acquire IW (Figure) in males was attributed to help from mentors ( $p < 0.03$ ).

## Discussion

As the results showed, reading was one of the popular ways among the subjects in terms of acquiring IW. There is a positive correlation between reading for fun with the development of higher intelligence, better grades, and a negative relation between depression and reading habits.<sup>10</sup> A study suggested that by encouraging students to develop reading habits, one can reduce stress with a lower subsequent risk of incident dementia.<sup>11</sup> It is thus recommended to spend in at least half-an-hour for reading every day. In our study we wanted to enquire whether our subjects applied the habit to refresh and relax their minds and stay in touch with contemporary writers. Females were found to have a significantly high level of IW acquired through reading. However, there was no gender difference when it came to the domain of current and international affairs in both genders as there was a general reluctance among the subjects to be aware of the happenings.

It has been proven that movie-watching is an effective strategy to enhance students' awareness about psychosocial and health-related issues. Selection of movies alters intellectual component of wellness and changes behaviour of the individual accordingly.<sup>12</sup> It is important that individuals should carefully select movies according to their own perspectives. Girls were good at selection of movies, while boys did not focus on their assortment in our study. There are no other studies authenticating our finding, but since movie-watching has positive influence on learning, so it can be said that it could promote IW more in females through creative learning.<sup>13</sup>

Evidence suggests endorsement of long-term memorisation of facts, better understanding, analytical thinking, growth of affirming outlooks, improvement in insightful practice and hence IW through group discussions.<sup>14</sup> Females in our study were more enthusiastic about acquiring knowledge by generation of group discussions on selected topics.

While taking a stroll through the path of IW, medical students face many impediments in the form of comprehension of lectures, performance in laboratory sessions, submission of assignments, hostel accommodation or even transportation. The

only way to overcome these obstacles is by way of tackling through procurement of knowledge via various sources like reading, watching news, net surfing and group discussions. Students can then assimilate new knowledge into a conceptual framework which creates expertise in analytical thinking. This forms basis of evidence-based reasoning with the incorporation of higher-order cognitive skills<sup>15</sup> and helps to solve a problem by separating into its elemental parts. Females were aware of the need to analyse, synthesise and see more than one side of any issue.

Critical thinking, an essential element of problem-solving,<sup>16</sup> can be applied for ingenuity which is a higher-order cognitive skill as defined in Bloom's taxonomy. Our subjects did not respond well to creative and mental activities, emphasising the need to introduce revised teaching methodologies to construct and develop IW by creativity.

Mentoring is well recognized to be a cornerstone for the multi-faceted growth of medical students in their professional, personal and career planning.<sup>17</sup> It contributes to professionalism, performance, and increases overall wellbeing in the formative years of medical schooling. The role of mentors for career and professional development has been well established<sup>7</sup> but in our study, another perspective of mentors has been found which is inclination of males towards mentorship as compared to the females. Our result emphasizes that males sought help from mentors for improvement in learning capabilities. In another study, the male gender preference was found to be three times more for mentorship.<sup>18</sup>

Since it was a questionnaire-based KAP study, we did not measure IW of genders with respect to any standard scale, which is a limitation of the study.

## Conclusion

Females were found to be more inclined towards using reading skills, selecting movies, and trying to be analytical for IW, whereas the males opted to consult mentors to promote their intellectual capabilities. Students should be invigorated to make an IW map with activities and priorities, keeping in view information and knowledge with the help of creativity, analytical thinking and problem-solving capabilities.

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