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Evidence-Based Approaches to Supporting MPH Scholars in Mental Health Continuum

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ABSTRACT

Poor mental health affects a postgraduate scholar's ability to pursue their university studies and adjusting to new environment leading to physical and social problems with serious impacts for future fulfilling life. Mental health can be broken down further into three major components: cognitive health, emotional health, and behavioural health. Each of these components interacts with and influences the others, and they are all imperative to overall well-being. Mild cognitive impairment is common during any transition. Available evidence shows that mental health is shaped to a great extent by social, economic, and environmental factors. Currently most Universities or colleges may have on campus basic health or at least first aid facilities, and other social activities, but very few of them give attention to Mental Health Continuum (MHC). Surprisingly even the institutes offering medical or public health postgraduation's do not have an active program for identifying the disruption in MHC and helping the scholars. Mental health hospitals and colleges being parallel institutes in most states, access to mental health care is also not easy. Most importantly these scholars carry the influence of the taboo among general population to seek mental health support.

For the Scholars entering PG courses it is the first opportunity of testing themselves and developing better MHC that include i) Positive emotional wellbeing (people have fewer negative emotions), ii) Psychological wellbeing (individual's emotional health and overall functioning), and iii) Social wellbeing (coexisting peacefully in communities with opportunities for advancement). In this process of transition some scholars do need some guidance and counselling. It's not just about achieving the results (getting their master's degrees) but it's maintaining or improving and maintaining the behaviours that contribute to the development of the country. The faculty must acquire skills of diagnosing, counselling, and providing support to MPH scholars who are going through psychological struggles, concurrent to academic competition, to contribute towards realizing the organization's vision. Raising awareness about the mental health continuum, reducing stigma associated with mental illness, promoting help seeking behaviours, and emotional well-being practices, and prevent suicide through individual education and outreach events. This article is an outcome of one such experience of helping MPH scholars in a new university.

Keywords: Anger; Anxiety; Depression; Mental Health Continuum; Mild cognitive impairment (MCI); Organizational Psychology; Value-Based Care

Materials & Methods: A few cases of MCI I came across for 4 years and end results (successes and failures) are the key materials of this article. Subjective information was collated by using a short survey {Adult MHC-SF (Ages 18 or older)} form and objective data collated by observations of scholar's moods, hygiene, appearance, physical activities, interactions with close friends, opposite sex classmates and other students, their movements, participation in sports and other social activities of the university. Literature review on MHC and applying the principles of MHC support like - a. Identify sources of stress among scholars at all levels, b. Encourage scholars to grow a healthy mind-set that can help them overcome distress, c. Understand how to identify mental health symptoms and offer help to others d. Learn how to deal with psychological crises effectively and not allow them to jeopardize wellbeing and scholastic performance. Involving and improving client engagement by providing tools personalized to their specific needs was the key approach used. Investing in scholar's professional development for mental health component was an additional objective of this exercise

Introduction

Mental health is truly a “first principle” of public health. We must apply the same population health approach to the drivers of physical health, to the conditions that shape mental health. Poor mental health not only affects a person’s ability to live a fulfilling life and carry on with their school, work, or familial responsibilities; it also can lead to physical and social problems with serious impacts. Mental and physical health are equally important components of overall health. Mental health can be broken down further into three major components: cognitive health, emotional health, and behavioural health. Each of these components interacts with and influences the others, and they are all imperative to overall well-being. Available evidence shows that mental health and many common mental disorders are shaped to a great extent by social, economic, and environmental factors. We all know that depression increases the risk for diabetes, heart disease, and stroke.

Covid 19 Pandemic in 2019-2023, exposed decades of underinvestment in public health workforce by the national, State Health & Medical education departments. The health departments across countries have failed to attract, recruit, and retain skilled health professionals required to respond to health threats due to inadequate funding. Lagging skills among workers due to poor skill-based training in existing institutions, changing technology, facilities for field studies and lack of interest among Public Health teachers for field-based training systems are preparing half-baked MPH & MD Postgraduates. The biggest challenge to have quality MPH degree is the lack of formal body or council for regulating public health education in the country.

The COVID-19 pandemic has brought the public health workforce in limelight. A significant shift was observed in the last 3-4 years across various specializations of the public health workforce. The pandemic has increased the calling for epidemiologists and statisticians to play a leading role in COVID-19 response. Since Independence India depended on very few Public Health schools for in-service training that too of only medical graduates (MBBS). The first MPH programme in India was launched at Mahatma Gandhi University, Kottayam, Kerala, in 1995. This was followed by the Achutha Menon Centre for Health Science Studies, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Kerala in 1997 [1]. There are 106 institutions offering MPH course in the country in 2023 where basic eligibility is any degree [2].

There is also lack of data to assess the existing gaps for the required workforce, and various hiring barriers that exist at federal, state, and local levels have resulted in several challenges affecting workforce development [1].

Public health is the science and art of promoting health, preventing disease, and prolonging life, to maintain healthy and economically productive life to realize the birth right of each individual, by organizing a social machinery of community development. Community development to maintain healthy environment, empower the people for maintaining a healthy life and behaviour, prevent epidemics, control communicable and noncommunicable diseases addressing the social, economic and cultural determinants influencing health and disease, and also organizing a personal care and public health service for caring the sick and disabled specially during man-made or natural calamities and epidemics. This demands evolving and organizing a health care delivery system, staffed with adequately trained appropriate health work force to deliver health promotion, prevention, early diagnosis, treatment, and rehabilitation of

diseases as comprehensive package along with essential public health services which is to be universally available, equitably distributed, and accessible to all individuals and the community in need at an affordable cost, through intersectoral coordination organized collaborative effort, community participation, and ownership. The definition depicts goal of public health; the strategy of how to achieve it; specific health interventions; and the process of evolving and organizing health care delivery system, its package, and salient features [3]. The job opportunities are available for the MPH graduates from government to private hospitals, NGOs, and other healthcare units. The MPH course scope in India is vast, graduates can study further if they choose to enhance their profiles.

With the creation of public health management cadre in the state, district, and block levels of India, there is a need for a comprehensive, synergistic education system to ensure efficient public health across the country. The characteristics of public health education programs available in India’s varied geographical and regional contexts detail 16 program-related descriptors across public health Doctoral, Masters, Bachelors, Post-graduate Diploma, and Diploma education programs offered. The candidates with a good academic record and a little experience in the field can expect a great start for a career in health science.

There are 106 unique institutions in 20 states and 3 UTs currently offering 116 public health programs across India’s 28 states and 8 UTs in 2023. Of the total there are 65 institutes in Private and 41 in public sector. Most universities mainly provide Master of Public Health (MPH-n = 73, 63%) programs followed by Postgraduate Diploma (PGD) and Diploma (n = 17, 15%), BPHSc (n = 14, 12%), and Ph.D. (n = 12, 10%). Bachelors in public health programs or Bachelor’s in public health & Social work in Karnataka Rajasthan, Post Graduate Diploma in Public Health program in Delhi, and Tamil Nadu had the greatest number of Diploma in Public Health programs [4].

Since the background of MPH students is different it takes time and is a challenge to the faculty to bring the class of 20-30 heterogenous background students on a common platform, before developing critical skills of epidemiology, public health, nutrition, communicable and non-communicable disease, occupational health, and biostatistics. In the process, it is not uncommon a few students facing mental health continuum and need additional support other than curriculum.

KSRDPRU may not represent the MPH schools in the country but being in the public sector, the resources are adequate for the basic infrastructure, staffing and Library and laboratories. While infrastructure come up reasonably well, what suffers is field visits due to lack of transport, innovation, teaching methodologies, particularly field activities and other skill building exercises, due mainly to young and inexperienced teaching staff. The story is similar in majority of MPH schools in the country, as majority of these schools have come-up in the last decade with meagre inputs and most importantly want of an authority to monitor the academics and overall development.

This article addresses the mental health continuum of MPH scholars who will be the key human resource for public health in the region. About 75 candidates getting admitted for 3 continuous years since 2018 were the subjects of observational study, by the author an Honorary Professor of Practice, since the inception.

Objective

As a Visiting Professor of Practice with about 52 years

of practicing public health wanted to utilize my expertise and acquired skills in diagnosing, handling, counselling, and providing support to MPH scholars who were going through psychological struggles, concurrent to academic and faculty guiding responsibility, to contribute towards realizing the organization's vision and become its integral part. Raising awareness about the mental health continuum, reducing stigma associated with mental illness, promoting help seeking behaviours, and emotional well-being practices, and prevent suicide through individual education and outreach events. Examples of subjective data collation was use of general survey form and objective data was collated by personal observations of the student's mood, hygiene, appearance, or movement etc.

Case Reports

The author a Visiting Professor for Master of Public Health Course in August 2023. I had relocated to Bengaluru, capital of Karnataka in April 2018, after nearly 30 years of stay in New Delhi serving for UNICEF India country office as senior Program officer -Health for 17 years and rest as independent public health consultant for The World Bank, UNICEF, WHO, UNFPA and NGO/ Private research groups like PWC, Development Facilitator, AMALTA India and KPMG

The MPH course of 2 years duration (Full Time), at PG Degree level was started in August 2018 in Karnataka State Rural Development and Panchayat Raj University (KSRDPRU), Gadag, Karnataka, India Pin 582101. This is a State University, under the department of Rural development and Panchayat Raj, established in 2016. The total Tuition Fees is just INR 16,000(US \$200) per annum, being most economical as the tuition fees is at least one tenth of the course fees of any other university or institution not only in Karnataka but also the entire country it attracts best candidates from Rural and Urban India Out of the thirty seats a few are reserved for outside sate and few out of the region. The admission criteria for the course of the University are candidates must have passed graduation from a recognized university with at least 50% marks. The University offers 17 courses in 8 streams and 12 specializations like 1. M.Sc. (3 courses) in i) Geoinformatics) Food Science Technology, iii) Computer Science 2. M.A. (4 courses) i) in Rural Development and Panchayat Raj ii) Public Administration, iii) Rural development and Cooperative Management iv) Economic 3. M. Com. in i) in Co-operative Management ii) in Entrepreneurship 4. MBA in i) Agri Business Management ii) Rural Management, 5. Master of Public Health (MPH), 6. Master's in social work (MSW), 7. GNM courses [5].

Episodes of Mild Cognitive Impairment (MCI) and Emotional Support Provided

I visit the university roughly twice every month for 3-5 days each time. There are many episodes of disruption of mental health continuum I came across in these 4 years. I just quote a few.

A girl scholar's emotional breakdown:

A girl scholar with arts degree, who had returned from her home after a break started crying in one of my classes. Wondering as what happened, I tried to check. She continued to cry and after about 5 minutes responded that I reminded her of her grandfather (GF) who died recently. In the open class I had to console her and assure that she can continue to see her GF in me and call me if she so liked. The entire class of 28 students

was stunned. Over that week's interaction she calmed down, has completed her MPH, and even now respects me a lot.

A Boy decides to discontinue the course but returns after counselling

A commerce graduate, an average student, did well in the first 2 semesters. Coming from a humble background from minority community, he was mature and had work experience with HIV/AIDS program as a counsellor before joining MPH. After the initial counselling he had made up his mind to pursue Health economics. First 2 semesters he had cleared the examination but unfortunately failed in one subject in third semester. After the results he decided to discontinue and go back to work and became inaccessible to all his classmates. I sent him a WhatsApp message to contact me and after a week he called back. After an hour of finding reason and counselling he promised to comeback. He was doubting his potentials to complete the course. However, on his return he put his best efforts and completed the degree clearing the third semester failed subject too. He is the best employed scholar in his batch so far working at a state level position for international NGO on HIV/AIDS.

Two male Doctor could not complete dissertation work & Discontinued

A male Ayurveda doctor with about 10 years of active practice completed his 2 semesters but was struggling to complete his dissertation. He was not able to attend classes, manage practice and field work for dissertation. He along with another dozen students were asked to complete the dissertation work, before clearing third semester, though had done well in examination. As second time also his dissertation was not approved, he decided to discontinue the course and give full time for his practice. It's 2 years after that he hasn't made any efforts, this is one case where course coordinator, Vice Chancellor's efforts and my Efforts failed in counselling him to complete the course as his practice income had dwindled and he was unable to manage financial commitments of the family. This case is an example of how experienced people also fail, comparing themselves to younger class fellows, as even minor setbacks hurting their ego and take bad decisions.

A similar story of a Dental graduate, had difference of opinion about completion of dissertation

Work, having attempted analysing SDG goals. His internship work also was not satisfactory as he was giving more time to his practice and the supervisor of the internship has not given clearance. Though he has completed the dissertation work, his internship has been incomplete, and he feels the coordinator of the course is behind withholding of the internship completion certificate. This is the story of how discord can spoil the career of a scholar.

A filed visit morale boosting for the entire batch

The first semester's first visit of 2020 batch to investigate an outbreak of gastroenteritis turned out to be big motivator for the entire batch of 27 students. Apart from field epidemiological study of the outbreaks, the students were asked to visit the agricultural fields 1-2 Km around the village to find out the farming, crops, animal health and occupational hazards of farming. Next week they not only prepared outbreak report, but also prepared a balanced diet for children, adult women and men and senior citizens out of the products grown in the village and addressed the occupational hazards. The type of emotional bonding and professional interest that created among the peers

led all of them to clear the course with flying colours in 2023 and most of them have found jobs. This is case report of how mental health and competitive spirit of a group can make way for professional skills.

Cases of professional and personal development

At least 6 girl students from 3 batches, bright but were struggling in their regular studies and assignment periodically. A detailed one on one discussion, I realised that all of them were struggling with polycystic ovarian syndrome and three of them under treatment, with partial success. Therefore during the 5-6 days of periods every month they were struggling with attending classes, studies, and assignments. The University unfortunately had not provided sanitary pads on the campus to add the challenge by guiding in their treatment plans in consultation with their gynaecologists, personal counselling, and Promoting exercises and mindful meditation, I was able to help. Four of them cleared the final exams with distinction and the other 2 also did well. This case report is an example of how the scholars may need attention beyond studies.

Expectation of the family of a Bright Student keeps her unemployed

A bright Pharmacy graduate clearing her MPH with distinction has not been able to join any job. Her family has infused in her such a superiority complex, that she is forced to get well-paid public-sector job near her hometown. At an entry level in Public Health, Neither the Karnataka state nor the Country have created such great opportunities. This case demonstrates how raising expectations can hurt.

Anger due to childhood Trauma

A bright nursing graduate of 2020 batch always performing the best in the class, used to get anger frequently. A cool discussion on 2-3 occasions, I could understand that this girl had childhood trauma missing parental attention and even now competes with a younger biological daughter of the foster mother's attention. This girl also suffered from PCOS and my constant support for nearly 18 months helped her to get first rank throughout 4 semesters.

Discussions

Definition: Mental health continuum is a range of status of mental health, with perfect mental health and mental illness at the two extreme ends. Every individual's mental health can lie at one point of the continuum anytime of the day and night based on the internal and external faculties of that specific person at any specific time and change as the situation improves or deteriorates.

A mental health assessment is designed to: diagnose mental health conditions such as anxiety, depression, schizophrenia, postnatal depression, eating disorders and psychotic illnesses. differentiate between mental and physical health problems. assess a person referred because of problems at school, work, or home [6].

Distinct bio- markers within the mental health continuum are:

1. The healthy point: People at this point are satisfied and happy in their lives. They are emotionally well-balanced, stable, and goal oriented. In this study I found about 70% students in this status
2. The problem point: At this point people some distress and

inability to cope but can still perform daily life functions with fair quality. In this study 25% fell in this category

3. The disorder point: People at this point are unable to cope with stress and exhibit significant changes in their thoughts, behaviour, and actions. This point of no return was observed in 5%

This Mental Health Continuum Model (MHCM) projects the human mind on a linear perspective. It helps practitioners recognize specific behavioural patterns that may need attention and suggests ways of dealing with adversities. This model can be used to:

- i. Identify the underlying causes of impairment in daily life functions.
- ii. Collate the different mental health status of a person/or groups of persons over time.
- iii. Suggest when to seek professional assistance to restore mental disturbance.
- iv. Recognize symptoms of psychological disorders
- v. As a reliable self-help tool for professionals at work, the mental health continuum model is a popular choice among leaders and managers of leading organizations today.

As a part of organizational psychology, this model helps to

- a. Identify sources of stress among scholars at all levels
- b. Encourage scholars to grow a healthy mindset that can help them overcome distress.
- c. Maintain a growth mindset among class representatives, leaders, experienced peers, and others in the company.
- d. Understand how to identify mental health symptoms and offer help.
- e. Learn how to deal with psychological crises effectively and not allow them to jeopardize wellbeing.
- f. Improve client engagement by providing tools personalized to scholar's specific needs.
- g. Invest in scholar's professional development for mental health component of public health.

Subjective and objective in Mental State Examination (MSE)

Subjective assessment: This is a student's subjective description of how they are feeling at a particular point of time, whenever I felt something amiss. It was determined by directly asking the student to describe how they are feeling in their own words. It is documented with quotations transcribing the patient's response verbatim. It meant something taking place or existing only within the mind and is particular to a specific person at particular time or over a certain period and thus intrinsically inaccessible to the experience or observation of others.

Objective Assessment: An assessment by an outside observation by interviewer, in this case myself.

Mood is the underlying emotion: Subjective mood is described in student's own words. Objective mood is the observed external manifestation of emotion described as dysthymic, euthymic or elated/hyperthymic) for example i) the client (scholar) was uncooperative and had poor eye contact, ii) His/her Speech was fast and soft, iii) Emotion: Scholars stated that S/he felt "depressed and anxious and iv) Thinking process: The scholar was incoherent and disorganized.

In individual cases an abridged version that consists of 14 items in total (Keyes, 2009) was used:

Three statements representing emotional wellbeing need to be monitored for a successful class dynamics, academic performance and requisite skills based on the market demand.

Positive emotional wellbeing: These people have fewer negative emotions and can bounce back from difficulties faster. This quality is called resilience. They can hold onto positive emotions longer and appreciate the good times.

Psychological wellbeing: “psychological well-being” is used to describe an individual’s emotional health and overall functioning, described as “the combination of feeling good and functioning effectively.

Social wellbeing: Social well-being is an end state in which basic human needs are met and people can coexist peacefully in communities with opportunities for advancement. It simply means a person’s ability in sharing, developing, and sustaining meaningful relationships with others.

Studies including people with generalized anxiety and panic disorders revealed that encouraging participants to take the assessments positively impacted the prognosis and reduced the risk of premature mortality. The forms are successfully used across different healthcare, academic sectors today. Two mental health continuum forms in use are:

1. Mental Health Continuum Long Form – (MHC-LF; Keyes, 2002)
2. Adult MHC-Short Form

I used Adult MHC -SF form (Ages 18 or older) to compliment my observations (Annexure) [7].

Value-Based Care in Action: A Growing, Necessary Disruption to the Status Quo

It’s not just about achieving the results (clearing semester after semesters), but it’s maintaining or improving the results and maintaining the behaviours. For that it was important to have clinical / filed work protocols, medico-social clinical pathways designed, and give the double feedback about the results. We always have a culture of patient-centric, but it’s important to align the ecosystem between scholars, service providers, and people. It is important to create more social capital, more social value and not just an internal measurement! it’s, are our scholars going to deliver this to our society?[8].

Anger in Adults a Red Flag for Childhood Trauma

There are several potential mechanisms for psychopathology in the context of childhood trauma, and emotion regulation seems to be one of the key mechanisms. Adults who are easily angered may have experienced trauma during childhood, according to new findings that investigators believe warrant routine trauma screening for patients with depression and/or anxiety. Our Nurse graduate case is representative such a situation.

In a study Investigators examined data on more than 2250 individuals who were asked about trauma during childhood and a subsequent tendency toward anger or angry outbursts 4 years later. Results showed that emotional neglect during childhood was associated with approximately a 40% increased likelihood of subsequent anger, while psychological abuse was linked to a 30% increased likelihood. Childhood physical abuse was also significantly associated with anger in adults, with an increased risk of approximately 40%. The researchers found no link

between childhood sexual abuse and adult anger. Being easily angered can have several consequences like personal interactions more difficult and reducing their chances of a better life. People who get angry easily also have a greater tendency to discontinue psychiatric treatment. Therefore, it should be standard practice to ask depression and anxiety sufferers about anger and past trauma, even if the patient is not exhibiting current anger.” Childhood trauma has many negative consequences later in life and that it is associated with a higher prevalence of adult depression and anxiety [9].

Mild Cognitive Impairment (MCI)

MCI is a term used to describe a collection of memory problems, including difficulty in remembering appointments, recent events, and conversations, finding the right words, paying attention, and keeping track of tasks or conversations, keeping track of possessions, planning, and making decisions, doing complex tasks such as paying bills. Though this is a common problem among over 50’s - MCI among young adults can frustrate to no end occasionally! That’s because MCI may either continues to annoy the affected person, can either revert to normal cognitive function with little attention at right time or progress into full-blown dementia when they grow beyond 50 years.

Treating these health problems can improve person’s memory, attention, and social skills. Rewiring brain to learn new tasks and practice helps retain more information. This strategy even helps to cope better with life’s unexpected challenges [10].

Seeking mental health Care support is a Taboo

There is a taboo even among general population to seek mental health support. The New Health Normal survey conducted by Aditya Birla Health Insurance was based on face-to-face interviews with 6,651 respondents of all ages across 9 metros, including Ahmedabad, Bengaluru, Chennai, Delhi, Hyderabad, Kolkata, Lucknow, Mumbai, and Pune as well as 10 other cities: Chandigarh, Jaipur, Nagpur, Indore, Rajkot, Nasik, Patna, Guwahati, Kochi, and Coimbatore.

In Chandigarh, a total of 400 residents were questioned, and it was observed that 81% of respondents in Chandigarh are still hesitant to see a mental health expert because they are concerned about what others will think, but 96% believed that their health insurance policy should cover mental health consulting. The first thing to consider when discussing mental health is counselling help rather than hospitalization. While mental health is still looked down on, the survey revealed that the city’s citizens have a strong desire and commitment to physical fitness. The poll found that Chandigarh had the largest number of fitness fanatics (87%) compared to any city following an exercise regimen for over three months [11].

Another survey conducted by market research firm IPSOS covering 3,000 employees across 10 sectors and eight Indian cities found that the 35- 45 age group is at higher risk of suffering from MHC issues, which can have a significant impact on employee productivity. Approximately 50% of these employees strongly agreed that stress impacts their work productivity. Nearly 48% of corporate employees are struggling with mental health issues, with women being more prone to high mental health risk at 56% v/s that of men at 41% [12].

Conclusion

Mental health deserves the same population health approach to the drivers of physical health, as poor mental health not only

affects a youth's ability to live a fulfilling life and carry on with their postgraduate studies, self, institute's familial and social responsibilities.

There would be occasions when scholars land in problem point of mental health continuum with some distress and inability to cope, though still perform daily life functions with fair quality and may need a bit of hand holding by the faculty for social adaptations apart from academic adjustments.

'A stitch in time saves a ten' they say, so, timely help for these youth for maintaining mental health continuum is not in the curriculum of most universities and colleges now and must become an integral part of the PG studies.

This MHC attention becomes an urgency when the admitted students come from different streams of education, social, cultural and language backgrounds. Master of Public Health (MPH) is one such course just about a decade old in India, and hundreds of schools cropping up, need to take note and prepare to meet the urgent need.

Investing in scholar's professional development of mental health is equally important in MPH courses apart from helping the needy for personal benefit.

References

1. Status of MPH programmes in India <https://www.researchgate.net/publication/323961519>
2. 2023
3. MPH Colleges in India 2023, <https://zollege.in/>
4. <https://www.researchgate.net/publication/225286813>.
5. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9727389/>
6. KSRDPRU courses and eligibility, <https://ksrdpru.ac.in>
7. <https://www.betterhealth.vic.gov.au/>
8. Gerben J, Westerhof J, Adult Dev, esterhof et.al 2010; 17:2:110–119. 2010.Mental Illness and Mental Health: The Two Continua Model Across the Lifespan, Published online 2009 Aug 26. Doi: 10.1007/s10804-009-9082-y
9. <https://catalyst.nejm.org/Doi/full/10.1056/CAT.23.0140> May 22, 202
10. <https://www.medscape.com/viewarticle/990471?5/4/23>.
11. <https://timesofindia.indiatimes.com/city/chandigarh/24> May 2023
12. <https://www.lyrahealth.com/>