



A study to assess the effectiveness of planned mental health teaching program on the awareness of mental health among the students in selected Junior College of the city

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Abstract

Background of study:

There is no health without mental health.

Promoting mental health is a vital key to improvement of the standard of living of the society, on the whole. The mental health of a person depends upon various parameters & it is difficult to point out cause contributing to poor or average mental health. Amongst the various strata of society, students population in India seem to be neglected regarding provision of mental health awareness.

"A solid family, environment is essential in paving the way for the realization of dreams & aspirations of man." -Nelson Mandela

Adolescence is a critical age group as this is a period to develop specific expertise & to develop individual skill to enter the mainstream workforce and contribute to the economic productivity. It is also a period when major changes in health and health related behaviors such as smoking and substance abuse, unsafe sexual practices, poor eating of lack of exercise occur which may be substantially impact health outcomes in later the life. Often, because of misconceptions about mental health & mental fitness, students group often suffer in silence and their conditions go untreated.

Mental health awareness can help them to understand the symptoms, find professional treatment and perhaps most importantly, break the mental health stigma that leaves so many people suffering in secret.

Although calls have been made for a greater application of research & clinical resources & mental health services to reduce longer term distress & disability.

Multiple factors affect mental health. The more risk factors students are exposed to, the greater potential impact on their mental health. Factors that can contribute to stress during adolescence include exposure to adversity, pressure to conform to peers and exploration of identity. Media influence and gender norms can exacerbate the disparity between students' lived reality and their perceptions or aspirations for the future. Other important determinants include the quality of their home life and relationships with peers.

Violence (especially sexual violence and bullying), harsh parenting and severe and socioeconomic problems are recognized risks to mental health.

Some students are at greater risk of mental health conditions due to their living conditions, stigma, discrimination or exclusion, or lack of access to quality support and services. These include students living in humanitarian and fragile settings; with chronic illness, autism spectrum disorder, an intellectual disability or other neurological condition; pregnant students, students' parents, or those in early or forced marriages; orphans; and students from minority ethnic or sexual backgrounds or other discriminated groups.

Many risk-taking behaviours for health, such as substance use or sexual risk-taking, start during adolescence. Risk-taking behaviors can be an unhelpful strategy to cope with emotional difficulties and can severely impact student's mental and physical well-being.

Perpetration of violence is a risk-taking behavior that can increase the likelihood of low educational attainment, injury, involvement with crime or death. Interpersonal violence was ranked among the leading causes of death of older students boys in 2021.

- Globally, one in seven 10-19-year-olds experiences a mental disorder, accounting for 13% of the global burden of disease in this age group.
- Depression, anxiety and behavioral disorders are among the leading causes of illness and disability among students.
- Suicide is the fourth leading cause of death among 15-19-year-olds.
- The consequences of failing to address students mental health conditions extend to adulthood, impairing both physical and mental health and limiting opportunities to lead fulfilling lives as adults.

One in six people are aged 10-19 years. Adolescence is a unique and formative time. Physical, emotional and social changes, including exposure to poverty, abuse, or violence, can make students vulnerable to mental health problems. Protecting students from adversity, promoting socio-emotional learning and psychological well-being, and ensuring access to mental health care are critical for their health and well-being during adolescence and adulthood. Globally, it is estimated that 1 in 7 (14%) 10-19-year-olds experience mental health conditions, yet these remain largely unrecognized and untreated. Students with mental health conditions are particularly vulnerable to social exclusion, discrimination, stigma (affecting readiness to seek help), educational difficulties, risk-taking behaviours, and physical ill-health and human rights violations.

Adolescence is a crucial period for developing social and emotional habits important for mental well-being. These include adopting healthy sleep patterns; exercising regularly; developing coping, problem-solving, and interpersonal skills; and

learning to manage emotions. Protective and supportive environments in the family, at school and in the wider community are important.

Materials and methods: The Research Method adopted for the present study was Quasi-experimental Approach, which was quantitative research design. Non-probability convenient sampling technique was used. A study aimed to assess the effectiveness of planned mental health teaching program on the awareness of mental health among the students in selected junior college of the city and determining its effectiveness statistically. This approach would help the investigator to evaluate the effect of planned mental health programme on knowledge Sample size was 60. Self-structured questionnaire was used as tool.

Result: In this study, 60 samples was used, in pre-test 10% students having poor, 70% students average and 20% students good level of knowledge level regarding awareness of mental health. After planned mental health teaching programme, this score was increased by 58% students having good and 42% students having average level of knowledge level regarding awareness of mental health in post- test.

Keywords: Mental Health, Mental Health Awareness, Adolescence, Student Population, Teaching Program, Junior College

Introduction

"A Clever Person Solves The Problem, A Wise Person Avoids It".

-Albert Einstein

"Health is the state of complete physical, mental, social and spiritual well-being and not merely the absence of disease or infirmity"

World Health organization

Mental health defines as "an adjustment of human beings to the world and to each other with a maximum of effectiveness and happiness." -Karl Menninger (1947)

According to World Health Organization, mental health includes "Subjective well-being, perceived self-efficacy, autonomy, competence, intergenerational dependence and self-actualization of one's intellectual and emotional potential, among others". From the perspective of positive psychology or holism, mental health may include an individual's abilities to enjoy life and create a balance between life activities and efforts to achieve psychological resilience; mental illness affects the physical, financial, social, occupational, psychological and family life of individual. Individuals with mental illness are at greater risk of decreased quality of life, educational difficulties, lowered productivity, poverty, social problems, vulnerability to abuse and additional health problems. Mental disorders constitute a huge social and economic burden for the health care system worldwide.

Prevention is better than cure. There are many well-published strategies about prevention of physical health problems and how to ensure physical wellbeing, but we know that mental wellbeing is equally as important; whereas treatments for mental illness are targeted at specific conditions, the prevention of mental illness is aimed at everyone. Mental and physical wellbeing are unavoidably linked and physical illness is known to increase the risk of mental illness, with a chronic physical health problems are likely to have depression."

Mental health awareness campaigns have yielded positive outcomes. Some of the strategies undertaken to target awareness and address stigma around mental illness include participation by family members, sensitization to treatment and social inclusion. Lack of knowledge about the mental illnesses poses a challenge to the mental health care delivery system. Research has highlighted the role of community-based systems in low-income countries and has also yielded positive results in creating awareness, thereby impacting participation.

Awareness and health literacy are two sides of the same coin. Stigma and discrimination are negative consequences of ignorance and misinformation. There are few studies which have measured mental health literacy in the Indian context. One study found mental health literacy among students to be very low, i.e. depression was identified by 29.04% and schizophrenia/psychosis was recognized only by 1.31%. Stigma was noted to be present in help-seeking.

Study suggests that reinforce the need to increase awareness of mental health. Mental health literacy is a related concept which is increasingly seen as an important measure of the awareness and knowledge of mental health disorders. Health literacy has been described as "ability to access, understand, and use the information to promote and maintain health." Mental health literacy encompasses recognition, causes, self-help, facilitation of professional intervention, and navigating the information highway.

Attitudes which hinder recognition and appropriate help-seeking can be counter-acted by information which is already readily available in the public domain. There are plenty of examples of awareness positively impacting mental health outcomes like the Norwegian campaign to reduce the duration of untreated psychosis. In most societies mental illness carries a substantial stigma, or mark of shame. The mentally ill are often blamed for bringing on their own illnesses, and others may see them as victims of bad fate, religious and moral transgression, or witchcraft. Such stigma may keep families from acknowledging that a family member is ill. Some families may hide or over protect a member with mental illness keeping the person from receiving potentially effective care or they may reject the person from the family. When magnified from individuals to a whole society; such attitudes lead to underfunding of mental health services and terribly inadequate care. In much of the world, even today, the mentally ill are chained, caged, or hospitalized in filthy-brutal institutions. Yet attitudes toward mental illness have improved in many areas, especially owing to health education and advocacy for the mentally ill."

Need of the study

The World Health Organization has defined sustainable development goals and elaborated the impact of mental illnesses and suicide on them. The suicide rate in India in 2015 at 15.7/100,000 is higher than the regional average of 12.9 and the global average of 10.6. Suicide is the leading cause of death among those aged 15–29 in India. There remains a massive unaddressed need within the population.

The treatment gap, as measured by the absolute difference between the prevalence of mental illnesses and the treated proportion, has been found to be 76%–85% in less developed countries. One of the major reasons attributed to such a wide treatment gap is the problem of inadequate resources. In India, inadequacy exists in infrastructure as well as in human resources. Despite improvements in various health indicators, India contributes disproportionately to the global burden of disease. Our health indicators compare unfavourably with other middle-income countries and India's regional neighbours. A large proportion of the population ends up impoverished because of high out-of-pocket health-care expenditures and suffers the adverse consequences of the poor quality of care. Task-shifting to no specialist community health workers has been recommended as an effective strategy for delivery of efficacious treatments in low-resource settings. Given shortage in numbers of psychiatrists, psychologists, psychiatric nurses, and social workers; backing on primary care systems and employing innovative force-multipliers are future courses of action.

There is no single cause for mental illness. A number of factors can contribute to risk for mental illness, such as 1. Early adverse life experiences. 2. Trauma or a history of abuse (for example, abuse, sexual assault, witnessing violence, etc 3. Experiences related to other on-going (chronic) medical conditions, such as cancer or diabetes 4. Biological factors or chemical imbalances in the brain 5. Use of alcohol or drugs. 6. Having feeling of loneliness and isolation.

The term mental illness refers collectively to all diagnosable mental disorders health conditions characterized by alteration in thinking, mood, or behavior associated with distress or impaired functioning. Adolescence is a crucial period for developing social and emotional habits important for mental well-being. These include adopting healthy sleep patterns; exercising regularly; developing coping, problem-solving, and interpersonal skills; and learning to manage emotions. Protective and supportive environments in the family, at school and in the wider communities are important.

Aim of the study

To assess the effectiveness of planned mental health teaching program on the awareness of mental health among the students in selected junior college of the city.”

Objectives

1. To assess the Knowledge regarding awareness of mental health among students in selected junior colleges of city.
2. To assess effectiveness of planned mental health teaching on knowledge regarding awareness of mental health.
3. To find out association between the study finding with selected demographic variables.

Research design

The research design selected for the study was a Quasi-experimental one group pre-test and post-test design

Sampling technique:

The sampling technique used in this study was Non-Probability convenient sampling technique. The selection of sample depended upon the ready availability and fulfilment

of the Inclusive criteria and designed size of 60 was reached. The investigator preferred to choose this sampling technique because of the constraint of time in order to complete the data collection within the stipulated time.

Tool

A modified Likert scale was used to collect data from students studying in selected junior college of city.

Preparation of Questionnaire. Questionnaire was developed by the researcher after extensive review of regarding awareness of mental health among the students 1. Extensive Review of Literature. 2. Preparation of Blue print. 3. Consultation with experts. 4. Validation from experts.

Description of the tool

The tools used for the data collection in this study are:

1. **Section A:** Demographic Data of participants consists of 5 items like Age, Gender, Type of Family and Area of Living
2. **Section B:** Self-Structured questionnaire for assessing knowledge on awareness of mental health contains 20 Questions for assessing knowledge on awareness of mental health among participants is used to collect the data.

Methods of data collection

- a. Permission from concerned authority Formal permission has been obtained from the authorities of selected junior college of the city to conduct the study. Informed consent has been taken from the subjects explaining them about the purpose of study while clearing their doubts. b) Period of data collection the data collection process begun from 20th December 2022 to 7th January 2023. The investigator has collected the pre and post test data while administering the planned health teaching after the pre-test. c) Pre-test has been conducted by using the self-structured questionnaire prepared on knowledge regarding mental health. The questionnaire has been distributed to the students, reading every item carefully, until the students understood the question. Adequate time has been given to them to complete the item and then proceeded to the next one. It took approximately 30 minutes to answer the questionnaire. The investigator then collected the completed questionnaire. d) Implementation of Planned Health Teaching Following pre-test, planned health teaching has been administered by the investigator on the same day of the pre-test. e) Post-Test has been conducted after 7 days of planned health teaching by administering the same questionnaire on the same students.

Validity:

Content validity refers to the degree to which the test actually measures or is specifically related to the traits for which it was designed. Identifying the universe of content is not an easy task. It is, therefore, usually suggested that a panel of experts in the field to be studied be used to identify a content area.

Reliability

Reliability was calculated using split half method and test-retest method separately.

R² value will be calculated by- $2(r_{ht}) r = \dots\dots\dots 1 - (r_{ht})$

Pilot study: pilot study was conducted on samples before actual data collection on 10% of the sample size. After establishing the validity of the tool to be used for the study, the final tool was made and then the reliability of the tool was done. The reliability was done by conducting Pilot study. After obtaining formal administrative permission the tool was administered to 6 samples, selected as per the set criteria. The scores were calculated and then given for statistical analysis. To test the reliability of the tool was made. Reliability was assessed using Karl Pearson's test-retest method. Pearson's correlation coefficient was found to be reliable. To test the reliability of the tool was made. Reliability was assessed using Karl Pearson's test-retest method. Pearson's correlation coefficient was found to be reliable.

Procedure for data collection: The investigator obtained permission from the authorities and the head of the collage department. Informed consent was taken from the Students of the study participants prior to the study and informed

them regarding the objectives of the study and assured the subjects about the confidentiality of the data to get the cooperation of the students. Orientation about the investigator's study topic and procedure was given to them. On the first day the investigators observed the setting. The investigator explained the purpose of the study to the Students in the selected junior college of the city pune. The students were given with Pre-Test to assess the knowledge regarding awareness of mental health. Then students were provided planned health teaching regarding awareness of mental health, which include content like information about health, mental health, and characteristic of mentally healthy and mentally ill person, etiological factors, misconceptions about mental illness, and finally prevention of mental illness on primary, secondary and tertiary level. After completing planned health teaching post-test was administered to assess the effectiveness of knowledge regarding awareness of mental health among the students. The data collection procedure was terminated by thanking the respondents.

Results

Table 1: Pre-test score table

N=60		
LEVEL OF KNOWLEDGE	FREQUENCY	PERCENTAGE
GOOD(14-20)	12	20
AVERAGE(10-13)	42	70
POOR (<9)	06	10

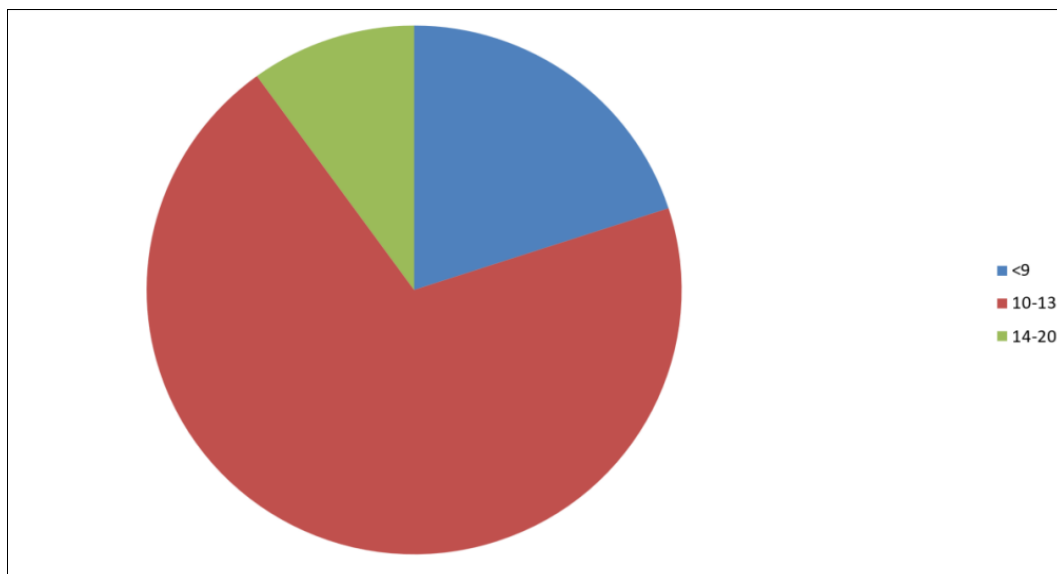


Fig 1: Pie chart showing pre-test score of the students of study group

This figure shows that the pre-test score of knowledge about mental health. 20% student having good knowledge about mental health, 70% student having average knowledge about mental health. 10% student having poor knowledge about mental health.

Table 2: Post test score table

N=60		
LEVEL OF KNOWLEDGE	FREQUENCY	PERCENTAGE
GOOD(14-20)	35	58
AVERAGE(10-13)	25	42
POOR (<9)	00	00

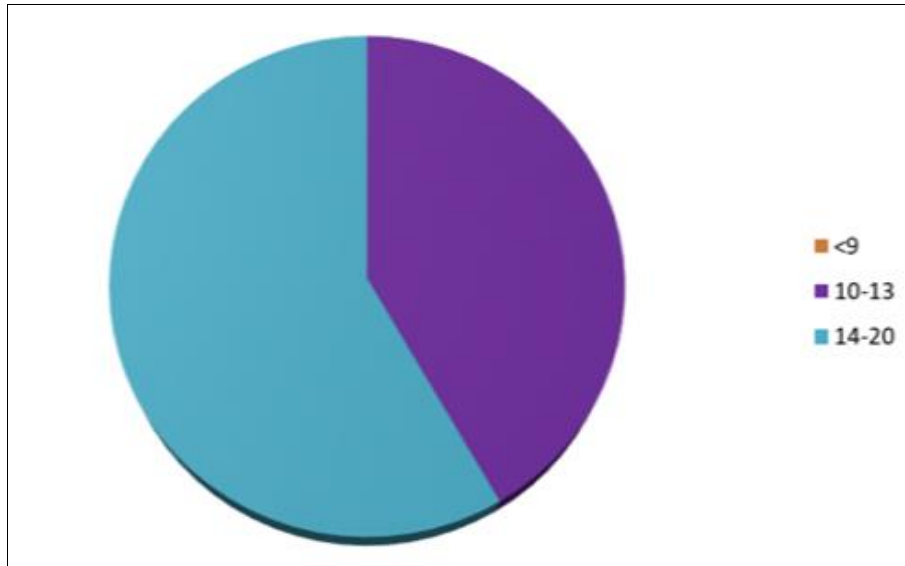


Fig 2: Pie chart showing post-test of student of study group

This figure shows that the pre-test score of knowledge about mental health. 58% student having good knowledge about mental health, 42% student having average knowledge about mental health

Comparison between pre-test and Post test

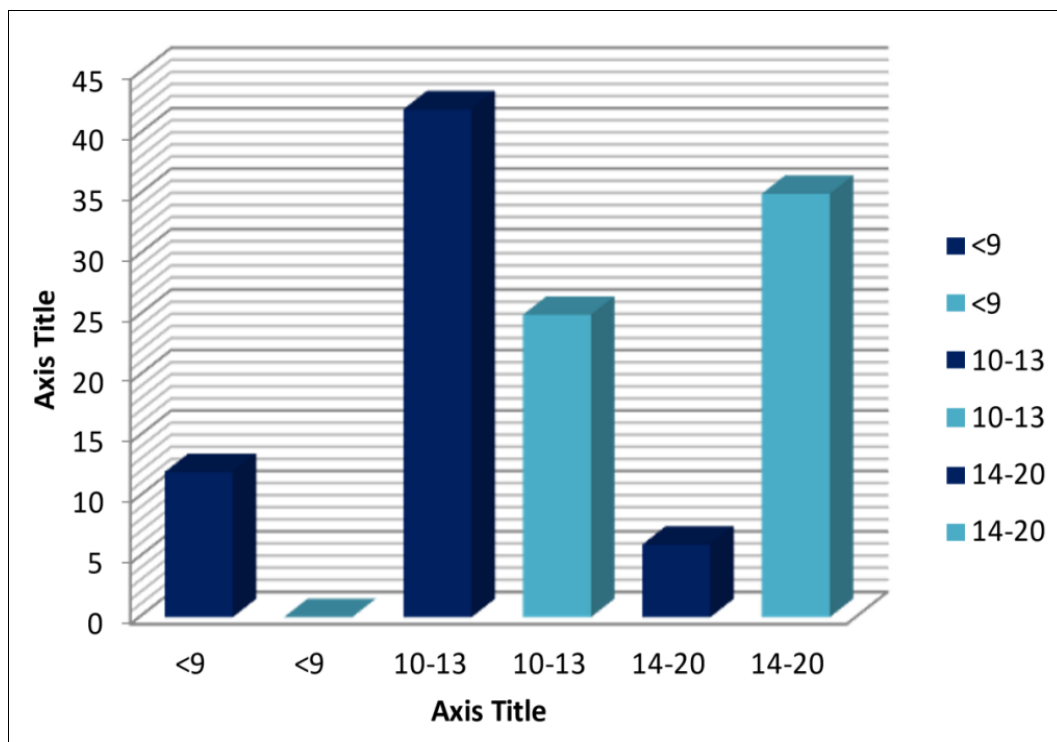
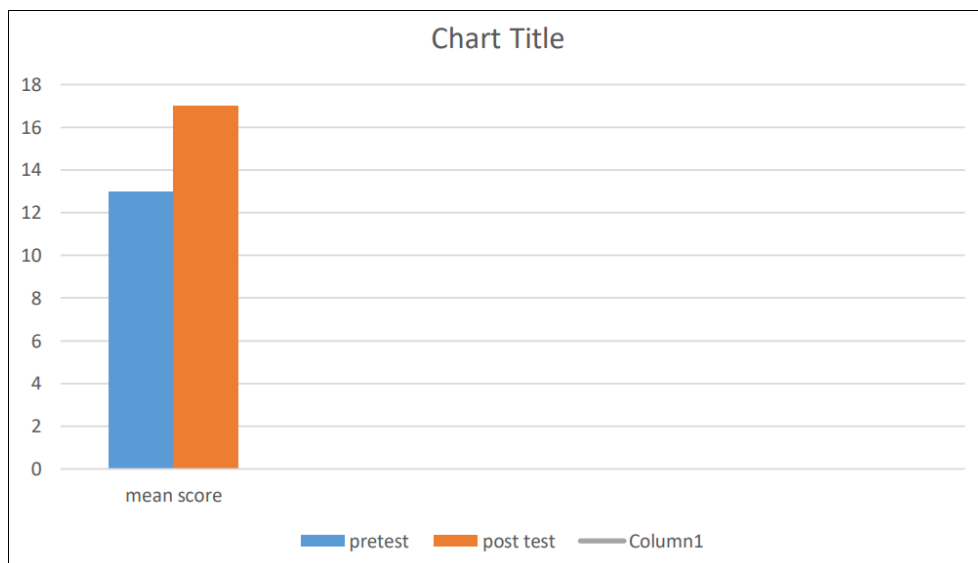


Fig 2: Bar chart showing comparison between pre-test and post-test

This bar chart showing the comparison between pre-test and post-test concluded that the increase in level of knowledge. After administration of planned health teaching there is change in level of knowledge.

Of Pre And Post Test Knowledge Of Mental Health Among students In Study Group				
Parameters	Pre-test	Post test	Wilcoxon Z Value	P Value
	Mean ± SD (n=100)	Mean ± SD (n=100)		
Knowledge score	12.68 ± 3.15	17.64±3.17	8.17	<0.0001

Table 4.7 confirms that, there is a highly significant difference between pre and post test knowledge score of mental health among students in study group as the P value is < 0.0001 . The planned health teaching is highly effective in increasing the knowledge of Mental Health among students in the study group.



In above figure, shows that, mean score of pre-test knowledge is 13 and mean score of post-test knowledge is 17. Planned health teaching shows impact on knowledge of study group.

Conclusion

The findings of the study suggest that the students had inadequate knowledge about mental health during pre-test and there is significant increase knowledge regarding mental health after administration of planned health teaching regarding awareness on mental health. The present study also states that there is no significant association between knowledge regarding mental health and demographic variables like age, gender, area of residence, type of family. This study could help in bringing about awareness on mental health and maintenance of mental health, leading to a healthy life ahead.

References

- <https://quoteinvestigator.com/2021/07/14/clever-wise/albert-einstein-quotes>
- Health /World health Organization, <https://www.who.int/news-room/factsheets/detail/mental-health-strengthening-our-response> cited on 17 june,2022
- <https://www.studocu.com/in/document/rajiv-gandhi-university/bscnursing/1concept-of-mental-hygiene-and-mental-health/22784522>
- Mental health: Wikipedia/browse: "The world health report 2001 – Mental Health: New Understanding, New Hope" (PDF). World health organization. Retrieved 4 May 2014.
- Garrett Rieck & Justin Lundin College of the Canyons [https://med.libretexts.org/psychological-health/cited on 1May, 2021](https://med.libretexts.org/psychological-health/cited-on-1May,2021).
- Kalpna Shrivastava. Mental health awareness: Indian Scenario, Indian Psychiatric Journal, 2016. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5479084/>
- Pinfold V. London: Rethink Publications; 2003. How can We Make Mental Health Education Work?
- Example of Successful Local Mental Health Awareness Programme Challenging Stigma and Discrimination.
- Ogorchukwu JM, Sekaran VC, Nair S, Ashok L. Mental health literacy among late students in South India: What they know and what attitudes drive them. *Indian J Psychol Med*,2016;38:234–241. [PMC free article] [PubMed] [Google Scholar]
- Nutbeam D, Wise M, Bauman A, Harris E, Leeder S. Canberra: Australia Government Publishing Service; 1993. Goals and Targets for Australia's Health in the Year 2000 and Beyond. [Google Scholar] [Ref list]
- Joa I, Johannessen JO, Auestad B, Friis S, McGlashan T, Melle I, *et al*. The Key to Reducing Duration of Untreated First Psychosis: Information Campaigns *Schizophr Bull*,2008;34:466–472. [PMC free article] [PubMed] [Google Scholar] [Ref list]
- World Health Organization. World Health Statistics, 2016. Geneva 27, Switzerland: World Health Organization; 2016. [Google Scholar] [Ref list]
- World health organization, western pacific activities, [pacificttps://www.who.int/western-pacific/activities/promoting-mental-health-79](https://www.who.int/western-pacific/activities/promoting-mental-health-79)
- Rehana A Salam, Elsevier Sponsored Documents, Adolscence health and well being, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5026682/> <https://pubmed.ncbi.nlm.nih.gov/28859666>
- World health organization. adolescent mental health, 17 November 2021 <https://www.who.int/news-room/factsheets/detail/adolescent-mental-health>
- World health organization. adolescent mental health, 17 November 2021 <https://www.who.int/news-room/factsheets/detail/adolescent-mental-health>
- Mental health awareness in adolescence, article, Unicef, october2011, [https://www.unicef.org/adolscence mental health](https://www.unicef.org/adolscence-mental-health)
- Adolscence Mental health awareness: Indian Scenario, Indian Psychiatric Journal, 2016.
- Effectiveness (Internet), Oxford Dictionary, <https://www.oxfordlearnersdictionaries.com/definition/english/effectiveness>

19. Planned health teaching (Internet), Oxford Dictionary, [https://www.oxfordlearnersdictionaries.com/definition/english/planned health teaching](https://www.oxfordlearnersdictionaries.com/definition/english/planned%20health%20teaching)
20. Awareness (Internet), Oxford Dictionary, <https://www.oxfordlearnersdictionaries.com/definition/english/awareness>
21. Knowledge (Internet), Oxford Dictionary, <https://www.oxfordlearnersdictionaries.com/definition/english/knowledge>
22. Student (Internet), Cambridge Dictionary <https://dictionary.cambridge.org/dictionary/english/student>
23. Junior college (Internet): Webster's New World College Dictionary, [https://www.merriam-webster.com/dictionary/junior college](https://www.merriam-webster.com/dictionary/junior%20college)
24. Suresh K Sharma, 'nursing research and statistic, 2018, Elsevier publication, 3rd edition, 143-144
25. Heylinhen F, Joslyn C. Turichin(editor): PrincipeCybernetica Web kriffentorf Available on: http://pespmc1.vub.ac.be/asc/input_analy.html
26. Mohammed Nazim Uddin *et al*, a study on an assessment of awareness of mental health conditions and its association with socio-demographic characteristics, 2018, 80 <https://pubmed.ncbi.nlm.nih.gov/31409332/>
27. Shivani Mathur Gaiha, *et al*. A study on Pilot Community Mental Health Awareness Campaign Improves Service Coverage in India, <https://pubmed.ncbi.nlm.nih.gov/33052548/>
28. Gavin Breslin, *et al*. A study on A systematic review of interventions to increase awareness of mental health and well-being in athletes, coaches and officials, August 2017, <https://pubmed.ncbi.nlm.nih.gov/28859666>
29. Parui. Study to compare the knowledge of adults a regarding mental health awareness. Public understanding regarding mental health and awareness among general population is usually a lacking aspect, 2018. <https://www.rockingmentalhealth.com>
30. Koustuv Saha, *et al*. A computational study of mental health awareness campaigns on social media Transl Behav Med, 2019;9(6):1197-1207. doi: 10.1093/tbm/ibz028. <https://pubmed.ncbi.nlm.nih.gov/30834942>
31. John P Salerno, a study on effectiveness of universal school- based mental health awareness programs among youth in the united states the journal of schoolhealth, 2016;86(12):922-931. doi: 10.1111/josh.12461. <https://pubmed.ncbi.nlm.nih.gov/27866385>
32. M Siepmann, Awareness aims to avoid the occurrence of psychiatric illness and disability caused by psychic disorders, 2012, <https://pubmed.ncbi.nlm.nih.gov>
33. Susumu Fukita, *et al*. A qualitative study managers' awareness of mental health measures for their employees in small and medium-sized enterprises in a depopulated mountainous area in Japan, 2022, <https://pubmed.ncbi.nlm.nih.gov/35244075/>
34. Padmavati R, Thara R, Corin E. A qualitative study of religious practices by chronic mentally ill and their caregivers in South India, 2005, <https://pubmed.ncbi.nlm.nih.gov/16048243/>
35. Shrutia A, Singh S, Kataria D. Across-sectional survey using a pretested questionnaire, which in addition to demographic details assessed exposure, knowledge, attitude and social distancing practices for mental illnesses. International journal of Advance in nursing management, 2016, 81
36. Anupriya, *et al*. A study effectiveness of planned mental health teaching programme on knowledge regarding prevention of mental awareness among care takers of patientof selected hospital of Dehradun, Uttarakhand. International journal of Advance in nursing management, Jan-March, 2022, 42-46
37. Jitendre Patiyar, *et al*. A study to assess the effectiveness of planned health teaching program on knowledge regarding mental health disorder among people of selected Rural Community area of Mehsana, International journal of Advance in nursing management, Jan-March, 2022, 47-49
38. Deleena AJ, *et al*. A study to assess the effectiveness of planned teaching programme on level of knowledge and practice on stress management stregies among homemakers of the selected urban community in kachery, Thrissura, International journal of Advance in nursing management, Jan-March, 2022, 67-70
39. Priyanka Sharma, *et al*. A study to assess the effectiveness of planned mental health teaching programme on prevention of mental health disorder among people, in Doon Female Hospital, Dehradun, Uttarakhand, International journal of Advance in nursing management, Jan- March, 2022, 71-76
40. Alpana Kale, *et al*. A study to assess effectiveness of planned teaching program on knowledge among the anganwadi workers regarding behavioural problems of pre-schoolers, International Journal of Nursing Research (IJNR), Jan-March, 2021, 1-7
41. Karni Singh Sunita Patay Shaara Rastogi, A study to assess effectiveness of planned teaching program on knowledge and practice regarding prevention and management of mental disorder among adults in delhi., International Journal of Nursing Research (IJNR), April-June, 2022, 52-56
42. KH Reshma. A study to assess effectiveness of planned teaching programme on knowledge regarding prevention of mental health disorder among middle-aged adults in a selected panchayath in kannur district International Journal of Nursing Research (IJNR), Oct-Dec, 2021, 107-111
43. Khush Kumar Soni. A study to assess the effectiveness of planned teaching programme knowledge regarding autism in among parents and pre-primary teachers in selected schools of udaipur city, International Journal of Nursing Research (IJNR), Oct-Dec, 2021, 145-151
44. Jitendra Kumar Saini, Jitndra. A study to assess effectiveness of planned teaching programme on knowledge and attitude regarding prevention and control of alcohol use among undergraduate college students, International Journal of Nursing Research (IJNR), Jan-March, 2022-2021, 23-28 82
45. Suresh K Sharma, 'Nursing research and statistic, Elsevier publication, 3rd edition, 2018, 163-165.
46. BT Basavanthappa. 'Nursing research, 2013, Jaypee publication, 3rd edition, 1998, 205.
47. Denise F. Pilot and Cheryl Tatano Beck, Essential of nursing research, Wolters Kluwer publication, ninth edition, page no. 188-192 48) Suresh K Sharma, 'Nursing research and statistic, 2018, Elsevier publication, 3rd edition, 44, 338-341, 167-169, 515.