AMALA COLLEGE OF NURSING
AQAR (2022-2023)

CRITERION 3– Research, Innovations and Extension

Key Indicator 3.3– Research Publications and Awards

Metric No. 3.3.1- The Institution ensures implementation of its stated Code of Ethics for research.

SUBMITTED TO

National Assessment and Accreditation Council

Copies of Research Publications

Factors Associated with Caregivers Burden of Breast Cancer Patients – Review

Shaji E.J[1], Yashly Varghese[2], FatimaDSilva[3], ShrinivasaBhat[4], Sukseh,[5] Nalini.M[6]*

[1]Research Scholar, Department of Psychiatric Nursing, Nitte Usha Institute of Nursing Sciences, Nitte (Deemed to be University), Mangalore, Karnataka.
Email: jothishcsc@gmail.com

[2]Lecturer, Amala college of Nursing, Thrissur, Kerala
Email: Aashirs23@gmail.com

[3]Principal &Dean Faculty of Nursing, Nitte Usha Institute of Nursing Sciences, Nitte (Deemed to be University), Mangalore, Karnataka.
Email: principal.nuins@nitte.edu.in

[4]Professor & Head, Department of Psychiatry, KSHegde Medical Academy, Nitte (Deemed to be University)
Email: shrinivasabhat@nitte.edu.in

[5]Assistant professor, Department of Psychiatric Nursing, Nitte Usha Institute of Nursing Sciences, Nitte (Deemed to be University), Mangalore, Karnataka.
Email: sukeshm@nitte.edu.in

Corresponding author

[6]Professor and Head Department of Psychiatric Nursing, Nitte Usha Institute of Nursing Sciences, Nitte (Deemed to be University), Mangalore, Karnataka.
Email: nalini@nitte.edu.in

Abstract

Caring for a patient with a disease such as breast cancer, which requires prolonged and sophisticated treatment modalities, can cause a significant burden on the caregiver, which cannot be measured or explained in depth with existing scientific evidence. Caregivers play a vital role in caring for family members with breast cancer from the beginning until the patient's outcome. Although caregivers have been part of many studies conducted to assess the severity of their burden, also they receive less care from others and the health care team members. Research findings depict that majority of the caregivers experienced a significant amount of caregiver burden. The review has found that many factors may influence a caregiver's burden. The manifestation of burden may vary depending upon the stage of cancer diagnosis, disabilities in the patient, emotional and physical capabilities, financial and social support available, and many more factors. The caregiver burden impacts the patient's and caregivers' life and well-being. Research focusing on interventions to reduce the burden is needed in today's scenario. Early, appropriate, and timely interventions help the caregiver utilize their potential effectively to balance their dual responsibility.

Keywords: **Breast Cancer, family Caregiver, Caregiver Burden, Concept analysis, Antecedents, Consequences Factors associated with caregiver's burden of breast cancer patients Review**

1. Background

Breast cancer has become the most commonly diagnosed cancer, surpassing lung cancer with an estimated 22,61,419 new cases in 20201,2. The diagnosis of cancer has a dyadic effect among patients and caregivers. Apart from the emotional stress, fear, and pain following the surgical intervention induced in the patient, the vast responsibility of family and taking care of cancer patients falls upon the primary caregiver, which produces a disastrous effect. The caregivers of breast cancer patients often have extreme fatigue and burden. The ultimate factors contributing to caregivers' highest-burden are lack of time, social and emotional dysfunction, pain, lack of sleep, and tiredness.3

The caregivers have a pivotal role in treating breast cancer patients compared to other debilitating illnesses such as neurotrauma or spinal cord injury. Breast cancer patients have few days of acute hospital admission, but the disease course has an extended duration after mastectomy. A caregiver than a health professional will care for the patient more effectively. During this period, they have to do many of the healthcare professionals' procedures, such as administration of medications, reassurance of the patient, encouraging mastectomy exercise, and other treatment aspects for managing the condition, for which they are inadequately trained.4

doi.org/10.31838/hiv23.03.45 Received: 20.10.22, Revised: 27.11.22, Accepted: 10.12.22.

These challenges produce many physical, emotional, financial, social, and role changes that may affect the caregiver's quality of life. A cross-sectional study revealed a high level of burden experienced by the caregivers of breast cancer patients and needs intervention.6,7

Hence, the diagnosis of breast cancer affects the patient and the caregivers. The darker side of this scenario reflects that the problems of caregivers are hardly understood. Therefore, this review has highlighted the difficulties faced by the caregivers of breast cancer patients and the core focus of the interventions to help them cope with their lifestyle and provide care to their loved ones.5

A concept analysis of caregiver's burden

A caregiver is a first-degree relative who is willing to participate in caring for the breast cancer patient8. The burden is defined as the recognized effect on the caregiver's life from the workload of caring for a breast cancer patien.9 Caregiver burden is defined as the level of multifaceted strain perceived by the caregiver from the task of caring for a family member and or loved one over time10. After a thorough literature search, the caregiver's burden was categorized under the headings of caregivers' antecedents, consequences, and attributes.

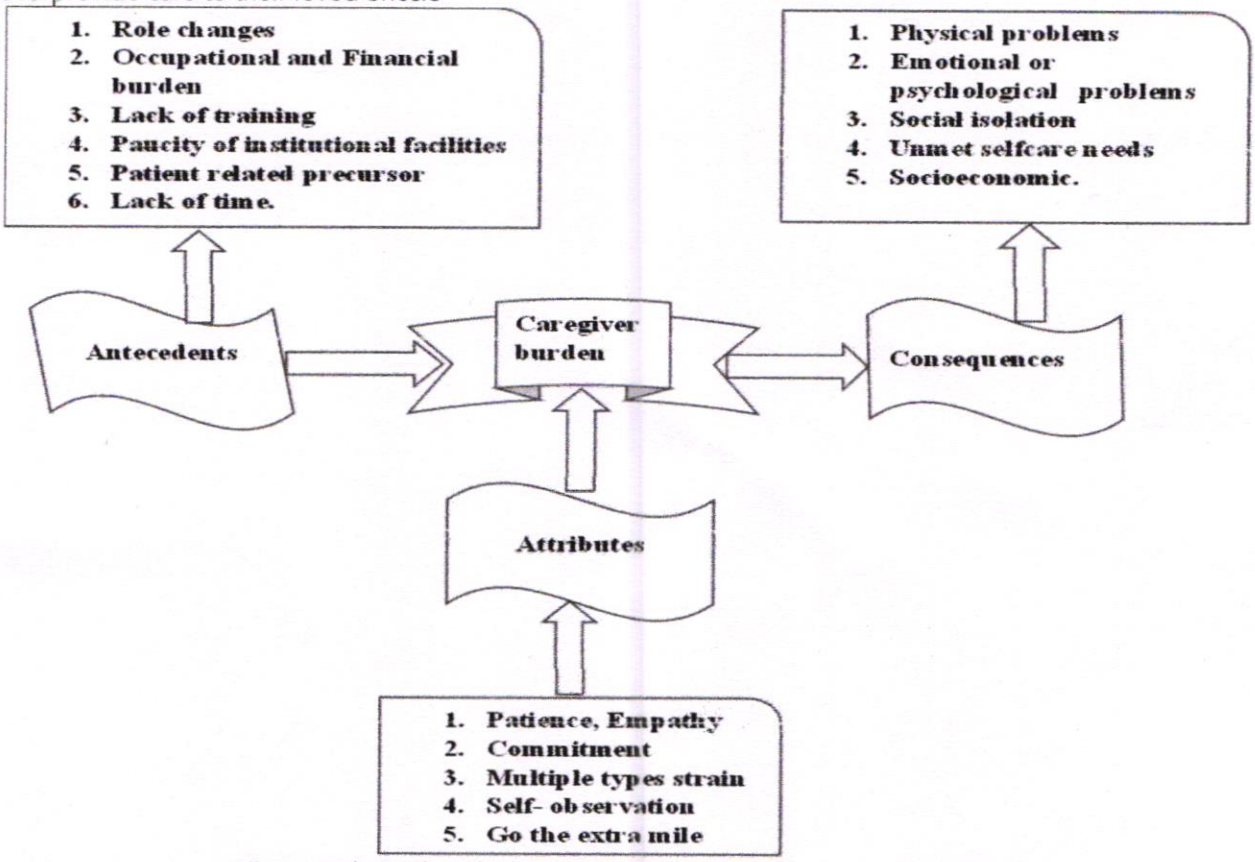


Figure 1 shows the schematic representation of the caregiver's burden.

Antecedents of caregiver burden

The antecedent is the events or attributes that must arise before the concept's occurrence.11 After doing a detailed literature search, the following antecedent factors are identified.

Role changes

Family functions in a peculiar way wherein all the family members have responsibilities and roles in maintaining balance and fulfilling all development aspects. The family has six dimensions to achieve this goal, communication, social factors, problem-solving, affective response, affective involvement, and behavioural control. These dimensions bring about a balance within the family. This balance can sometimes be disturbed and results in a change of role dynamics. The family has to make and adapt to many changes when there is a cancer patient in the family. Here the caretaker takes a dual role in caring for the patient and fulfilling the responsibilities. If a family member is diagnosed with cancer, it can bring many changes in the family. It changes priorities and interactions among family members and results in an excessive burden on the caregiver. Cancer is a chronic and unpredictable disease. It changes the caregiver's life plans who has to put the patient on priority. Sudden changes may affect the stability of the functioning of the family. Cancer diagnosis also affects the external functioning of the family and disrupts their social life12.

The number of informal caregivers has also increased due to the global increase in cancer patients. They receive new responsibilities and are confronted with role transitions. Randomized control trials revealed that psychological psychoeducation, skill training, and therapeutic interventions have significantly reduced caregivers' burden, though with minor to moderate effects. These interventions are hence encouraged for those caring for cancer patients.13

Occupational and Financial burden

Family is essential in supporting and caring for the patients, helping them manage and adapt to their disease. Many factors such as increased duration of care at home, decreased family size, and decreased hospitalization have increased the disease's burden. Most caregivers have to leave their job to care for the cancer-affected family member, which leads to a high financial burden.14 Thus, the caregivers require immense support to overcome this challenge in their social and family life. They require financial support to help them manage the burden of this disease. Training them with appropriate skills and palliative care has been found to lessen the burden of breast cancer among informal caregivers 15.

Lack of training

A common challenge caregivers face today is psychological problems like anxiety, depression, and other psychological disturbances. The caregivers need training on administering medications, handling the equipment, managing the complications of chemotherapy and radiation therapy, procedures related to treatment, providing comfort to the patient, and when and how to report to the healthcare facility. Most caregivers have low health literacy, leading to an increased burden resulting in adverse consequences13. Emotionally supporting themselves and getting proper training can help to overcome this challenge. The health system can help the caregiver obtain this training with proper guidance. The existing research could only reach the tip of the iceberg, and the rest is yet to be explored16.

A paucity of institutional facilities

Breast cancer requires specialized surgery, chemotherapy, radiation therapy, and palliative treatment. These facilities are not available in all hospitals, especially in developing countries. To avail effective treatment options, the caregiver must approach various hospitals or travel miles and miles with the patient. Also, the caregiver is exhausted in case of any emergency because of inadequate transportation facilities, longer distances to the treating hospital, and unavailability of effective care services nearby.17 Rising incidence rate, prolonged survival period, decreased stay in acute care facilities, and transformation of care to ambulatory care services lead to increased informal caregiver responsibility.18 Some studies state that a lack of workforce and poor organizational facilities also disturbs informal caregivers17.

Patient-related precursor

Many patient factors can influence the extent of the caregiver's burden. The diagnosis of cancer and its treatment can be overwhelming for the caregiver. Despite this, the unfavourable psychological reaction in the patient, such as melancholy, worry, mood swings, and social withdrawal, increases the depth of the caregiver's burden. Additional patient-related factors are age, gender, treatment modality and duration, cancer symptoms' impact on the patient's daily life, and the patient's ability to cope with the diagnosis.[19]

Lack of time

The major challenge faced by family caregivers is a lack of time. The family caregivers need to find more time to meet the needs of the caregivers, apart from their daily routine from work and family life. Also, they must be physically and mentally involved in caring for patients. The majority of their routine tasks and other work remain unsettled, which causes the feeling of exhaustion and burnout among the caregivers.

Health consequences

The existing research shows breast cancer patients' caregivers have depression, fatigue, stress, and anxiety. The inadequacies and burdens experienced by caregivers are exhibited in various ways. The primary symptoms manifestation exhibited by caregivers are as follows :20,21,22

Physical problems

The family caregivers of cancer patients suffer many physical problems that can affect the quality of care provided. It includes fatigue, high blood pressure, back pain, weight changes, arthritis, and headache. The previous research showed that informal caregivers have a lower immune function, delayed wound healing, increased blood glucose levels, and deranged lipid profiles, putting them at high risk of cardiovascular disease24. These problems occur due to decreased sleep, poor diet, and continued physical and emotional stress. Apart from this, due to the demands of caregiving and lack of time, informal caregivers cannot take adequate rest, maintain adequate nutrition, perform the exercise, and often neglect their physical health25. Some studies reveal that when the patient has to undergo particular treatment procedures, it causes caregivers to struggle to meet their own needs and the patient's needs simultaneously26. When they have prolonged physical issues, the quality of care decreases, leading to poor patient outcomes. As the patient requires continuous attention from the caregiver, they have limited time to seek medical attention. There is a significant relationship between the family caregivers and patients' behavioural characteristics, indirectly affecting the caregivers' burden 27.

Emotional or psychological problems

The challenges faced by family caregivers in caring for breast cancer patients cause enormous emotional and psychological problems. The caregivers are concerned about their capacity to balance the care demands with other routine tasks. They are also scared about their future and the outcome for the patient16.To some extent, the caregivers are worried about their health which causes anxiety, fear, and depression among many informal caregivers. The main reasons for these psychological issues are fear

of cancer recurrence, interrupted family function, wrong perception of disease prognosis, and lack of adequate caregiver support and care28. These issues can hurt their quality of life29. Also, studies have proved that psychological issues increase as the caregivers gradually decline in their functional status30. Some studies show that women and their husbands have significant psychological stress after mastectomy, which affects their relationship. Since the husband undertakes the domestic role too, he continues to experience stress in the future31. It may lead to adopting health risk behaviours such as smoking and the use of eliciting drugs24. Many times, conversations regarding patient disease conditions with healthcare personnel are another cause to induce distress among caregivers. Factors such as lack of knowledge regarding the care methods, unavailability of various resources for patient care, and inability to cope with disease conditions add to this emotional stress32,33. Studies show that caregivers anticipate voluntary participation in emergencies and guidance and seek compassion from their friends, extended family members, and even care recipients .34 Providing care for elderly cancer patients creates a multifaceted burden on caregivers. Identifying factors causing the burden is vital for providing critical support to caregivers 35.

Social isolation

Social isolation is common among breast cancer survivors and their caregivers. It happens because of the patient's fear of facing society due to marked body image disturbances after cancer treatment. As the cancer survivor is not going out of the home, the caregiver is forced to remain at home to avoid emotional and psychological loneliness for the patient. The caregivers also avoid social gatherings, meetings, public functions, and family activities. Hence, social relationships are disrupted and may lead to significant social isolation, which can neither be vented to the patient nor anyone else. In providing care to breast cancer patients, the caregiver's responsibilities inflict a considerable burden on the caregiver, and studies suggest that social support offers excellent support to the caregiver of cancer patients36.

Unmet self-care needs

One of the difficulties that come across the family caregivers in performing their role in dealing with breast cancer patients is maintaining a balance in their caregiving role and meeting their wants. Providing care for patients with cancer is a complex and sequential process and can lead to an unstable and stressful life for a family caregiver and subsequently affect the person's holistic health. When this state persists for a distant future, it can reduce caregivers' standard and quality of living. Some studies state that caregivers of patients with cancer have broad and comprehensive unmet needs37. Most studies of primary caregivers of cancer patients state various problems lining up from reduced physical and mental health distress to unfavourable impact on professional life. These circumstances can lead to a rise in burden and a reduced standard of living for caregivers. Earlier cancer diagnosis and favourable response to therapy were productively correlated with the caregiver's standard of living. The long period of caregiving role and adverse effects of providing care in the caregiver's lives are also associated with decreased caregiver's standard of living. Most family caregivers take up their role unexpectedly without adequate preparation, leading to a poorer standard of living38. Unmet wants of patients can raise the burden on the caregiver; and in turn, the difficulties faced by caregivers are closely related to the patient's comfort39.

Socio-economic impact

The rapid increase in population and increased lifespan in high and low-income countries directly result in increased incidence and mortality rate of breast cancer, increasing the burden on caregivers. The majority of studies in developed countries stated that informal caregivers are more prone to all kinds of intellectual and somatic burdens 40. The incidence of cancer and the extent of the burden on caregivers have high significance on the country's economy. These can be influenced by the nation's socio-economic development, which may affect the availability of services for cancer caregivers. Studies showed that low socio-economic status could predict a high caregiver burden36. Cancer caregivers suffer a high financial burden due to cancer treatment's duration, complexity, and cost 41.

Attributes of caregiver's burden

Attributes of a caregiver's burden can be classified into three domains 38.

1. Caregiver-related attributes,
2. Patient-related attributes
3. Caregiver-patient dyadic attributes.

Caregiver-related attributes: These are the caregiver's socio-economic status, gender, and age, which may have an inevitable direct influence on the caregiver's burden. Female caregivers experience more caregiver burden compared to male caregivers 38. Elderly caregivers experience a higher burden compared to young adults. The socio-economic factors include the caregiver's education, occupation, and income. Studies indicate that high income and high-level education are proportionate to the caregiver burden. The inherent qualities of the caregiver, such as empathy, patience, commitment, and self-observation, can also inversely affect the caregiver's burden. Low self-efficacy and resilience in caregiver results in a higher caregiver burden 38.

Patient-related attributes: The age, health status, stage of cancer quality of life of the patient influenced the caregiver burden. Caring for a younger patient and having more dependent children in the family can produce more burdens on the caregiver 38.

Caregiver-patient dyadic attributes: It involves the quality or type of relationship between the caregiver and the patient. Informal caregiving is a dyadic process. It requires harmony and mutual satisfaction among the caregivers for a positive outcome. Spousal caregivers with reasonable marital satisfaction have demonstrated good mental well-being 38.

Clinical manifestations of caregiver burden:

Few studies show that caregivers of breast cancer patients have a high level of depression, fatigue, stress, and anxiety. The inadequacies and burdens experienced by caregivers are exhibited in various ways. 39,40,41,42

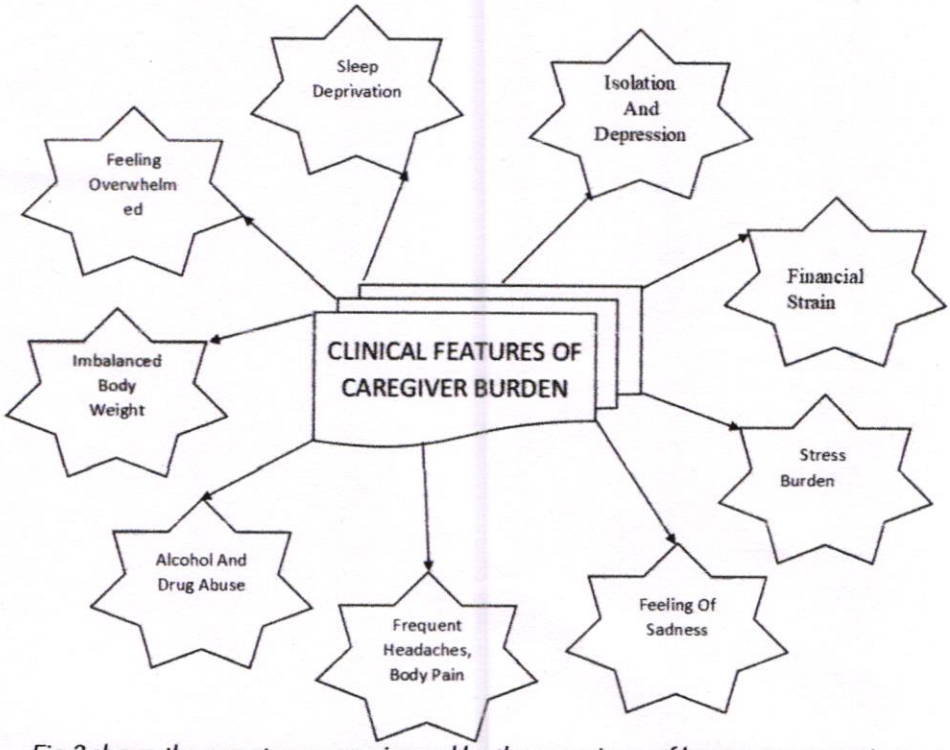


Fig 2 shows the symptoms experienced by the caregivers of breast cancer patients

Recommended interventions for caregivers of breast cancer patients

The caregiver burden significantly impacts breast cancer patients' physical and psychological well-being. Hence, an intervention must be implemented to support the caregivers and invoke positive outcomes in the survivor. The intervention should address the caregiver's psychosocial, economic, and educational needs as they lack the preparation and knowledge to undertake the role of caregiver. The interventions offered for caregivers can be psychoeducational, skill training, and therapeutic 43,44.

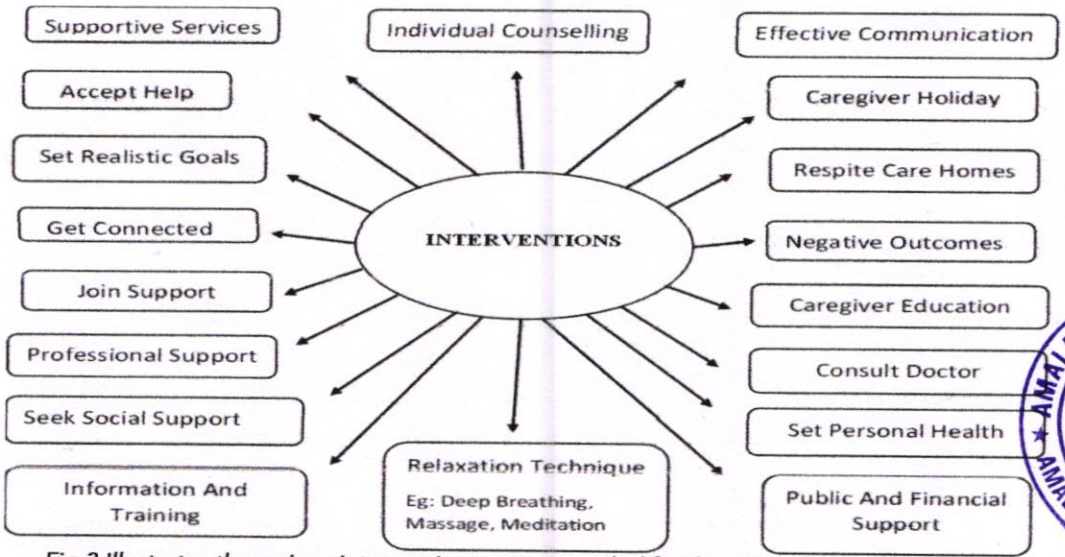


Fig 3 Illustrates the various interventions recommended for the caregivers of breast cancer

2. Conclusion

Caregivers have a significant role in the recovery of breast cancer patients. They spend considerable time caring for the patient. The breast cancer diagnosis is an unexpected, deadly occurrence, so

they feel unprepared to accept the diagnosis by the patient and caregivers. The healthcare providers can educate the caregivers and provide little guidance regarding patient care. In addition, emphasis on the importance of the caregivers' health and its impact on the patient outcome.

Reference

World Health Organization. Breast cancer now most common form of cancer: WHO taking action [Internet]. 2021 [Updated 2021 February 03].

Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, Bray F. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA: a cancer journal for clinicians. 2021 May;71(3):209-49.

Adili D, Dehghani-Arani F. The relationship between caregiver's burden and patient's quality of life in women with breast cancer. Journal of Research in Psychological Health. 2018 Aug 10;10(2):30-9.

Gabriel I, Aluko J, Okeme M. Caregiver burden among informal caregivers of women with breast cancer. Biomed J Sci Tech. 2019 Feb 8; 15:1-9.

Nejad ZK, Aghdam AM, Hassankhani H, Sanaat Z. The effects of a patient-caregiver education and follow-up program on the breast cancer caregiver strain index. Iranian Red Crescent Medical Journal. 2016 Mar;18(3).

Kajana VPM, Katta A, Bhimarasetty DM. Burden among family caregivers of breast cancer patients in north coastal Andhra Pradesh: a hospital based cross-sectional study. Int J Community Med Public Heal [Internet]. 2020 Mar 26

Alsirafy SA, Nagy R, Hassan AD, Fawzy R, Abdelhafeez AA, Husein MO, Almashiakhi MA, Alabdullateef SH, Alghamdi SA, Elyamany AM. Caregiver burden among family caregivers of incurable cancer patients in two eastern Mediterranean countries. BMC Palliative Care. 2021 Dec;20(1):1-8.

Kajana VPM, Katta A, Bhimarasetty DM. Burden among family caregivers of breast cancer patients in north coastal Andhra Pradesh: a hospital based cross-sectional study. Int J Community Med Public Heal [Internet]. 2020 Mar 26

Montgomery R. Using and interpreting the Montgomery Borgatta Caregiving Burden Scale. 2006;(January 2006):1–4.

Liu Z, Heffernan C, Tan J. Caregiver burden: A concept analysis. International journal of nursing sciences. 2020 Oct 10;7(4):438-45.

Brush BL, Kirk K, Gultekin L, Baiardi JM. Overcoming: A concept analysis. In Nursing forum 2011 Jul (Vol. 46, No. 3, pp. 160-168). Malden, USA: Blackwell Publishing Inc.

Andina MP, Pohan LD. Correlation Between Family Functioning and Caregiver Burden among Family Caregivers of Patients with Breast Cancer. 2019 Aug 1

Heckel L, Fennell KM, Reynolds J, Boltong A, Botti M, Osborne RH, Mihalopoulos C, Chirgwin J, Williams M, Gaskin CJ, Ashley DM. Efficacy of a telephone outcall program to reduce caregiver burden among caregivers of cancer patients [PROTECT]: a randomised controlled trial. BMC cancer. 2018 Dec;18(1):1-3.

Sahadevan, Namboodiri V. Depression in caregivers of patients with breast cancer: A cross-sectional study from a cancer research center in South India. Indian J Psychiatry [Internet]. 2019 May 1

Liu Y, Li Y, Chen L, Li Y, Qi W, Yu L. Relationships between family resilience and posttraumatic growth in breast cancer survivors and caregiver burden. Psycho-oncology. 2018 Apr;27(4):1284-90.

Given BA, Given CW, Kozachik S. Family support in advanced cancer. CA: a cancer journal for clinicians. 2001 Jul;51(4):213-31.

Gabriel I, Aluko J, Okeme M. Caregiver burden among informal caregivers of women with breast cancer. Biomed J Sci Tech. 2019 Feb 8; 15:1-9.

Jite IE, Adetunji AA, Folasire AM, Akinyemi JO, Bello S. Caregiver burden and associated factors amongst carers of women with advanced breast cancer attending a radiation oncology clinic in Nigeria. African Journal of Primary Health Care & Family Medicine. 2021;13(1):1-8.

Li Y, Wang K, Yin Y, Li Y, Li S. Relationships between family resilience, breast cancer survivors' individual resilience, and caregiver burden: A cross-sectional study. International Journal of Nursing Studies. 2018 Dec 1; 88:79-84.

Sahadevan S, Namboodiri V. Depression in caregivers of patients with breast cancer: A cross-sectional study from a cancer research center in South India. Indian journal of psychiatry. 2019 May;61(3):277.

Johansen S, Cvancarova M, Ruland C. The effect of cancer patients' and their family caregivers' physical and emotional symptoms on caregiver burden. Cancer nursing. 2018 Mar 1;41(2):91-9.

Bevans M, Sternberg EM. Caregiving burden, stress, and health effects among family caregivers of adult cancer patients. Jama. 2012 Jan 25;307(4):398-403.

Jensen S, Given B. Fatigue affecting family caregivers of cancer patients. Supportive care in cancer. 1993 Nov;1(6):321-5.

Reinhard SC, Given B, Petlick NH, Bemis A. Supporting family caregivers in providing care. Patient safety and quality: An evidence-based handbook for nurses. 2008 Apr.

Abbasnezhad M, Rahmani A, Ghahramanian A, Roshangar F, Eivazi J, Azadi A, Berahmany G. Cancer care burden among primary family caregivers of iranian hematologic cancer patients. Asian Pacific Journal of Cancer Prevention. 2015;16(13):5499-505.

Johansson FG, Lachica EM, Fall-Dickson JM, Kennedy J. Psychological distress, fatigue, burden of care, and quality of life in primary caregivers of patients with breast cancer undergoing autologous bone marrow transplantation. InOncology Nursing Forum 2004 Oct 31 (Vol. 31, No. 6, pp. 1161-1169).

Nicolaisen A, Hagedoorn M, Hansen DG, Flyger HL, Christensen R, Rottmann N, Lunn PB, Terp H, Soee

K, Johansen C. The effect of an attachment-oriented couple intervention for breast cancer patients and partners in the early treatment phase: A randomised controlled trial. Psycho-Oncology. 2018 Mar;27(3):922-8.

Abbasnezhad M, Rahmani A, Ghahramanian A, Roshangar F, Eivazi J, Azadi A, Berahmany G. Cancer care burden among primary family caregivers of iranian hematologic cancer patients. Asian Pacific Journal of Cancer Prevention. 2015;16(13):5499-505.

Din SH, Jaafar NR, Zakaria H, Saini SM, Ahmad SN, Midin M. Anxiety disorders in family caregivers of breast cancer patients receiving oncologic treatment in Malaysia. Asian Pacific journal of cancer prevention: APJCP. 2017;18(2):465.

Grunfeld E, Coyle D, Whelan T, Clinch J, Reyno L, Earle CC, et al. Family caregiver burden: results of a longitudinal study of breast cancer patients and their principal caregivers. CMAJ [Internet]. 2004 Jun 8 [cited 2021 Aug 4];170(12):1795–801. Available from: https://www.cmaj.ca/content/170/12/1795

Chronopoulou K, Sakkas D, Damigos D. Caregiving burden and psychological distress of breast cancer patients' husbands after mastectomy. Int J Caring Sci. 2016 Sep 1;9(3):909-13.

Given B, Wyatt G, Given C, Gift A, Sherwood P, DeVoss D, et al. Burden and Depression Among Caregivers of Patients with Cancer at the End-of-life. Oncol Nurs Forum [Internet]. 2004 [cited 2021 Sep 1];31(6):1105. Available from: /pmc/articles/PMC1315286/

Noveiri MJ, Shamsaei F, Khodaveisi M, Vanaki Z, Tapak L. Coping assessment tools in the family caregivers of patients with breast cancer: A systematic review. Breast Cancer: Targets and Therapy. 2020; 12:11.

Parsekar SS, Bailey A, VS B, Nair S. Exploring perceptions and practices of cancer care among caregivers and care recipients of breast cancer in India. Psycho-Oncology. 2020 Apr;29(4):737-42.

Ge L, Mordiffi SZ. Factors associated with higher caregiver burden among family caregivers of elderly cancer patients: a systematic review. Cancer nursing. 2017 Nov 1;40(6):471-8.

Nasrabadi AN, Sharif SP, Allen KA, Naghavi N, Nia HS, Salisu WJ, Yaghoobzadeh A. The role of socioeconomic status in the relationship between social support and burden among cancer caregivers. European Journal of Cancer Prevention. 2022 Mar 1;31(2):198-203.

Ashrafian S, Feizollahzadeh H, Rahmani A, Davoodi A. The unmet needs of the family caregivers of patients with cancer visiting a referral hospital in Iran. Asia-Pacific journal of oncology nursing. 2018 Jul 1;5(3):342-52.

Kim H, Yi M. Unmet needs and quality of life of family caregivers of cancer patients in South Korea. Asia-Pacific journal of oncology nursing. 2015 Jul 1;2(3):152-9.

Wang T, Molassiotis A, Chung BP, Tan JY. Unmet care needs of advanced cancer patients and their informal caregivers: a systematic review. BMC palliative care. 2018 Dec;17(1):1-29.

Gabriel I, Aluko J, Okeme M. Caregiver burden among informal caregivers of women with breast cancer. Biomed J Sci Tech. 2019 Feb 8;15:1-9.

Bradley CJ. Economic Burden Associated with Cancer Caregiving. Semin Oncol Nurse [Internet]. 2019 Aug 1 [cited 2021 Nov 24];35(4):333.

Langdon RJ, Yousefi PD, Relton CL, Suderman MJ. The Measurement of Caregiver Burden. J Med Sci [Internet]. 2003 [cited 2021 Nov 29];23(2):73–82.

Northouse LL, Katapodi MC, Song L, Zhang L, Mood DW. Interventions with family caregivers of cancer patients: meta-analysis of randomized trials. CA: a cancer journal for clinicians. 2010 Sep;60(5):317-39.

Aubin M, Vézina L, Verreault R, Simard S, Tremblay L, Desbiens JF, Dumont S, Fillion L, Maman JD, Gagnon P. Evaluation of an Intervention to Improve Supportive Care for Family Caregivers of Patients with Lung Cancer: Results of a Randomized Clinical Trial. Journal of Pain and Symptom Management. 2018 Dec 1;56(6): e51.

Cureus

Open Access Original Article

DOI: 10.7759/cureus.39213

May 23.

COVID-Somnia: A Multicentric Study on Sleep Disturbances During the COVID-19 Pandemic With Spatial Mapping of Hotspots

Review began 05/01/2023
Review ended 05/13/2023
Published 05/19/2023

Neeraj Pawar [1], Anindo Majumdar [2], Nisanth M. Nedungalaparambil [3], Lakshmi Nair [4], Jasimudeen Sulaiman [5], Suruchi Gupta [6], Katie J. Shillington [7], Victor Ng [8], Rajee Reghunath [4], Jennifer D. Irwin [7]

1. Community and Family Medicine, All India Institute of Medical Sciences, Rae Bareli, Rae Bareli, IND 2. Community and Family Medicine, All India Institute of Medical Sciences, Bhopal, Bhopal, IND 3. Department of Emergency Medicine, Amala Institute of Medical Sciences, Thrissur, IND 4. Department of Nursing, Amala College of Nursing, Thrissur, IND 5. Department of Library, St. Stephen's College, Uzhavoor, Kottayam, IND 6. Bloomberg School of Public Health, Johns Hopkins University, Baltimore, USA 7. Faculty of Health Sciences, The University of Western Ontario, Ontario, CAN 8. Schulich School of Medicine and Dentistry, The University of Western Ontario, Ontario, CAN

Corresponding author: Neeraj Pawar, neerajpawar160@gmail.com

Abstract

Objective

The purpose of this study was to document sleep quality and assess its sociodemographic, behavioral (i.e., tobacco use, alcohol use, and screen time), and mental-health-related indicators (i.e., anxiety and depression) in adults aged 30-59 years across three states of India, and to geo-locate state and district-level findings of sleep quality during the ongoing coronavirus disease 2019 (COVID-19) pandemic.

Methods

From October 2020 to April 2021, residents (aged 30-59 years) of Kerala, Madhya Pradesh, and Delhi completed a web-based survey that included sociodemographic and behavioral factors, clinical history of COVID-19, and mental health screening instruments for anxiety and depression, namely the Generalized Anxiety Disorder 2-item (GAD-2) and Patient Health Questionnaire-2 (PHQ-2). The Pittsburgh Sleep Quality Index (PSQI) was used to evaluate the quality of sleep. Average PSQI scores were geo-mapped.

Results

Of the 694 participants who responded, 647 completed the PSQI. The mean (SD) global PSQI score was 5.99 (3.2), with approximately 54% of participants reporting poor sleep quality (PSQI Score>5). Eight hotspot districts with severe sleep disturbances (mean score PSQI>6.5) were identified. Multivariable logistic regression analysis showed that compared to Madhya Pradesh, participants from Kerala and Delhi had 62% and 33% lower chances of having poor sleep quality, respectively. Those who screened positive for anxiety had higher odds of having poor sleep quality (adjusted odds ratio {aOR}=2.4, P=0.006*).

Conclusion

Overall, sleep quality was poor during the early stages of the COVID-19 pandemic (October 2020-April 2021), especially among those who reported high levels of anxiety. Among the three included states, there were differences in sleep quality.

Categories: Other, Epidemiology/Public Health
Keywords: india, psqi, pandemic, adults, sleep, covid-19

Introduction

In January 2020, the World Health Organization (WHO) declared the coronavirus disease 2019 (COVID-19) outbreak a Public Health Emergency of International Concern. To date, the COVID-19 pandemic has affected more than 764 million people globally, with reported deaths of over 6.9 million [1].

The transmissibility of this disease has forced nations to impose stringent protective measures such as the use of facemasks, social distancing, travel restrictions, and partial or complete lockdowns [2]. The government of India, in March 2020, enforced a nationwide lockdown restricting the free movement in public places of more than 1.3 billion people [3]. This decision helped in containing the spread of the virus and the overall mortality of the population, but also resulted in significant lifestyle changes among people who had to adapt to a completely new way of life rapidly; feelings of apprehension, fear, and stress about the pandemic, disruptions to social connections, and changes in daily routine affected citizens' physical and mental health [4]. Stressful situations have been previously linked to sleep disturbances [5].

How to cite this article
Pawar N, Majumdar A, Nedungalaparambil N M, et al. (May 19, 2023) COVID-Somnia: A Multicentric Study on Sleep Disturbances During the COVID-19 Pandemic With Spatial Mapping of Hotspots. Cureus 15(5): e39213. DOI 10.7759/cureus.39213

Adequate sleep is vital to the proper functioning of the human body and mind. In fact, without enough sleep, the brain cannot function properly, and this can impair one's ability to concentrate, think clearly, and process memories [6]. The recommended duration of sleep for adults (aged 18-64 years) is 7 to 9 hours [7]. Several studies have been conducted globally to examine the influence of the COVID-19 pandemic on sleep [8-10]. In Canada, Shillington et al. (2022) [8] assessed the sleep quality and quantity of Ontario adults during the initial phase of the pandemic (April-January 2020) and found that nearly two-thirds of the participants were "poor sleepers". Fear, anxiety, and stress related to COVID-19 were found to be substantive self-reported contributors. Similarly, in Italy, Franceschini et al. (2020) [9] identified that, during the lockdown (from March 10 to May 4, 2020), factors such as job insecurities, fear of becoming infected with COVID-19, financial instabilities, escalated use of social media to seek information about the pandemic status and disrupted social relationships affected sleep quality and precipitated insomnia. In an Indian study that evaluated the sleep quality of 808 inhabitants between April 17 and May 24, 2020, more than half (57.2%) had poor sleep quality, and those with self-reported mental health deterioration were more likely to experience poor sleep quality [10]. Although this valuable study was the first to assess the sleep quality of citizens of India during the initial months of the pandemic, a fuller understanding of the sociodemographic, behavioral, and clinical predictors of sleep quality as well as identifying if differences exist throughout the country remains unknown. Furthermore, a specific focus on middle-aged adults who might be especially prone to lockdown-related challenges due to work demands, childcare requirements, and elder-care responsibilities is warranted [11].

Materials And Methods

Study design

This study presents the baseline sleep-related data from a larger and ongoing longitudinal study titled "Health Outcomes for Adults during and following the Covid-19 PandEmic: The HOPE India Study", which was modelled after and includes members from "The HOPE Study" from Canada [8]. The primary focus of these two longitudinal studies, from India and Canada, was to study the impact of the COVID-19 pandemic on lifestyle-related health behaviors and the overall well-being of adults. The specific objectives of "The HOPE Study" from India are to examine the lifestyle-related health behaviors (movement, diet) and overall well-being (including physical, mental health, and sleep quality) of adults (30-59 years) residing in parts of India during and after the stringent social distancing mandate of the COVID-19 pandemic. The present study reports the analyses of the baseline data that were collected while India experienced its stringent social distancing mandates (defined as the closing of both schools and bars, where alcohol is served in a particular state or union territory; October 2020-April 2021).

Participants

Participants were recruited via a web-based survey. To be eligible for the study, participants needed to be: 1) residents of one of the three Indian states, one state each from north, central and south India, namely Madhya Pradesh, Kerala, or Delhi; 2) aged 30-59 years at baseline; 3) engaged in no international travel in the last two years; and 4) able to read and write in English, Malayalam, or Hindi.

Study duration and sample size

The present study was conducted between October 2020 and April 2021. The study included 694 participants. Since the goal was to include as many participants as possible, the sample size was not calculated at the outset for this sub-analysis, although this was done for the overarching India "HOPE Study". However, the sample size was calculated retrospectively, assuming an 18% prevalence of sleep disturbance, a relative precision of 20%, and a non-response rate of 10%, resulting in a minimum sample size requirement of 550, which confirms that the power of the study was adequate [12]. Post hoc power calculations provided further confirmation (power=99%).

Study questionnaire

Sociodemographic, behavioral, and other background variables: The socio-demographic data collected included age, gender, the current address of residence (state, district, urban or rural area), marital status, per capita income, education, occupation, and the type of family (nuclear or joint family). Information collected on behavioral factors included current tobacco, alcohol use, and daily screen time. Anthropometric information such as self-reported height and weight, and information on history of diagnosis of COVID-19 were also collected.

The monthly per capita income cut-off of 3931 INR (USD$49.19) was used to determine upper and lower socio-economic status which is based on BG Prasad's socioeconomic scale of May 2021 [13].

Study tools

(a) PHQ-9 AND GAD-2 (Depression and Anxiety Measurement Tools): Participants were screened for depression using the Patient Health Questionnaire 2 (PHQ 2) and anxiety using the Generalized Anxiety Disorder 2 (GAD 2) [14-15]. The PHQ-2 enquires about the frequency of depressed mood over the past two

weeks. The PHQ-2 includes the first two items of the PHQ-9. The PHQ-2 total score ranges from 0-6. A score of three or greater indicates major depressive disorder [14]. The GAD-2 is a brief and easy-to-perform initial screening tool for generalized anxiety disorder. A score of 3 points is the preferred cut-off for identifying possible cases in which further diagnostic evaluation for generalized anxiety disorder is warranted [15].

b) The Pittsburgh Sleep Quality Index (PSQI): The PSQI was utilized to assess sleep quality. PSQI is a self-rated instrument to assess sleep quality and screen for sleep disturbances over one month. There are 19 questions representing seven domains of sleep quality: sleep latency, sleep duration, subjective sleep quality, sleep efficiency, sleep disturbance, daytime dysfunction, and sleep medication use. The originators' scoring system recommended that the seven domains to be rated individually, then added together to produce a single "global" score with a potential range of 0 to 21 (zero indicating no difficulty with sleep and 21 indicating severe difficulties in all areas). A global score of more than 5 denotes a poor quality of sleep [16]. The PSQI tool has been validated for the Hindi and Malayalam-speaking population in India [16-17].

Data collection procedure

Survey forms were posted and shared on social media (e.g., Facebook, WhatsApp, Instagram, Twitter, and LinkedIn). The first page of the form included an informed consent page. Upon agreeing to participate in the study, interested participants were directed to the survey page. The above-noted tools (PHQ-2, GAD-2, and PSQI) were also incorporated into Microsoft survey forms to support their online completion. The links were first shared on social media platforms by the investigators to their primary contacts, who were requested to complete the survey, and share and disseminate the link as much as possible among their contacts (secondary contacts), thus maximizing the effect of snowball sampling. The data were collected using a self-reported questionnaire administered in English and local languages (Hindi for MP and Delhi; Malayalam for Kerala). The back translation of the questionnaire to English was done to ensure its linguistic validation in local languages (i.e., Hindi and Malayalam).

Ethical consideration

Ethical committee clearance was received vide Ref no.11/IEC/21/AIMS-08 from the Institutional Ethics Committee at Amala Institute of Medical Sciences, Thrissur, Kerala.

Statistical analysis

The data were analyzed using Excel 365 and SPSS version 24 (IBM Corp., Armonk, NY). Tableau Salesforce version 2021.4.3 (Tableau Software, Seattle, USA) was used to create the geo-mapping. Background information with categorical data were presented as frequencies and percentages. BMI was categorized according to the WHO standards (underweight <18.5, normal 18.5 - 24.99; overweight ⩾ 25 -29.99; and obese ⩾ 30).

Global PSQI scores were calculated per the tool's standard scoring guidelines and expressed as means and standard deviations. A pre-validated cut-off score of five or above five was used to indicate poorer sleep quality (sensitivity =89.6%, specificity =86.5%, kappa=0.75, p <0.001) [16,18]. A Chi-square test was used to determine the association between categorical variables. For regression analyses, those who received employment-related earnings were labelled "employed", while the rest were classified as "others", which included homemakers, students, retired from jobs, and pensioners. Univariable and multivariable logistic regression analyses were used to determine the predictors of poor sleep quality. Unadjusted and adjusted odds ratios were reported respectively. The variables which had p-value <0.25 in univariable analysis were included in the multivariable model. All tests were carried out with a 95% confidence interval and a significant p-value of ⩽0.05.

Results

The final sample consisted of 694 participants (374 females and 320 males). The mean (SD) age of the participants was 44 (9) years old, with an almost equal share of participants from across three strata of 10-year age groups (i.e., 30-39; 40-49; 50-59). Detailed background characteristics are mentioned in Table *1*.

Variables		n (%)
State	Madhya Pradesh	305(43.9)
	Delhi	46 (6.6)
	Kerala	343(49.5)
Residence	Rural	316(45.5)
	Urban	378(54.5)

Variables		n (%)
Gender	Male	320(46.1)
	Female	374(53.9)
State	Madhya Pradesh	305(43.9)
	Delhi	46 (6.6)
Age group (in years)	Kerala	343(49.5)
	50-59	236(34)
Residence	40-49	222(32)
	Rural	316(45.5)
Marital status	30-39	236(34)
	Urban	378(54.5)
Gender	Married	607(87.4)
	Others	87(12.6)
Occupation	Male	320(46.1)
Age group (in years)	Professional	241(34.7)
	Female	374(53.9)
Marital status	Semi-professional/clerk/shop owner farmer	120(17.3)
	50-59	236(34)
Education	Skilled	45(6.5)
Occupation	40-49	222(32)
	Unskilled	39(5.6)
Socio-Economic status*	30-39	236(34)
	Unemployed	249(35.9)
Family type	Married	607(87.4)
	Professional degree	241(35.7)
BMI Categories	Others	87(12.6)
	Graduate degree	215(30.9)
Socio-Economic status*	Professional	241(34.7)
	Intermediate/diploma	92(13.3)
Screen time	Semi-professional/clerk/shop owner farmer	120(17.3)
Family type	High school	69(9.9)
	Skilled	45(6.5)
Current tobacco use	Middle school	43(6.2)
	Unskilled	39(5.6)
BMI Categories	Primary school	26(3.7)
Current alcohol use	Unemployed	249(35.9)
	Illiterate	08(1.2)
History of diagnosis of COVID 19 (Positive test result)	Professional degree	241(35.7)
Screen time	Lower	250(39.2)
	Graduate degree	215(30.9)
Depression	Upper	388(60.8)
Current tobacco use	Intermediate/diploma	92(13.3)
	Joint family	266(38.3)
	High school	69(9.9)
	Nuclear family	428(61.7)
	Middle school	43(6.2)
	<18.5	26(3.7)
	Primary school	26(3.7)
	18.5-24.9	322(46.4)
	Illiterate	08(1.2)
	25-29.9	260(37.5)
	Lower	250(39.2)
	≥30	86(12.4)
	Upper	388(60.8)
	≥3 Hours	259(37.3)
	Joint family	266(38.3)
	<3 hours	435(62.7)
	Nuclear family	428(61.7)
	Yes	61(8.8)
	<18.5	26(3.7)
	No	633(91.2)
	18.5-24.9	322(46.4)
	No	86(87.6)
	25-29.9	260(37.5)
	Yes	608(12.4)
	≥30	86(12.4)
	Absent	644(92.8)
	≥3 Hours	259(37.3)
	Present	50(7.2)
	<3 hours	435(62.7)
	Screened negative	625(90.1)
	Yes	61(8.8)
	Screened positive	69(9.9)
	No	633(91.2)

Variables		n (%)
	Screened negative	614(88.5)
	Screened positive	80(11.5)
	Madhya Pradesh	305(43.9)
*N=638 because of missing data State	Delhi	46 (6.6)
	Kerala	343(49.5)
Residence	Rural	316(45.5)
	Urban	378(54.5)
Gender	Male	320(46.1)
	Female	374(53.9)
Age group (in years)	50-59	236(34)
	40-49	222(32)
	30-39	236(34)
Marital status	Married	607(87.4)
	Others	87(12.6)
Occupation	Professional	241(34.7)
	Semi-professional/clerk/shop owner farmer	120(17.3)
	Skilled	45(6.5)
	Unskilled	39(5.6)
	Unemployed	249(35.9)
Education	Professional degree	241(35.7)
	Graduate degree	215(30.9)
	Intermediate/diploma	92(13.3)
	High school	69(9.9)
	Middle school	43(6.2)
	Primary school	26(3.7)
	Illiterate	08(1.2)
Socio-Economic status*	Lower	250(39.2)
	Upper	388(60.8)
Family type	Joint family	266(38.3)
	Nuclear family	428(61.7)
BMI Categories	<18.5	26(3.7)
	18.5-24.9	322(46.4)
	25-29.9	260(37.5)
	≥30	86(12.4)
Screen time	≥3 Hours	259(37.3)
	<3 hours	435(62.7)
Current tobacco use	Yes	61(8.8)
	No	633(91.2)

TABLE 1: Background characteristics of the participants (N = 694)

Note: The monthly per capita income cut-off of 3931 INR (USD$49.19) was used to determine upper and lower socio-economic status which is based on BG Prasad socioeconomic scale of May 2021 [13].

Sleep quality domains: A total of 59 out of 694 (8.5%) of the participants reported poor subjective sleep quality. About a quarter of the study participants had a sleep latency of more than 30 minutes, with one-fourth of them having a latency of nearly an hour. Only 5% of the individuals consumed sleep medications, even though one-fifth of the participants had moderate to severely disrupted sleep (Table 2).

Domain	Total Responses	Category and Frequency
Subjective sleep quality	694	Very good = 315 Fairly good = 320 Fairly bad = 57 Very bad = 02
Sleep latency*	694	0 = 283 1-2 = 208 3-4 = 150 5-6 = 53
Sleep disturbances*	694	0 = 132 1-9 = 429 10-18 = 122 19-27 = 11
Use of sleep medication	694	Not during the past month = 552 Less than once a week = 136 Once or twice a week = 26 Thrice or more times a week = 10
Daytime dysfunction*	694	0 = 487 1-2 =167 3-4= 35 5-6 =5
Sleep duration	647	>7 hours =150 7-6 hours = 138 6-5 hours = 131 <5 hours= 228
Habitual sleep efficiency (%)	647	>85 = 358 75-84 = 77 65-74 = 35 <65 = 177
Global PSQI (Mean score=5.99±3.23, Range 0-17)	647	0-5 = 295 6-10 = 293 11-15 = 56 16-21 = 03

* These categories are cumulative of sub-scores as per PSQI calculation guidelines

TABLE 2: Frequencies for PSQI among participants residing in three states of India.

PSQI: Pittsburgh sleep quality index

Geolocation: A geospatial map depicting the gradient of PSQI scores among districts/divisions of three Indian states along with identified hotspot districts i.e. those with poor sleep quality (PSQI >6.5) is provided in Figure *1*. The cut-off of 6.5 was set arbitrarily depending on clinical severity and was decided by the investigators in the absence of any previously published literature on such a cut-off. Each district is represented in the map as a cluster, and the spatial clustering of average PSQI scores is mapped at the district level. Only those districts with at least five participants were included in this analysis for meaningful results to be arrived at. Cluster PSQI values ranged from 4.5 to 11.2 on average. Delhi State had the highest average score (8.2), followed by Madhya Pradesh (6.4), while Kerala had the lowest score (5.2). Six districts in Madhya Pradesh (viz. Bhopal, Raisen, Hoshangabad, Chhindwara, Vidisha, and Rewa), two in Delhi (North West and East Districts), and none in Kerala were identified as hotspot districts.

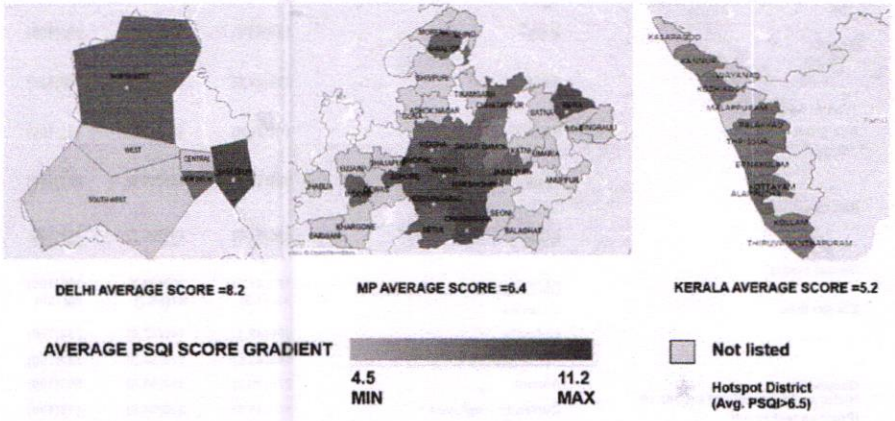


FIGURE 1: Geospatial map depicting the gradient of PSQI score among districts/divisions of three Indian states

Geospatial map depicting the gradient of PSQI: Pittsburgh sleep quality index (PSQI) score among districts/divisions of three Indian states along with identified hotspot districts with poor sleep quality (PSQI >6.5).

Figures show three Indian states with average PSQI grading ranging from 4.5 to 11.2. Hot spot districts (Average PSQI >6.5) are marked with a yellow star. Not listed are the districts with fewer than 5 participants.

Predictors of sleep quality: Univariable logistic regression showed that participants who belonged to Delhi and Madhya Pradesh (as against Kerala), resided in an urban area, were younger (30-39 years), belonged to the upper socioeconomic class, and screened positive for anxiety and depression had higher odds of having disturbed sleep (PSQI Score >5) as compared to their counterparts (Table *5*).

Variable	Categories	PSQI score ≤5	PSQI score>5	Total	Odds ratio	Confidence interval	P value
	Kerala	175(59.1)	121(40.9)	296(100)	Reference		
State	Delhi	16(34.8)	30(64.2)	46(100)	1.099	0.568- 2.126	0.780
	Madhya Pradesh	104(34.1)	201(65.9)	305(100)	2.406	0.257-0.498	0.002*
Residence	Rural	141(51.1)	135(48.9)	276(100)	Reference		
	Urban	154(41.5)	217(58.5)	371(100)	1.472	1.076-2.014	0.016*
Gender	Female	160(46.3)	186(53.7)	346(100)	Reference		
	Male	135(44.9)	166(55.1)	301(100)	1.106	0.776-1.443	0.723
	50-59	101(48.6)	107(51.4)	208(100)	Reference		
Age group (in years)	40-49	106(50.5)	104(49.5)	210(100)	0.926	0.631- 1.359	0.695
	30-39	88(38.4)	141(61.6)	229(100)	1.512	1.034-2.213	0.033*

Variable	Categories	PSQI score ≤5	PSQI score>5	Total	Reference Odds ratio	Confidence interval	P value
Marital status	Married	261(46.1)	305(53.9)	566(100)	Reference		
	Unmarried/Widow/Separated or divorced	33(41.3)	47(58.7)	80(100)	1.219	0.758-1.959	0.414
State	Kerala	175(59.1)	121(40.9)	296(100)	Reference		
	Delhi	16(34.8)	30(64.2)	46(100)	1.099	0.568- 2.126	0.780
	Madhya Pradesh	104(34.1)	201(65.9)	305(100)	2.406	0.257-0.498	0.002*
Occupation	Not employed currently	106(45.6)	126(54.3)	232(100)	Reference		
	Currently employed	189(45.5)	226(54.5)	415(100)	1.006	0.729-1.389	0.971
Residence	Rural	[illegible]	[illegible]	[illegible]	Reference		
	Urban	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Education	Till higher secondary (12 years of schooling)	102(47.7)	112(52.3)	214(100)	Reference		
	Graduate & above	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Gender	Female	[illegible]	[illegible]	[illegible]	Reference		
	Male	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Socio-economic status	Lower	[illegible]	[illegible]	[illegible]	Reference		
	Upper	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Age group (in years)	50-59	[illegible]	[illegible]	[illegible]	Reference		
	40-49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	30-39	[illegible]	[illegible]	[illegible]	[illegible]	1.034-2.213	0.033*
Type of Family	Joint family	[illegible]	[illegible]	[illegible]	Reference		
	Nuclear family	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
BMI Category	<24.9	[illegible]	[illegible]	[illegible]	Reference		
	≥25	144(43.8)	185(56.2)	329(100)	1.162	0.852-1.583	0.343
Screen time	<3 hours	189(47.8)	206(52.2)	395(100)	Reference		
	≥3 hours	106(42.1	146(57.9)	252(100)	1.264	0.919-1.738	0.150
History of diagnosis of COVID 19 (Positive test result)	Absent	276(46.2)	332(53.8)	598(100)	Reference		
	Present	19(38.8)	30(61.2)	49(100)	1.353	-0.294-0.899	0.320
Current tobacco use	No	274(46.7)	313(53.3)	587(100)	Reference		
	Yes	21(35)	39(65)	60(100)	1.626	0.934-2.831	0.086
Current alcohol use	No	[illegible]	[illegible]	[illegible]	Reference		
	Yes	36 (44.4)	45(55.6)	81(100)	1.055	0.660-1.685	0.824
Depression	Screened negative	273(47.1)	307(52.9)	580(100)	Reference		
	Screened positive	22(32.8)	45(67.2)	67(100)	[illegible]	1.063-3.107	0.028*
Anxiety	Screened negative	[illegible]	[illegible]	570(100)	Reference		
	Screened positive	20(26)	57(74)	77(100)	2.657	1.556-4.537	<0.001*

TABLE 3: Socio-demographic, clinical, and contextual factors predicting the poor quality of sleep among the participants

*Statistically significant = P<0.05. The results of the univariable logistic regression analysis are shown here.

PSQI: Pittsburgh sleep quality index

In multivariable logistic regression analysis, the adjusted odds ratio remained significant for the state variable and the presence of anxiety, suggesting these two factors as independent predictors for poor sleep (Table 4). Participants from Delhi had a 33% (aOR=0.67, CI=0.32-2.37) lower likelihood of having disrupted sleep than those from Madhya Pradesh, while participants from Kerala had a 62 percent (adjusted odds ratio (aOR)=0.38, CI=0.25-0.53, P=0.000*) lower chance of having disturbed sleep than those from Madhya Pradesh. When compared to individuals who screened negative for anxiety, those who screened positive had a 2.4 times higher chance of experiencing disrupted sleep (aOR=2.4, CI=1.29-4.48, P=0.006*) (Table 4).

Variable	Categories	Adjusted Odds ratio	Confidence interval	P value
State	Madhya Pradesh	Reference		
	Delhi	0.672	0.329- 1.374	0.276
	Kerala	0.377	0.253-0.561	<0.001*
Residence	Rural	Reference		
	Urban	1.007	0.681-1.487	0.973
Age group (in years)	50-59	Reference		
	40-49	0.908	0.593-1.391	0.657
	30-39	1.264	0.829-1.926	0.267
Socio-economic status	Lower	Reference		
	Upper	1.311	0.916-1.878	0.139
Screen time	<3hours	Reference		
	≥3 hours	1.312	0.907-1.896	0.149
Current Tobacco use	No	Reference		
	Yes	1.247	0.674-2.309	0.482
Depression	Screened negative	Reference		
	Screened positive	1.139	0.600-2.163	0.691
Anxiety	Screened negative	Reference		
	Screened positive	2.400	1.285-4.484	0.006*

TABLE 4: Socio-demographic, clinical, and contextual factors predicting the poor quality of sleep among the participants

The results of multivariable logistic regression analysis are shown here.

*Significance =P<0.05

Discussion

The purpose of this study was to document sleep quality and assess its sociodemographic, behavioral (i.e., tobacco use, alcohol use, and screen time), and mental-health-related indicators (i.e., anxiety and depression) in adults aged 30-59 years across three states of India, and to geo-locate state and district-level findings of sleep quality during the ongoing pandemic (October 2020 to April 2021). Participants' mean global PSQI score was greater than five, indicating poor sleep quality. People residing in Madhya Pradesh were found to be the most affected with respect to sleep quality and disturbances. Anxiety was found to be an important independent predictor of poor sleep quality.

In India, community-based research on sleep disruptions has revealed a significant hidden burden of the condition [12,18]. The ongoing pandemic, as well as its impact on lifestyle, has not only brought these difficulties to light but has also exacerbated the problem. This was evident from a survey conducted in India before the pandemic, where disrupted sleep was shown to be prevalent in only 18% of the population [12]. An Indian study among adults during the COVID-19 pandemic reported high PSQI scores, with 57.2% of the respondents having poor sleep quality [10]. Similar findings were reported during the early phase of COVID on sleep quality in an article from the HOPE Canada project, with over two-thirds of individuals identified as having poor sleep quality [8]. A systematic review on sleep problems during the COVID-19 pandemic combined six studies from the general population (n=4722) and reported the pooled prevalence of disturbed sleep (using PSQI) to be 37.9% with an average PSQI score of 6 [19]. In the present study, more than half of

the respondents reported sleeping for less than 6 hours a day. This is well below the recommended 7-8 hours of sleep for an adult [7]. Findings from the current study are about one hour less than what was reported by another Indian study during the pandemic, where participants' self-reported mean sleep, at 6.9 hours, was nearly reaching the lower end of sleep duration guidelines [10].

Normal documented adult sleep efficiency is 85-90% [20].In the present study, about 33% of participants had a sleep efficiency of less than 75%, which is considered poor sleep efficiency and indicative of insomnia [20]. We also found that around 29% of the study participants had a sleep latency of more than 30 minutes, which is well above the normal adult sleep latency of 10-20 minutes [21]. Sleep latency of more than 20 minutes falls under the category of insomnia. In a large (n=72,262) pre-pandemic study conducted in India, Pengpid et al. (2021) [22] found the prevalence of insomnia to be 12.7% among adults. Certainly, the problem has increased during the pandemic. This high prevalence of insomnia during the pandemic, now referred to by some researchers as COVID-somnia, can be attributed to fear of dying from the disease and/or the result of drastic lifestyle adjustments due to the pandemic [23].

Compared to residents of Madhya Pradesh, Delhi, and Kerala residents experienced 33% and 62% lower chances of sleep disturbance respectively, and the results for Kerala were statistically significant. The maximum number of hotspot districts with severe sleep disturbances were from Madhya Pradesh. The probable explanation is that during this period, Kerala recorded one of the least case fatality rates in the country, well below the national average of 1.2% [24], whereas, case fatality rates of Madhya Pradesh (1.3%) and Delhi (1.4%) were above the national average [25]. These findings might be linked to the high fear of dying in the two states compared to Kerala. To potentiate this hypothesis, we also found that the proportion of anxiety and depression was also lowest in Kerala compared to the overall prevalence of 11.5% and 10.5%, respectively. Additionally, Kerala has a better overall health service than other included states, therefore, improved health care may possibly be a likely factor [26].

It has been known that depression and anxiety can lead to sleep disorders [27]. Also, the implications of the COVID-19 pandemic on mental health are well documented [28]. The current study also showed that people who screened positive for depression and anxiety had a higher likelihood of having sleep problems. After adjustment for other variables anxiety emerged as a significant predictor of poor sleep quality. Studies conducted in India and abroad also corroborated these findings [9,12,20].

In the present study, sleep disturbances were more prominent among those who were single, separated/widowed/widower/divorced, compared to those who were married, though not statistically significant. The probable reason for this finding could be the spousal emotional support to handle the anxiety, fear of dying, and coping with the loss [29]. In the present study, those with a BMI of more than 25 had a slightly higher prevalence of disturbed sleep compared to those with a BMI of less than 25, but this was not statistically significant. Studies in the past have linked disturbed sleep to higher BMI, being overweight, or being obese [22].

In the present study, although not statistically significant, those who had suffered from COVID-19 (tested positive) had a higher prevalence of disturbed sleep compared to those without a history of being tested COVID-positive. Similar findings were reported by Jahrami et al. 2021 [30]. This might be attributed to the direct pathological effect of COVID-19 and the psychological impact of the disease [30].

Limitations

Because it was a self-reported online survey, people without access to electronic devices or internet access may have been missed, which is a limitation of most online surveys. Furthermore, the coverage may have been limited because the link to the questionnaire was shared mainly through the primary and secondary contacts of investigators belonging to India. Also, the impact of job and financial losses on sleep quality during the studied stage of the pandemic was not thoroughly investigated. Since this was a cross-sectional analysis, reverse causality cannot be ruled out.

Conclusions

Sleep quality was poor among Indian adults during the COVID-19 epidemic (October 2020-April 2021), as evidenced by the global PSQI scores, and the fact that more than half of the participants had poor sleep quality. Anxiety emerged as an important predictor of poor-quality sleep. In terms of sleep disruptions, those belonging to Madhya Pradesh were the most affected, followed by those from Kerala and Delhi, highlighting the existence of state-level differences within the country.

Additional Information

Disclosures

Human subjects: Consent was obtained or waived by all participants in this study. Institutional Ethics Committee, Amala Institute of Medical Sciences issued approval vide Ref no.11/IEC/21/AIMS-08. Ethical committee clearance was received vide Ref no.11/IEC/21/AIMS-08 from the Institutional Ethics Committee

at Amala Institute of Medical Sciences, Thrissur, Kerala. **Animal subjects:** All authors have confirmed that this study did not involve animal subjects or tissue. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

Acknowledgements

We would like to acknowledge Albrit Johnson and Shaji E from Amala College of Nursing, as well as Neha John from the Department of Emergency Medicine at Amala Institute of Medical Sciences in Thrissur, Kerala, for their contributions during the conduct of the study.

References

1. WHO Coronavirus (COVID-19) Dashboard | WHO Coronavirus (COVID-19) Dashboard With Vaccination Data. (2023). Accessed: April 26, 2023: https://covid19.who.int/..
2. Nicola M, Alsafi Z, Sohrabi C, et al.: The socio-economic implications of the coronavirus pandemic (COVID-19): A review. Int J Surg. 2020, 78:185-93. 10.1016/j.ijsu.2020.04.018
3. Coronavirus in India: Modi Orders Total Lockdown of 21 Days - The New York Times . (2020). Accessed: March 17, 2023: https://www.nytimes.com/2020/03/24/world/asia/india-coronavirus-lockdown.html.
4. Wang C, Tee M, Roy AE, et al.: The impact of COVID-19 pandemic on physical and mental health of Asians: a study of seven middle-income countries in Asia. PLoS One. 2021, 16:e0246824. 10.1371/journal.pone.0246824
5. Kalmbach DA, Anderson JR, Drake CL: The impact of stress on sleep: pathogenic sleep reactivity as a vulnerability to insomnia and circadian disorders. J Sleep Res. 2018, 27:e12710. 10.1111/jsr.12710
6. Pakpour AH, Griffiths MD, Ohayon MM, Broström A, Lin CY: A good sleep: the role of factors in psychosocial health. Front Neurosci. 2020, 14:520. 10.3389/fnins.2020.00520
7. Hirshkowitz M, Whiton K, Albert SM, et al.: National Sleep Foundation's sleep time duration recommendations: methodology and results summary. Sleep Health. 2015, 1:40-3. 10.1016/j.sleh.2014.12.010
8. Shillington KJ, Vanderloo LM, Burke SM, Ng V, Tucker P, Irwin JD: Not so sweet dreams: adults' quantity, quality, and disruptions of sleep during the initial stages of the COVID-19 pandemic. Sleep Med. 2022, 91:189-95. 10.1016/j.sleep.2021.02.028
9. Franceschini C, Musetti A, Zenesini C, et al.: Poor sleep quality and its consequences on mental health during the COVID-19 lockdown in Italy. Front Psychol. 2020, 11:574475. 10.3389/fpsyg.2020.574475
10. Banthiya S, Sharma S, Jahagirdar D, Jahagirdar V, Garg M, Sahadev HK: Sleep quality in the Indian adult population during the COVID-19 pandemic. Cureus. 2021, 13:e17535. 10.7759/cureus.17535
11. Scheibe S, De Bloom J, Modderman T: Resilience during crisis and the role of age: involuntary telework during the COVID-19 pandemic. Int J Environ Res Public Health. 2022, 19: 10.3390/ijerph19031762
12. Panda S, Taly AB, Sinha S, Gururaj G, Girish N, Nagaraja D: Sleep-related disorders among a healthy population in South India. Neurol India. 2012, 60:68-74. 10.4103/0028-3886.93601
13. Majhi MM, Bhatnagar N: Updated B.G Prasad's classification for the year 2021: consideration for new base year 2016. J Family Med Prim Care. 2021, 10:4318-9. 10.4103/jfmpc.jfmpc_987_21
14. Kroenke K, Spitzer RL, Williams JB: The Patient Health Questionnaire-2: validity of a two-item depression screener. Med Care. 2003, 41:1284-92. 10.1097/01.MLR.0000093487.78664.3C
15. Kroenke K, Spitzer RL, Williams JB, Monahan PO, Löwe B: Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. Ann Intern Med. 2007, 146:317-25. 10.7326/0003-4819-146-5-200703060-00004
16. Buysse DJ, Reynolds CF, Monk TH, Berman SR, Kupfer DJ: The Pittsburgh Sleep Quality Index: a new instrument for psychiatric practice and research. Psychiatry Res. 1989, 28:193-213. 10.1016/0165-1781(89)90047-4
17. Kumar A, Handa R, Upadhyaya SK, Gupta SJ: Validation of Hindi version of the Pittsburg Sleep Quality Index. J Assoc Physicians India. 2021, 69:11-2.
18. Sen MK, Adhikari T, Suri JC: Epidemiology of sleep disorders in the adult population of Delhi: a questionnaire based study. Indian J Sleep Med. 2008, 3:128-37. 10.5005/IJSM-3-4-128
19. Jahrami H, BaHammam AS, Bragazzi NL, Saif Z, Faris M, Vitiello MV: Sleep problems during the COVID-19 pandemic by population: a systematic review and meta-analysis. J Clin Sleep Med. 2021, 17:299-313. 10.5664/jcsm.8930
20. Schutte-Rodin SL, Broch L, Buysse D, Dorsey C, Sateia M: Clinical guideline for the evaluation and management of chronic insomnia in adults. J Clin Sleep Med. 2008, 4:487. 10.5664/jcsm.27286
21. Insomnia and Excessive Daytime Sleepiness (EDS). (2022). Accessed: March 22, 2023: https://www.msdmanuals.com/en-in/professional/neurologic-disorders/sleep-and-wakefulness-disorders/insomnia-and-exces....
22. Pengpid S, Peltzer K: Prevalence and correlates of insomnia symptoms among older adults in India: results of a national survey in 2017-2018. Archives of Mental Health. 2021, 22:139. 10.4103/AMH.AMH_19_21
23. Gupta R, Pandi-Perumal SR: COVID-somnia: how the pandemic affects sleep/wake regulation and how to deal with it?. Sleep Vigil. 2020, 4:51-3. 10.1007/s41782-020-00118-0
24. PIB'S BULLETIN ON COVID-19. (2022). Accessed: March 22, 2023: https://pib.gov.in/PressReleasePage.aspx?PRID=1871619.
25. GitHub - CSSEGISandData/COVID-19. (2023). Accessed: March 22:

https://github.com/CSSEGISandData/COVID-19.

26. Nabae K: The health care system in Kerala - its past accomplishments . J. Natl. Inst. Public Health. 2003, 52:140-4.
27. Staner L: Sleep and anxiety disorders. Dialogues Clin Neurosci. 2003, 5:249-58. 10.31887/DCNS.2003.5.3/lstaner
28. Javed B, Sarwer A, Soto EB, Mashwani ZU: The coronavirus (COVID-19) pandemic's impact on mental health . Int J Health Plann Manage. 2020, 35:993-6. 10.1002/hpm.3008
29. Mental Health and Coping during the Coronavirus (COVID-19) Pandemic . (2022). Accessed: March 22, 2023: https://www.hhs.gov/coronavirus/mental-health-and-coping/index.html.
30. Jahrami H, BaHammam AS, AlGahtani H, et al.: The examination of sleep quality for frontline healthcare workers during the outbreak of COVID-19. Sleep Breath. 2021, 25:503-11. 10.1007/s11325-020-02135-9

Prof. Dr. RAJEE REGHUNATH
PRINCIPAL
AMALA COLLEGE OF NURSING
AMALA NAGAR P.O., THRISSUR-680 555

Journal of Medical Surgical Nursing Practice and Research

www.matjournals.com

(10) July-'22

e-ISSN: 2582-1512
Volume-4, Issue-2 (July-December, 2022)

RESEARCH ARTICLE

A Study to Assess the Effectiveness of Interventional Program Regarding Covid 19 Among Adults in Selected Districts of Kerala

Rinu David, Shaly Joseph Pullan
Assistant professor Amala college of Nursing, Thrissur, Kerala, India

Corresponding Author: rinu.david45@gmail.com

ABSTRACT

The COVID-19 is a continuing global pandemic of corona virus disease 2019 (COVID-19) originated by severe acute respiratory syndrome corona virus 1. Objectives: To assess knowledge regarding the preventive strategies of COVID 19, To determine the effectiveness of interventional programme, to find out association between level of knowledge with selected demographic variables. The research approach takes on for this study is quantitative. A descriptive survey research design is used. Purposive sampling techniques were warned for this study. Sample size is 200. During protest about 43% were presented with good knowledge, which was increased up to 85% during post-test by implications of interventional programmes. During pretest, significant association was found between level of knowledge and the selected variable. During posttest significant association was found between level of knowledge and selected variables like age, religion, area of residence, presence of diseases / vaccination.

Keywords-- COVID 19, Interventional programmes

INTRODUCTION

The COVID-19 is an infectious disease, country reported huge number of morbidity and mortality related to this pandemic [1]. Some of the primary symptoms of this infections are fever, breathlessness, headache and dizziness. Several respiratory complications like pneumonia were aroused [2]. The virus was initially recognised in Wuhan, China. The first case of the COVID - 19 spotted in Thrissur district of Kerala [3]. Assessing knowledge of community is significant in detecting gaps and strengthening preventive measures. Considering the relevance of these above factors, this study is aimed to evaluate knowledge regarding COVID 19 pandemic and teaching preventive strategies to overcome complications of COVID 19 among adults [4, 5].

Objectives

1. To assess the knowledge regarding the preventive strategies of COVID 19.
2. To determine the effectiveness of interventional programme.
3. To find out association between level of knowledge with selected demographic variables.

The research approach

The research approach adopted for this study is quantitative research approach.

Research design

A descriptive survey research design

AMALA COLLEGE OF NURSING, AMALA NAGAR, THRISSUR

Prof. Dr. RAJEE REGHUNATH
PRINCIPAL
AMALA COLLEGE OF NURSING
AMALA NAGAR P.O., THRISSUR-680 555

e-ISSN: 2582-1512
Volume-4, Issue-2 (July-December, 2022)

is used to carry out to assess the knowledge regarding preventive strategies of COVID 19 among adults above 40 years with co morbidities.

Setting

Setting is the specific places where the information is gathered. This study was conducted through an online survey using a structured questionnaire among adults above 40 years with co morbidities.

Population

Population is a set of people or entities to which the result of a research is to be generalized. The population of this study consists of adults above 40 years.

Sample size & Sampling techniques

Purposive sampling techniques are used for this study. Sample size is 200.
The study conducted in 200 individuals through online platform.

Research Tools

Tool 1: A Structured questionnaire to assess demographic variables.
Tool 2: Questionnaire to assess the knowledge regarding preventive strategies of COVID 19 pandemic.
Interventional programme: Informative video on the use of sanitizer, mask, social distancing (SMS), hand hygiene, diet, sleep and rest, complications.

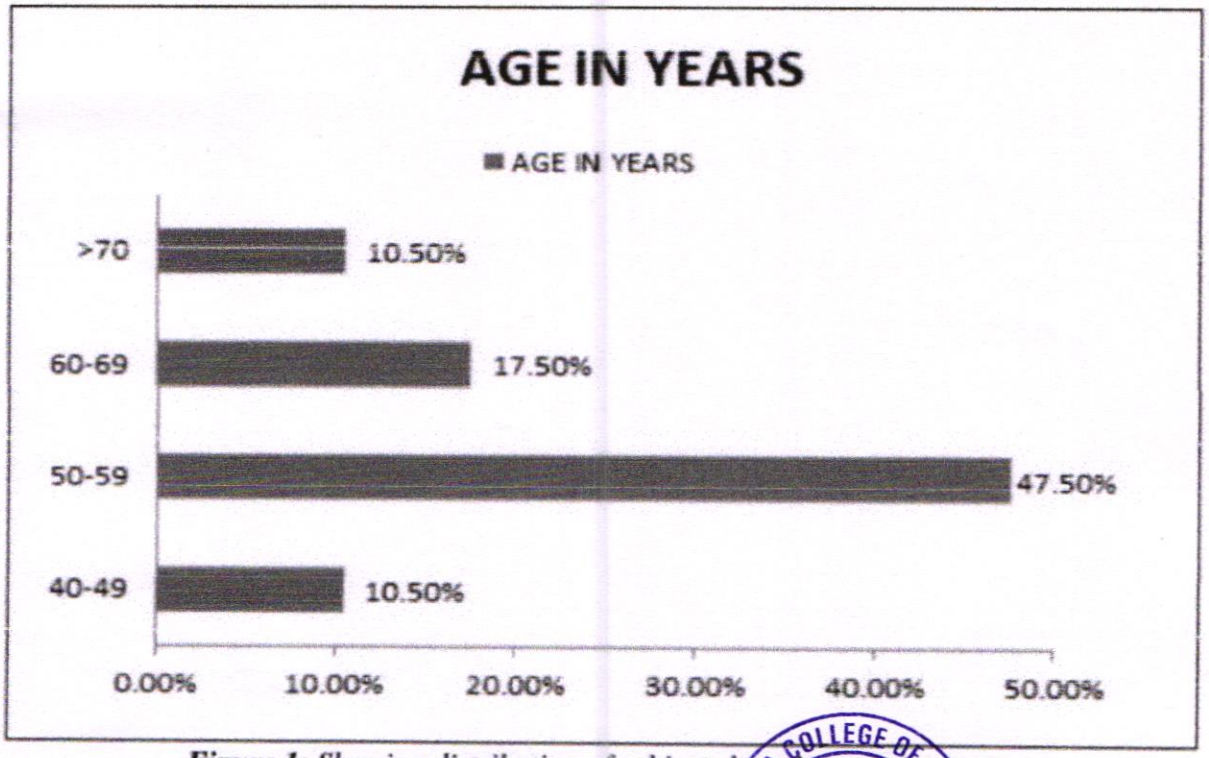


Figure 1: *Showing distribution of subjects based on age in years*

e-ISSN: 2582-1512
Volume-4, Issue-2 (July-December, 2022)

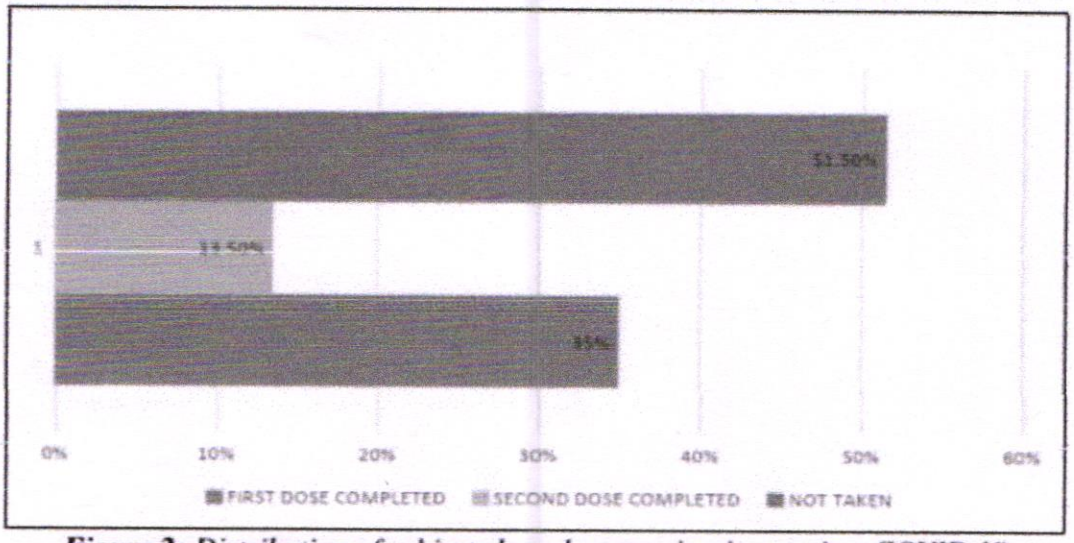


Figure 2: *Distribution of subjects based on vaccination against COVID 19*

Regarding the level of knowledge about COVID 19

Table 1: *Pretest Score*

Pre-Test Knowledge	Frequency	Percentage(%)
Good	86	43
Average	72	36
Poor	42	21

Table 2: *Post test score*

Post-test knowledge	Frequency	Percentage(%)
Good	170	85
Average	19	9.5
Poor	11	5.5

Effectiveness of interventional program

- During pretest about 43% were presented with good knowledge, which was increased up to 85% during post test.

Association between level of knowledge and selected variables

- During pretest, significant association was found between level of knowledge and the selected variable, presence of disease
- During post test significant association was found between level of knowledge and selected factors like age, religion, area of residence, presence of diseases / vaccination

CONCLUSION

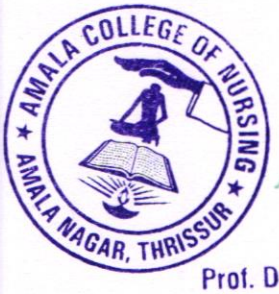
This study aimed to assess the effectiveness of interventional programme regarding COVID 19 among adults. Results shows that during pretest about 43% were

e-ISSN: 2582-1512
Volume-4, Issue-2 (July-December, 2022)

presented with good knowledge, which was increased up to 85% during posttest by implications of interventional programmes. During pretest, significant association was found between level of knowledge and the selected variable, presence of disease. During post test significant association was found between level of knowledge and selected variables like age, religion, area of residence, presence of diseases and vaccination. The study assessed the knowledge regarding preventive strategies of COVID-19 among adults and identified the need of physiological interventions to be taken in community settings.

REFERENCES

1. Sharma, S. (2018). *Nursing research and statistics*. Elsevier Health Sciences.
2. Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry research, 287*, 112934, DOI: https://doi.org/10.1016/j.psychres.2020.112934
3. Haider, I. I., Tiwana, F., & Tahir, S. M. (2020). Impact of the COVID-19 pandemic on adult mental health. *Pakistan Journal of Medical Sciences, 36*(COVID19-S4), S90.
4. Sharma S. K nursing and statistics 2nd edition, Elsevier publication. page no: 138,206,246
5. Sharma. S nursing research and statistics, Elsevier publication, Health Science;2014September.



Prof. Dr. RAJEE REGHUNATH
PRINCIPAL
AMALA COLLEGE OF NURSING
AMALA NAGAR P.O., THRISSUR-680 555

MEDICON MEDICAL SCIENCES
Volume 3 Issue 6 December 2022
Mini-Review

Nursing Implication for an Emerging Disease - Whatsappitis

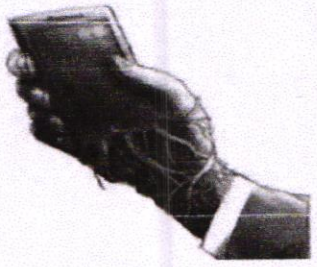
Rinu David*

Assistant Professor, Community Health Nursing Department, Amala College of Nursing, Thrissur, Kerala, India

*Corresponding Author: Rinu David, Assistant Professor, Community Health Nursing Department, Amala College of Nursing, Thrissur, Kerala, India

Received: November 28, 2022; **Published:** December 02, 2022

DOI: 10.55162/MCMS.03.086



"Do anything to excess and you'll end up hurting something"

Abstract

WhatsAppitis, a condition caused by the excessive use of the popular instant messaging app, whatsappitis. It defines inflammation of the fluid-filled sheath that surrounds a tendon. Symptoms of tenosynovitis include pain, swelling and difficulty moving the particular joint where the inflammation occurs. Major clinical features are Pain at the radial side of the wrist, Spasms, Tenderness, occasional burning sensation in the hand, Swelling over the thumb side of the wrist, Difficulty gripping with the affected side of the hand, neck pain etc. Nursing fraternity must be made aware of the disease and nursing care that should be provided for the similar cases.

Keywords: whatsappitis

Nursing fraternity should be aware of the disease and with the help of nursing process, will really help to get rid of the issues related to whatsappitis.

Nursing Diagnosis

Acute pain at the radial side of the wrist, neck related to inflammation associated with increased disease activity as evidenced by guarding on motion of affected joints.

Expected outcome: Client is able to participate in self care activities.

Citation: Rinu David. "Nursing Implication for an Emerging Disease - Whatsappitis". Medicon Medical Sciences 3.6 (2022): 27-29.

Intervention:

- Assess pain characteristics (quality, severity).
- Assess the signs of joint inflammation (redness, warmth, swelling, decreased motion).
- Evaluate location and description of pain.
- Use ergonomically fit measures like good posture, ergonomically fit furnitures.
- Restrict in usage of gadget helps to decrease strain.
- Instruct patient to take anti-inflammatory medication as prescribed.
- Encourage use of alternative methods of pain control such as relaxation, guided imagery.

Evaluation: Client verbalized decreased pain.

Nursing Diagnosis

Impaired physical mobility realted to activity limitation due to pain as evidenced by reluctance to attempt movement limited ROM.

Expected Outcome: Clent achieves optimal level of mobility.

Intervention:

- Assess the activity tolerance.
- Reinforce and teach stretching exercises of elbow, neck, shoulder and wrist.
- Instruct to use ergonomically fit measures.
- Coordinate physiotherapy services.

Evaluation: Client able to perform physical activity within normal limits.

Nursing Diagnosis

Impaired skin integrity related to poor circulation of the affected area as evidenced by sore wrist, swelling over the thumb side of the wrist.

Expected Outcome: Patient experience decrease in inflammation.

Intervention:

- Assess the inflamed skin.
- Assess the ability to move the area.
- Assess for history of preexisting diseases (DM, AIDS, CVD).
- Apply thumb spica (splint) to immobilize the wrist and thumb.
- Apply topic vasodilator.
- Complete abstinence from using the phone to send message.

Evaluation: Client experiences decrease in the inflammation at affected area.

Nursing Diagnosis

Risk for ineffective tissue perfusion related inflammatory process and edema.

Expected Outcome: Patient maintains adequate tissue perfusion as evidenced by absence of pain and numbness.

Intervention:

- Assess and compare neurovascular status(skin colour, edema, pain, ROM).
- Assess the affected extremity.
- Apply topic vasodilator.
- use splint to the affected area.

Nursing Diagnosis

Deficient knowledge related new disease as evidenced by verbalized lack of knowledge.

Expected Outcome: patient verbalizes understanding of the disease and treatment.

Intervention:

- Assess the clients level of knowledge about disease condition and its management.
- Introduce or reinforce disease process information.
- Discuss about signs and symptom of disease condition.
- Inform about stretching exercises and follow up.
- Encourage ergonomically fit measures to prevent disease.

Evaluation: Client verbalized understanding about disease condition and its management.

References

1. Gulanick Myers. "Nursing care plans". 6th edition, Elsevier publications.
2. Johnson Yeboah and George Dominic Ewur. "The Impact of Whatsapp Messenger Usage on Students Performance in Tertiary Institutions in Ghana". Journal of Education and Practice 5.6 (2014): 157-164.
3. Puneetsikka. Why are messaging apps becoming important for Internet companies http://marketrealist.com (2014).
4. Statt Nick. "WhatsApp has grown to 1 billion users". The Verge. Vox Media (2016).
5. Inés M Fernandez-Guerrero. "WhatsAppitis", The Lancet 383.9922 (2014): 1040.
6. Ramya Kannan. "Whatsapp? Whatsappitis". The Hindu (News paper) (2014).
7. Ilyas A., et al. "De quervain tenosynovitis of the wrist". J Am AcadOrthop Surg 15.12 (2007): 757-64.

Volume 3 Issue 6 December 2022

AMALA COLLEGE OF NURSING
AMALA NAGAR, THRISSUR

Prof. Dr. RAJEE REGHUNATH
PRINCIPAL
AMALA COLLEGE OF NURSING
AMALA NAGAR P.O., THRISSUR-680 555

RESEARCH ARTICLE

A Study to Assess the Knowledge and Attitude Regarding Family Planning Among Married Women in Selected Communities with View to Prepare Video Assisted Teaching

Shaly Joseph Pullan
Assistant Professor, Amala College of Nursing, Thrissur, Kerala, India

Corresponding Author: shalyjosephpullan@gmail.com

ABSTRACT

Family planning is the practice of control the number of children, and one has in a particular interval between their birth, to promote the maternal health especially by means of temporary or permanent method of sterilization. Objectives 1. Assess the knowledge regarding family planning methods among married women 2. Assess the attitude regarding family planning methods among married women. Find the association between knowledge and selected demographic variables. quantitative research approach was used this study. A descriptive design was adopted for the study. The study was conducted in selected communities Kerala. Convenience sampling technique is used for this study. A sample of 500 married females in the age group of 20-36 yrs. residing within in Kerala. 44% has poor knowledge, 42% has average knowledge, 10% has good knowledge and only 4% has excellent knowledge regarding family planning methods.

Keywords-- Family planning methods, Knowledge, Attitude, Married women, Video assisted teaching

INTRODUCTION

Family planning is to improve maternal health, prevent unwanted pregnancy, help partners to attain their desired spacing and family size, protection from reproductive tract infections and to enhance baby's health. The common methods used in family planning includes condoms, intrauterine devices, Hormonal contraceptives, implants, vaginal rings, female sterilization [1]. Even though most methods of birth control are highly effective when used correctly, there is always a chance that the methods may fail. The most common side effects of contraception are irregular menstrual bleeding, acne, headache, weight gain and ovarian cyst [2].

NEED AND SIGNIFICANCE

Family planning can have a positive impact on population growth, maternal mortality and infant mortality rate. The high occurrence of unwanted pregnancies and sexually transmitted diseases can be prevented through contraceptive use [3]. The use of family planning services has increased in many countries of the world. According to WHO, although a definite increase there are still over 200 million women worldwide who would like to keep way pregnancy, but another group are not using an effective method of birth control measures due to lack of supplies, cultural, political blockade and poor quality of services. India is the heavily populated country of the world, the government of India launched a family welfare programme

in 1952 to speed up the economic and social development by bring down the population rate [4]. But this program has met with only marginal success. This is because people of India have different levels of awareness and acceptance of methods of family planning [5]. The aim of this study to boost the knowledge of people, which helps them for a responsible parenting and adaptation of family planning practices, best suited to the adopter. The society may also benefit from this study because the study will help people in larger society to appreciate the roles of family planning in birth and population control [6].

Objectives

1. To assess the knowledge regarding family planning methods among married women
2. To assess the attitude regarding family planning methods among married women
3. Find the association between knowledge and selected demographic variable

Research Approach.

In this study quantitative approach was used

Research Design

A descriptive design was used for the study

Research setting

The study was conducted in selected communities Kerala.

Population

population in this study is married females between the age group of 20-36yrs

Sampling technique

Convenience sampling technique is used for selecting the samples for the study.

Sample size

A sample of 500 married females between the age group of 20-36 years residing in Kerala

Description of the tool

The structured interview schedule consisted of two sections:

Section 1 To assess the social demographic variables

Section 2 Structured questionnaire to assess the knowledge and attitude regarding family planning.

DISCUSSION

Table 1: *Distribution of subjects selected according to age groups (N = 500)*

S. No.	Age in years	Frequency	Percentage
1	20 – 24 years	135	27%
2	25 – 28 years	154	30.8%
3	29 – 32 years	94	18.8%
4	33 – 36 years	117	23.4%

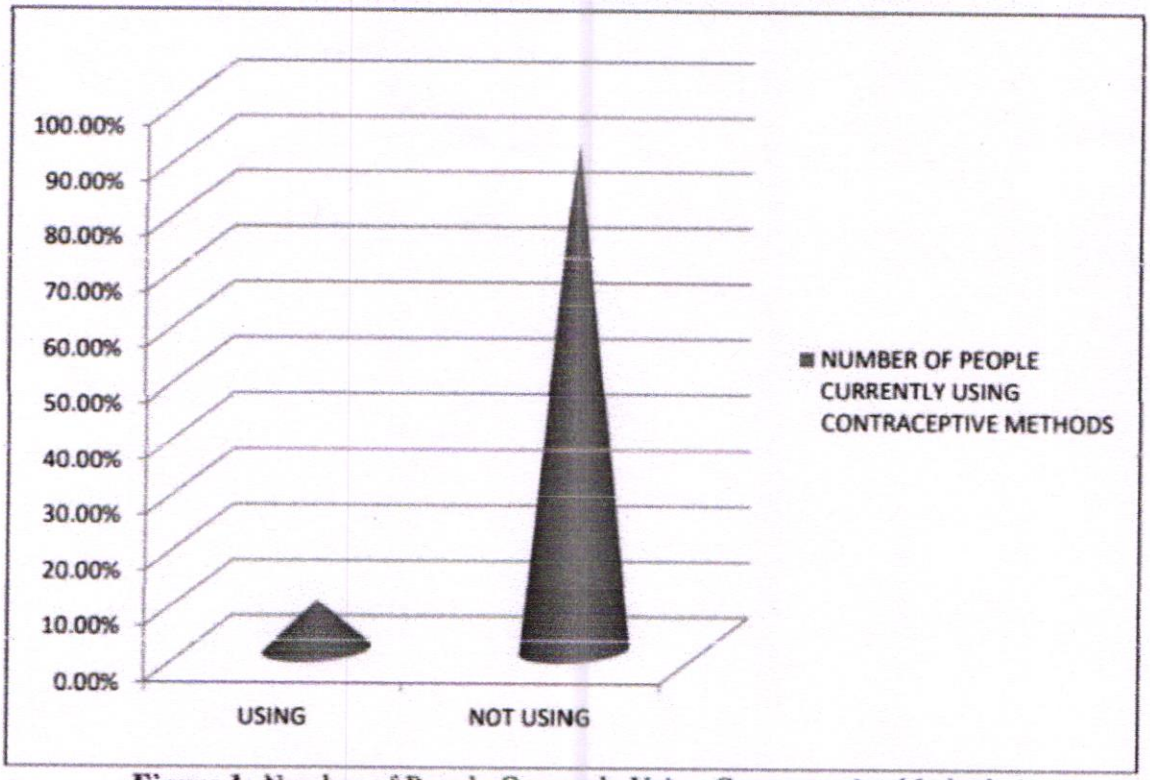


Figure 1: *Number of People Currently Using Contraceptive Methods.*

Table 1: *Frequency and percentage of knowledge regarding family planning (n=500).*

Level of knowledge	Frequency	Percentage
Excellent	2	4%
Good	5	10%
Average	21	42%
Poor	22	44%

Table 2: *Association between knowledge of family planning among married women with number of People Using Contraceptive Methods.*

S. No.	Are You Currently Using Any Contraceptives	Excellent	Good	Average	Poor	Chi Square	P Value
1	Yes	0	8	13	23		
2	No	9	53	124	270	9.73	7.81

There is a significant association between knowledge and attitude regarding family planning among married women with number of people currently using contraceptive methods.

CONCLUSION

This study was conducted to assess the level of knowledge and attitude towards family planning methods among reproductive age women in selected communities with a view to prepare video assisted teaching. The study was conducted on 500 married women between the age group of 20 to 36. People can be encouraged to adopt appropriate family planning methods thereby can avoid unwanted births, bring about wanted births and maintain interval between pregnancies.

REFERENCES

1. Suresh K Sharma nursing research and statistics, 2nd edition, Elsevier publication page no: 256.
2. Wilcher, R., Cates Jr, W., & Gregson, S. (2009). Family planning and HIV: strange bedfellows no longer. *AIDS (London, England)*, *23*(Suppl 1), S1, DOI: https://doi.org/10.1097%2F01.aids.0000363772.45635.35
3. Apanga PA, Adam MA. Factors influencing the uptake of family planning services in the Talensi District, Ghana. Pan African Medical Journal. 2015 Mar 6;20(1), DOI: https://doi.org/10.11604/pamj.2015.20.10.5301
4. Family Planning, available at https://www.familyplanning.org.nz/about/work-for-us
5. Khatry, R. A., Ghimire, N., Shrestha, R. J., Awasthi, M. S., & Shrestha, N. (2020). Factors affecting the choice of contraceptives among married women of reproductive age. *Journal of Patan Academy of Health Sciences*, *7*(3), 95-103, Available at https://jpahs.edu.np/index.php/jpahs/article/view/441
6. Semachew Kasa, A., Tarekegn, M., & Embiale, N. (2018). Knowledge, attitude and practice towards family planning among reproductive age women in a resource limited setting of Northwest Ethiopia. *BMC research notes*, *11*(1), 1-6, DOI: https://doi.org/10.1186/s13104-018-3689-7

AMALA COLLEGE OF NURSING ★ AMALA NAGAR, THRISSUR ★

Prof. Dr. RAJEE REGHUNATH
PRINCIPAL
AMALA COLLEGE OF NURSING
AMALA NAGAR P.O., THRISSUR-680 555

July 22

ACTA SCIENTIFIC WOMEN'S HEALTH (ISSN: 2582-3205)

Volume 4 Issue 8 August 2022

Review Article

Maternal Cardiac Arrest: An Emerging Threat

Don Jose K[1]*, Godphy A A[2] and Yahsly Varghese[3]

[1]Assistant Professor, Department of Medical Surgical Nursing, Amala College of Nursing, Thrissur, Kerala, India

[2]Vice Principal, Department of Child Health Nursing, Assumption College of Nursing, Sulthan Bathery, Wayanad, Kerala, India

[3]Lecturer, Department of Medical Surgical Nursing, Amala College of Nursing, Thrissur, Kerala, India

***Corresponding Author:** Don Jose K, Assistant Professor, Department of Medical Surgical Nursing, Amala College of Nursing, Thrissur, Kerala, India.

Received: June 21, 2022

Published: July 11, 2022

Abstract

CPR occurs during pregnancies is a reality. When this happens, it's the most critical situation for the caregivers to manage immediately. A thorough understanding of changes that occur during pregnancy can help in making correct decisions. Although the attention should be on the mother, it is important to remember that another possible life is on the line. The mother is resuscitated in the same way as any other patient, with a few slight adaptations due to the changes that occur during pregnancy. The multidisciplinary team should be involved early in the process to ensure that both the mother and the newborn receive proper care. This article will analyze the risks and concerns during this emergency.

Keywords: CPR; Maternal Cardiac Arrest; Pregnancy; Emerging Threat; Resuscitation

Abbreviations

CPR: Cardiopulmonary Resuscitation; AED: Automated External Resuscitation; AHA: American Heart Association; ECC: Emergency Cardiovascular Care

Introduction

CPR is a medical milestone, but sometimes it is in vain. The term "CPR" was originally coined less than 50 years ago. The roots of resuscitation, however, are centuries old. This leads to a slowly evolving course hampered by the rejection of inadequate techniques, the curiously slow adoption of proven interventions, and even cycles of abandonment and rediscovery [1]. To understand and follow the evolution of modern practices, one must first examine the history of resuscitation.

A cardiac arrest is a condition in which the heart no longer beats normally. Because of this, the brain and other vital organs cannot receive oxygen-rich blood. Unless treated immediately, a person in cardiac arrest is clinically dead and will remain that way. A high-quality CPR can artificially keep the blood pumping, but an AED is necessary to restart the heart. An AED can help a person whose heart has stopped beating by delivering a defibrillation "shock". An AED defibrillator can significantly increase a person's chances of survival by 7-10% every minute that he/she remains in sudden cardiac arrest without a shock [1,2].

Oxygen deprivation caused by cardiac arrest is particularly harmful to pregnant women. As the fetus grows, the mother must provide the fetus with significant amounts of oxygen. A woman's oxygen consumption increases by 20% and her cardiovascular metabolic rate increases by 40% when she is

AMALA COLLEGE OF NURSING ★ AMALA NAGAR, THRISSUR ★

Prof. Dr. RAJEE REGHUNATH
PRINCIPAL
AMALA COLLEGE OF NURSING
AMALA NAGAR P.O., THRISSUR-680 555

pregnant. Pregnancy-related fluctuations in hormones such as progesterone and estrogen can also restrict airways and increase the chances of maternal cardiac arrest. When they are combined, these physiological changes make cardiac arrest a particularly life-threatening condition in pregnant women [1,2]. It is therefore critically important to start CPR immediately and administer an AED to pregnant women suffering from sudden cardiac arrest.

Risks in pregnancy

Although the causes of cardiac arrest are well-known in general, the causes in pregnancy are less well-known, however, an earlier study has discovered that a dysfunctional heart's conduction system could be one of the causes. There are also women on the list who already have a bunch of heart disease risk factors. Aside from that, lifestyle illnesses such as diabetes, hypertension, and hyperlipidemia enhance the risk, and obesity is one of the variables that we cannot avoid. Preeclampsia and gestational diabetes, on the other hand, require special monitoring because they both pose a high health risk [3].

Expectant mothers are at risk for cardiac arrest for a variety of reasons, but the causes can be classified as obstetric, non-obstetric, or iatrogenic. A hemorrhage, eclampsia, and an embolism of amniotic fluid are all obstetric causes. Sepsis, pulmonary embolism, previous cardiovascular disease, and stroke are some of the most common non-obstetric causes. Anesthetic problems during delivery or testing are common iatrogenic causes. In the event of maternal cardiac arrest, particular guidelines should be followed due to the hazards connected with anesthetics. Intubation for anesthetic care, in particular, can obstruct prompt CPR and resuscitation in pregnant women who experience cardiac arrest. As a result, CPR must take precedence over intubation [4].

Concerns in the emergency

The updated AHA CPR and ECC recommendations, which were announced in 2020, provide a framework for optimizing resuscitation for in-hospital maternal cardiac arrest sufferers [5]. The recommendations, developed by top physicians and scientists, use existing knowledge to establish a maternal resuscitation algorithm that emphasizes the significance of simultaneous intervention. Concurrent intervention, in general, means that advanced life support personnel responding to a maternal cardiac arrest must conduct both maternal and obstetric treatments at the same time which highlights the need for a multidisciplinary expert team to function during these emergencies [7].

Because of the pressure of the uterus which inhibits the effectiveness of compressions to circulate blood, chest compressions will not be successful without left lateral uterine displacement. Similarly, while doing chest compressions, defibrillation, and other critical resuscitation procedures, appropriate personnel should concurrently be preparing for and, if necessary, performing a perimortem cesarean delivery.

Points to keep in mind

- Whenever cardiac arrest is identified, provide high-quality CPR along with the defibrillation as per the indication.
- While calling the EMS never forget to tell that the patient is pregnant so that the team can arrange a multidisciplinary expert who can perform an emergency Perimortem C-section as soon as possible.
- The maternal cardiac arrest team should rule out pregnancy-related outcomes. Always find out the causes before any actions [6].
- Remember shock from the defibrillator as well as the pressure from the chest compressions will not harm the fetus.
- Recall that two persons need help when a pregnant mother is in cardiac arrest. Perform airway management, and intubation only with an expert as this part is very difficult. Priority should be given to preventing hypoxia by prompt oxygenation and airway management with a goal of 100% oxygen delivery. Be vigilant to avoid excess ventilation.
- While giving shocks we should detach the fetal monitors as it will interact with the result and always provide continuous lateral uterine displacement.
- If there is no return of spontaneous circulation immediate baby mortem cesarean delivery should be performed.
- Fetal monitoring should not be prioritized as it interferes with resuscitation. But fetal monitoring should be done in those cases where the mother is comatose and receiving targeted temperature management [6].

Conclusion

Cardiac arrest during pregnancy is very difficult to manage as it cost two lives. This review has included the most important

concerned area to concentrate on during the care which helps for the survival of both mother and child. There are concerning areas which we should concentrate on in this regard. Prompt action by the multidisciplinary team aid's good chance of survival of both mother and child.

Conflict of Interest

All authors declared no conflicts of interest.

Bibliography

1. Zarrilli Zack. "The History of CPR: A Brief Guide". SureFire CPR, 30 Oct. (2017).
2. "What Is CPR". Cpr.Heart.Org, (2022).
3. Jeejeebhoy Farida M., *et al.* "Cardiac Arrest in Pregnancy: A Scientific Statement from the American Heart Association". *Circulation* 132.18 (2015): 1747-1773.
4. Merchant Raina M., *et al.* "Part 1: Executive Summary: 2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care". *Circulation* 142.16 (2020): S337-S357.
5. Jeejeebhoy Farida M and Laurie J Morrison. "Maternal Cardiac Arrest: A Practical and Comprehensive Review". *Emergency Medicine International* 2013 (2013): 274814.
6. "2020 American Heart Association Guidelines for CPR and ECC". Cpr.Heart.Org (2022).
7. Campbell Tabitha A and Tracy G Sanson. "Cardiac Arrest and Pregnancy". *Journal of Emergencies, Trauma, and Shock* 2.1 (2009): 34-42.

Prof. Dr. RAJEE REGHUNATH
PRINCIPAL
AMALA COLLEGE OF NURSING
AMALA NAGAR P.O., THRISSUR-680 555

Medicon open access

MEDICON MEDICAL SCIENCES
Volume 5 Issue 6 December 2023
Article Type: Research Article
ISSN: 2972-2721

A Study to Assess the Impact of Post COVID Rehabilitative Exercises on Physical and Mental Wellbeing of Post COVID 19 Patients

Rinu David[1]*, Shaly Joseph Pullan[1], Sisira Suresh O[2], Siya Joy[2], Signa Paulson[2], Rosy Joseph[2] and Sneha Simmon[2]

[1]Assistant Professor, Community Health Nursing Department, Amala College of Nursing, Amalanagar, Thrissur, Kerala

[2]BSc Nursing students, IVth year, Amala College of Nursing, Kerala University of Health Sciences, Amalanagar, Thrissur, Kerala

***Corresponding Author:** Rinu David, Assistant Professor, Community Health Nursing Department, Amala College of Nursing, Amalanagar, Thrissur, Kerala.

Received: November 1, 2023; **Published:** November 17, 2023

DOI: 10.55162/MCMS.05.178

Abstract

This study aimed to assess the impact of post-COVID-19 rehabilitative exercises on the physical and mental well-being of patients who have completed a rehabilitation program consisting of aerobic exercises, resistance training, and breathing exercises. The study used a quantitative research approach, data was collected from a sample of male and female patients aged 18 years and above.

Quantitative data analysis revealed significant improvements in physical and mental well-being scores after completing the rehabilitation program. Additionally, the study found that certain demographic factors such as age and gender may impact the effectiveness of the rehabilitation programs. Study also identified several themes related to participants' experiences with the rehabilitation program, including increased motivation and confidence, improved sleep, and enhanced overall well-being.

Overall, this study provides valuable insights into the effectiveness of post-COVID-19 rehabilitative exercises in addressing the long-term physical and mental health complications many patients experience after recovering from COVID-19. The findings of this study could inform the development of more effective rehabilitation programs for post-COVID-19 patients and contribute to the ongoing effort to improve the care and management of individuals recovering from COVID-19.

Keywords: COVID 19; Post COVID 19 syndrome; Rehabilitative exercises; Physical well-being; Mental well-being

Introduction

The COVID-19 pandemic has significantly impacted the physical and mental health of individuals worldwide. While many have been fortunate to recover from the virus, there is a growing concern for the long-term physical and mental health complications that some individuals may experience post-recovery [1]. Studies have shown that post-COVID-19 patients may experience symptoms such as fatigue, breathlessness, and reduced physical function for an extended period. Additionally, the pandemic's mental health toll cannot be overlooked, as individuals may experience anxiety, depression, and post-traumatic stress disorder (PTSD) due to the pandemic's effects [2].

Citation: Rinu David., et al. "A Study to Assess the Impact of Post COVID Rehabilitative Exercises on Physical and Mental Wellbeing of Post COVID 19 Patients". Medicon Medical Sciences 5.6 (2023): 11-19.

Rehabilitative exercises have been identified as a potential solution for addressing the physical and mental health complications of post-COVID-19 patients. Rehabilitation programs consisting of aerobic exercises, resistance training, and breathing exercises have shown promise in improving physical function and reducing symptoms in post-COVID-19 patients [3]. However, the effectiveness of such programs needs to be studied further, particularly in the long term.

Previous studies have highlighted the importance of exercise in improving physical and mental health outcomes in post-COVID-19 patients. However, few studies have assessed the effectiveness of a comprehensive rehabilitation program that includes different types of exercise and interventions.

This study aims to assess the impact of post-COVID-19 rehabilitative exercises on the physical and mental well-being of patients who have completed a rehabilitation program consisting of aerobic exercises, resistance training, and breathing exercises. A quantitative approach to data analysis will be used, with data collected from a sample of male and female patients aged 18 years and above.

The study hypothesizes that the rehabilitative exercises will lead to significant improvements in physical and mental well-being scores, as measured through standardized assessments. Additionally, the study aims to identify demographic factors such as age and gender that may impact the effectiveness of the rehabilitation program.

This study's findings could inform the development of more effective rehabilitation programs for post-COVID-19 patients and contribute to the ongoing effort to improve the care and management of individuals recovering from COVID-19. With the growing number of post-COVID-19 patients worldwide, addressing the physical and mental health complications of this population is crucial for ensuring optimal health outcomes.

Objectives

1. Assess the physical health and mental health of post COVID 19 subjects.
2. Assess the effectiveness of post COVID rehabilitative exercises on physical wellbeing of post COVID 19 subjects.
3. Assess the effectiveness of post COVID rehabilitative exercises on mental wellbeing of post COVID 19 subjects.
4. Find out correlation between physical wellbeing and mental wellbeing among post COVID 19 subjects.
5. Find out association of physical wellbeing and mental wellbeing among post COVID 19 subjects with selected demographic variables.

Review of Literature

COVID-19 Rehabilitation Programs: Several studies have highlighted the importance of rehabilitation programs for COVID-19 patients, particularly those who have experienced severe or critical illness. Such programs typically consist of a combination of aerobic exercises, resistance training, and breathing exercises to address the physical and mental health complications associated with COVID-19 [2].

Effects on Physical Health: The impact of post-COVID-19 rehabilitative exercises on physical health has been widely studied. A systematic review by Lau et al. (2021) found that such exercises led to improvements in respiratory function, exercise capacity, and muscle strength [4]. Another study by Wang et al. (2021) found that patients who participated in a rehabilitation program had better physical functioning and mobility compared to those who did not.

Effects on Mental Health: Post-COVID-19 rehabilitative exercises have also been shown to have a positive impact on mental health outcomes. A study by Li et al. (2021) found that participating in a rehabilitation program improved anxiety and depression symptoms in COVID-19 patients [5]. Another study by Hu et al. (2021) found that such exercises led to improvements in quality of life and overall mental well-being [6].

Demographic Factors: Several studies have explored the impact of demographic factors on the effectiveness of post-COVID-19 rehabilitative exercises. For example, a study by Liu et al. (2021) found that older patients and those with pre-existing medical conditions may require more tailored rehabilitation programs to achieve optimal outcomes [7]. Additionally, male patients may experience greater improvements in respiratory function compared to female patients (Simpson et al., 2021) [8].

Patient Experiences: Qualitative studies have explored patients' experiences with post-COVID-19 rehabilitative exercises. For example, a study by Thomas et al. (2021) found that patients reported increased motivation and confidence as a result of participating in such exercises. Another study by Li et al. (2021) found that patients reported improved sleep and overall well-being after completing a rehabilitation program [9].

Materials and Method

Research Approach: A quantitative research approach was used.
Research design: One group pre -test post-test pre experimental research design was adopted for this study.
Sampling: The non probability convenient sampling.
Sample size: 100 Post COVID 19 patients.
Setting: Post COVID 19 patients residing in different districts of Kerala with no current COVID 19 infection.
Independent variable: Post COVID rehabilitative exercise regimen given to the group.
Dependent variable: physical and mental wellbeing of post COVID patients

Inclusion criteria

- Nurses who tested COVID positive during last one year.
- Subjects available at the time of data collection.
- Subjects willing to participate in the study.
- Subjects who can read and understand English and Malayalam.
- Subjects between age group below 60 years.
- Subjects in both Genders.

Exclusion criteria

- Subjects who are under going treatment for any other psychiatric disorders/severe respiratory illness.
- Subjects who are pregnant.
- Subjects who are presently COVID19positive.
- Subjects who are not willing to participate.

Tool

Tool 1: Socio demographic data sheet.
Tool 2: Mental health inventory-18.
Tool 3: Physical Health Questionnaire.

Data collection procedure

Data collection was done through Google forms in samples who met the inclusion criteria. Pre-test data was collected using tool 1, tool 2 and tool 3. The structured teaching programme was administered via You Tube video after the pre-test. After one month the effectiveness of the programme was assessed using same tool.

Data analysis

The data were analysed using descriptive and inferential statistics to determine the impact of post-COVID-19 rehabilitative exercises on the physical and mental well-being of post-COVID-19 patients.

Descriptive statistics were used to summarize the data collected from the study. Measures of central tendency, such as means and medians, were calculated to describe the distribution of the data. Measures of variability, such as standard deviations and ranges, were also calculated to describe the spread of the data.

Inferential statistics were used to test the hypotheses of the study. The primary hypothesis of the study is that post-COVID-19 rehabilitative exercises will improve the physical and mental well-being of post-COVID-19 patients. This hypothesis was tested using Paired t-test.

Furthermore, the study analyses the relationship between physical and mental well-being outcomes and various patient characteristics such as age, gender, religion, occupation, socio-economic status etc.

Overall, the data analysis of this study provides valuable insights into the impact of post-COVID-19 rehabilitative exercises on the physical and mental well-being of post-COVID-19 patients and informs future clinical practice for the rehabilitation of post-COVID-19 patients.

Result

Section A: Distribution of Subjects According to Demographic Variables

The characteristics of the study population were as follows:

- Majority (66%) of the subjects studied were in the age group of 18-28 years.
- More than half of them were females (66%).
- Most of them (65%) belonged to Christian community.
- Regarding to marital status, majority(68%) were unmarried.
- Majority of the study participants (63%) were graduates.
- Most of the study subjects (37%) were working under private sector.
- Majority of the participants (84%) had nuclear families.
- A large proportion (79%) were from panchayath area.
- Majority of the study subjects (76%) belongs to APL category.
- Regarding dietary habit, most of them (84%) are on mixed diet.
- 7 of the study subjects were admitted in hospital during COVID 19 infection.
- Majority of the subjects (72) received information regarding COVID 19 from social media.
- Most of the subjects (90) received 2 doses of COVID 19 vaccination
- Majority of the subjects (68%) were not aware about post-COVID 19 rehabilitative exercises.
- About 8% of the study subjects are having co-morbidities, among which 5 of them have DM.

Section B: Classification of Subjects Based on Mental Health Inventory and Physical Health Inventories Score Before and after Administration of Post Covid Rehabilitative Exercises

Among 100 samples selected for the study, in pre-test majority (69%) of the subjects had better mental health, 20% had good mental health and 11% had poor mental health. In post-test, majority (70%) had good mental health, 26% had better mental health and 4% had poor mental health.

With respect to pre-test level of physical health, majority (47%) had a better physical health, 45% good physical health and 8% poor physical health. Regarding post-test physical health status 58% had good physical health, 36% had better physical health and 6% had poor physical health.

Section C: Analysis of Effectiveness of Post Covid Rehabilitative Exercises on Mental Health of Subjects

Mental health inventory score	*Mean*	*SD*	*'t' value*	*P value*
Pre-test	63.9517	2.4903	7.956	0.00001
Post-test	66.3230	2.1812		

Table 1: Mean, standard deviation and 't' value of pre-test and post-test mental inventory scores of subjects.

Table 1 depicts that mean post-test mental health inventory score was significantly higher than the mean pre-test mental health inventory score. The calculated 't' value 7.956 is and p value is <0.00001,hence the result is significant at p<0.05.

Section D: Analysis of Effectiveness of Post Covid Rehabilitative Exercises on Physical Wellbeing of Subjects

Mental health inventory score	**Mean**	**SD**	**'t' value**	**P value**
Pre-test	4.4046	1.5128	1.202	0.232
Post-test	4.6999	1.4456		

Table 2: Mean, standard deviation and 't' value of pre-test and post-test physical health scores of subjects.

Table 2 depicts that mean post-test physical health inventory score was higher than the mean pre-test health physical inventory score. The calculates 't' value is 1.202 and p value is 0.232 hence, the result is not significant at p<0.05.

Section E: Analysis of Correlation among Mental Wellbeing and Physical Wellbeing

Variables	*Mean*	*Pearson's Correlation Coefficient (r)*	*P value*
Mental wellbeing	63.9517	0.113	0.265
Physical Wellbeing	4.4046		

Table 3: Correlation of mean mental wellbeing score with physical wellbeing score of subjects.

Table 3 reveals that Pearson's correlation coefficient value of mental wellbeing with physical wellbeing among post COVID-19 patients is 0.113 and p value is 0.265. Hence there is a positive correlation between mental wellbeing and physical wellbeing of post COVID-19 patients which is not statistically significant.

AMALA COLLEGE OF NURSING
AMALA NAGAR, THRISSUR

Prof. Dr. RAJEE REGHUNATH
PRINCIPAL
AMALA COLLEGE OF NURSING
AMALA NAGAR P.O., THRISSUR-680 555

Section F: Association of Subjects According to Pre-Test Mental Wellbeing and Selected Demographic Variables

Sl. No	*Demographic variables*	*Mental Well-being*			*Chi-square*	*P value*	*Significance*
		Good	*Better*	*Poor*			
1.	**Age in year**				9.825	0.132	NS
	18-28	9	51	6			
	29-38	6	8	3			
	39-48	1	6	1			
	49-58	4	4	1			
2.	**Sex**						
	Male	9	18	7	7.309	0.026	S
	Female	11	51	4			
3.	**Marital status**						
	Married	9	15	8	13.277	0.001	S
	Unmarried	11	54	3			
4.	**Education**						
	High School	1	3	1			
	Higher Secondary	8	1	3			
	Graduate and above	11	45	7	17.934	0.001	S
5.	**Area of residence**						
	Panchayth	14	60	5			
	Muncipality	5	7	3			
	Corporation	1	2	3	15.283	0.004	S
6.	**Socio-economic status**						
	APL	18	53	5	7.80	0.020	S
	BPL	2	16	6			
7.	**Admission in hospital during COVID 19**						
	Yes	1	1	5			
	No	19	68	6	28.375	0.00001	S
8.	**Vaccination status**						
	Second dose	18	64	8	4.228	0.120	NS
	Booster dose	2	5	3			
9.	**Type of family**						
	Joint family						NS
	Extended Family						
	Nuclear Family						

Table 4: Association between Pre-test Mental Wellbeing and selected demographic variables such as age, sex, marital status, education, area of residence, socio-economic status, admission in hospital during COVID 19 and vaccination status.

Section G: Association of Subjects According to Pre-Test Physical Wellbeing and Selected Demographic Variables

Sl. No	Demographic variables	Mental Well-being			Chi-square	P value	Significance
		Good	Better	Poor			
1.	**Age in year**						
	18-28	30	32	4			
	29-38	7	8	2			
	39-48	6	1	1	6.416	0.372	NS
	49-58	2	6	1			
2.	**Sex**						
	Male	18	13	3	1.607	0.447	NS
	Female	27	34	5			
3.	**Marital status**						
	Married	18	11	3	3.031	0.219	NS
	Unmarried	27	36	5			
4.	**Education**						
	High School	2	2	1			
	Higher Secondary	11	17	4			
	Graduate and above	32	28	3	4.781	0.310	NS
5.	**Area of residence**						
	Panchayth	36	39	4			
	Muncipality	7	6	2			
	Corporation	2	2	2	6.88	0.142	NS
6.	**Socio-economic status**						
	APL	36	37	3	7.087	0.029	S
	BPL	9	10	5			
7.	**Admission in hospital during COVID 19**						
	Yes	1	1	5			
	No	44	46	3	41.144	0.0001	S
8.	**Vaccination status**						
	Second dose	41	43	6	2.178	0.337	NS
	Booster dose	4	4	2			
9.	**Type of family**						
	Joint family	4	5	3	16.604	0.002	S
	Extended Family	1	1	2			
	Nuclear Family	40	41	2			

Table 5: Association between Pre-test Physical Wellbeing and selected demographic variables such as age, sex, marital status, education, area of residence, socio-economic status, admission in hospital during COVID 19 and vaccination status.

Discussion

The present study aimed to assess the effectiveness of post-COVID-19 rehabilitative exercises on the mental and physical well-being of post-COVID-19 patients in the districts of Kerala. The study had five objectives, including assessing the physical and mental health of post-COVID-19 subjects, identifying the effectiveness of post-COVID-19 rehabilitative exercises on physical and mental well-being, finding out the correlation between physical and mental well-being among post-COVID-19 subjects, and finding out the association of physical and mental well-being with selected demographic variables.

The study found that most of the participants were in the age group of 18-28 years, female, Christian, unmarried, graduates, working in the private sector, and from a nuclear family. Most of them were from a panchayath area and belonged to the APL category. In terms of dietary habits, most of them were on a mixed diet. The study also found that the majority of the participants did not have an awareness of post-COVID-19 rehabilitative exercises.

Based on the results presented, the study found that post-COVID-19 rehabilitative exercises were effective in improving the mental well-being of post-COVID-19 patients. However, the study found only a slight improvement in physical well-being. When compared with the literature review, the finding on the positive effect of rehabilitative exercises on mental well-being is consistent with previous studies. For instance, a study by Taneja et al. (2021) found that exercise-based rehabilitation programs had positive effects on the psychological well-being of post-COVID-19 patients [10]. Similarly, a study by Grabowski et al. (2021) found that physical therapy interventions improved physical function and quality of life among COVID-19 survivors [11].

However, the finding of a slight improvement in physical well-being is not consistent with some previous studies. A systematic review by Huang et al. (2021) found that rehabilitation interventions, including exercise-based interventions, had significant effects on improving physical function among COVID-19 survivors [12].

One possible explanation for the discrepancy between the present study and previous studies is the differences in the sample characteristics and interventions used in the studies. For instance, the present study was conducted among post-COVID-19 patients in districts of Kerala, was limited to a time period of one month and it was administered in online mode, while some of the previous studies were conducted in other regions or countries. Moreover, the type, duration, and intensity of rehabilitative exercises used in the present study may have been different from those used in other studies.

The study also found a significant correlation between mental and physical well-being among post-COVID-19 patients. However, the association of mental and physical well-being with selected demographic variables was not significant.

Overall, the study implies that post-COVID-19 rehabilitative exercises are effective in improving the mental well-being of post-COVID-19 patients, but their effectiveness in improving physical well-being needs further investigation. The study also highlights the need for creating awareness about post-COVID-19 rehabilitative exercises among the general public. The study's limitations include small sample size and limited geographical scope. The study recommends further research with larger sample sizes and wider geographical coverage.

Conclusion

The study investigated the effectiveness of post-COVID-19 rehabilitative exercises on the physical and mental well-being of post-COVID-19 patients in the districts of Kerala. The study found that the rehabilitative exercises were effective in improving the mental well-being of the patients, as evidenced by significant improvements in the scores of anxiety and depression scales. However, the study found only slight improvement in physical well-being.

As healthcare providers, nurses play a crucial role in promoting rehabilitative exercises for post-COVID-19 patients. Nurses can educate patients about the benefits of exercise for their physical and mental well-being, including improved lung function, muscle strength, and mood. They can also assist patients in developing an individualized exercise plan based on their specific needs and abil-

ities, and monitor their progress over time. Nurses can collaborate with other healthcare professionals, such as physical therapists, to ensure that patients receive appropriate exercise interventions and are safe during their exercise routines. In addition, nurses can provide emotional support to patients who may be struggling with anxiety, depression, or fear related to their recovery process. By promoting and supporting post-COVID-19 rehabilitative exercises, nurses can help patients to achieve optimal physical and mental health outcomes.

Overall, the study provides important insights into the potential benefits of post-COVID-19 rehabilitative exercises in improving the mental well-being of patients, highlighting the need for healthcare professionals to incorporate such exercises as part of the rehabilitation program. The findings of this study contribute to the growing body of research on the importance of rehabilitative exercises for post-COVID-19 patients, particularly in improving their mental well-being. However, further research is needed to explore the optimal types, duration, and intensity of rehabilitative exercises that can improve physical well-being among post-COVID-19 patients. Healthcare providers and policymakers can use the results of this study to design effective rehabilitative programs for post-COVID-19 patients, considering the importance of mental health in the overall recovery process.

Nursing implications

The findings of the study are relevant to nursing field especially in the community area.

Nursing Service

1. The nurses, especially those who are working in the community field can utilize the knowledge regarding post COVID-19 rehabilitative exercises in educating the post COVID-19individuals and family members.

References

1. World Health Organization. "Coronavirus Disease (COVID-19) Weekly Epidemiological Update". (2020).
2. Greenhalgh T., et al. "Management of post-acute COVID-19 in primary care". British Medical Journal 370 (2020).
3. Liu K., et al. "Respiratory rehabilitation in elderly patients with COVID-19: a randomized controlled study". Complementary Therapies in Clinical Practice 39 (2020).
4. Lau HM., et al. "A randomised controlled trial of the effectiveness of an exercise training program in patients recovering from COVID-19". Australian Journal of Physiotherapy 67.4 (2021): 231-239.
5. Li J., et al. "Rehabilitation of patients with COVID-19". Expert Review of Respiratory Medicine 15.7 (2021): 877-883.
6. Hu J., et al. "The effect of rehabilitation intervention on quality of life and psychological status of patients with COVID-19: A systematic review and meta-analysis". International Journal of Environmental Research and Public Health 18.3 (2021): 1231.
7. Liu K., et al. "Respiratory rehabilitation in elderly patients with COVID-19: A randomized controlled study". Complementary Therapies in Medicine (2020).
8. Simpson R, Robinson L and Sharma P. "Respiratory rehabilitation after severe COVID-19: a novel solution to reduce pulmonary sequelae". Journal of Rehabilitation Medicine 53.9 (2021): jrm00211
9. Li J., et al. "Rehabilitation of patients with COVID-19". Expert Review of Respiratory Medicine 15.7 (2021): 877-883.
10. Taneja N, Joshi A and Kaur N. "Effects of exercise-based rehabilitation on physical and psychological wellbeing in COVID-19 patients: A systematic review and meta-analysis". Journal of Bodywork and Movement Therapies 27 (2021): 388-395.
11. Grabowski DC., et al. "COVID-19 pandemic and post-acute care: A strategic framework for the future". Journal of General Internal Medicine 36.7 (2021): 2046-2052.
12. Huang C., et al. "6-month consequences of COVID-19 in patients discharged from hospital: a cohort study". The Lancet 397.10270 (2021): 220-232.

Volume 5 Issue 6 December 2023

Citation: Rinu David., et al. "A Study to Assess the Impact of Post COVID Rehabilitative Exercises on Physical and Mental Wellbeing of Post COVID 19 Patients". Medicon Medical Sciences 5.6 (2023): 11-19.

ISSN 2231-1149 (Print)
2349-2996 (Online)
DOI: 10.52711/2349-2996.2022.00015

Vol. 12 | Issue-01|
January - March | 2022

Available online at
www.anvpublication.org

Asian Journal of
Nursing Education and Research
Home page *www.ajner.com*

RESEARCH ARTICLE

Effectiveness of Motivational techniques on learning skills among first year B.Sc. nursing students in a selected College of nursing, Thrissur

Bincy A.P[1], Shiji M.A[2], Dona Grace[3], Elsa Shaiju[3], Fiji E J[3], Gloria Shaju[3], Gloriya Sunny[3], Jeeshma Jose[3], Jefina Gijo[3], Jesna P Milton[3], Jilbi Ann Sebastian[3], Jinsha K J[3], Jismy Joy[3], Jooly K B[3]

[1]Assistant Professor, Snehodaya College of Nursing, Irinjalakkuda, Thrissur Dist, Kerala, India.
[2]Assisstant Professor, Snehodaya College of Nursing, Irinjalakkuda, Thrissur Dist, Kerala, India.
[3]3rd Year BSc (N) Students, Snehodaya College of Nursing, Irinjalakkuda, Thrissur Dist, Kerala, India.
*Corresponding Author Email: **bincyap09@gmail.com**

ABSTRACT:

Motivational techniques are a driving force that impels one to enforce. The aim of the study is to assess the effectiveness of motivational techniques on learning skills among first year B.Sc nursing students in a selected college of nursing, Thrissur. The objectives of the study is to assess the pretest level of learning skills, posttest level of learning skills among the first year B.Sc nursing students and also to determine the effectiveness of motivational techniques on learning skills and to identify the association between learning skills among the first year B.Sc nursing students and selected demographic variables. Forty seven students of the first year students were selected from the Snehodaya college of nursing, Vallakkunnu. Samples are selected through convenient sampling techniques. The research design selected for study was pre experimental design. Data was collected by using structured questionnaire before the interventional programme. Motivational techniques were given for 12 days and post test was conducted. After the completion of the study it was revealed that 8.5% of first year BSc nursing students have excellent learning skills in pretest and 74.4% have excellent learning skills in post test. 66% have good learning skills in pretest and 25.5 % in post test. 25.5% have average learning skills in pre test and none of them have average learning skill in post test. The mean post test score (71.67) is higher than mean pre test score (57.56). The t test showed improved coping ($t=16.10$, $t_{46}=2.02$) at $p<0.05$. Among the selected demographic variable, type of school studied ($\chi^2=25.505$), was associated with learning skill among first year BSc nursing students. For the other variables there is no association. It was found that after the administration of motivational techniques there was marked improvement in the learning skill among first year BSc nursing students.[3]

KEYWORDS: Effectiveness; motivational techniques; learning skills; first year BSc nursing students.

INTRODUCTION:

Learning is the life long, dynamic mental process by which individual acquires new knowledge or skills and alters their thoughts, feelings, attitudes and actions. The rate of learning varies for different individuals and it is not limited to any age, sex, race or culture. Human beings differ because they learn and the mechanism of learning differs from person to person. The learner uses different mechanism or techniques to learn new responses and behaviour which are essential for the

Received on 09.07.2021 Modified on 05.11.2021
Accepted on 22.01.2022
Asian J. Nursing Education and Research 2022; 12(1):75-79
DOI: 10.52711/2349-2996.2022.00015

survival of the person. People learn through various modes such as association, observation, and learning and in sight. However drill and practice and imitation are also important procedures of learning. Everyone gets encouragement as learners right from infancy to learn new behaviour. Pupils differ in their aptitude, attitude, seriousness and interests for acquiring knowledge. Some pupils set their educational goals purposefully high but there are some students with a negative attitude towards work and those lack enthusiasm. Those students with aptitudes and interest push themselves strongly towards other endeavours if they have maturity, sense, direction and motivation they will succeed. [12]

NEED AND SIGNIFICANCE OF THE STUDY:

Nursing education is a professional education which is consciously and systematically planned and implemented through instructions and discipline and aims the harmonious development of the physical, intellectual, social, emotional, spiritual and aesthetics power or abilities of the students in order to render professional nursing care to people of all ages, in all phases of health and illnesses, on a variety of setting, in the best or highest possible manner.[13] As the students are living in a materialistic and consumer driven society under the influences of media, it is very difficult to make adjustment especially in the professional education like nursing, lack of motivation, interest, critical thinking, hard work etc. leads to poor academic performance and maladaption in the clinical area.[2] Worg Q H (2014) conducted a study to assess learning motivation in nursing students of China. The result shows that motivation interacts positively and affects nursing students learning process.[1] Hence there is a need for conducting a study regarding motivational techniques.
Adolescent period is a period of stress and strain. The new subjects in nursing education enhance the stress and strain. The multiple changes occurring in adolescent include absenteeism, academic failure and behavioural problems.

In nursing education, lots of innovations are taking place in the area of teaching and learning. In variably, there innovations lead to intellectual development, personal development and cause development.

So that the researchers think, there is a need of study regarding some innovating to motivate nursing students to improve their learning skills and there by develop confidence and good attitude towards the nursing profession.

STATEMENT OF THE PROBLEM:

A study to assess the effectiveness of motivational techniques on learning skills among first year BSc nursing students in a selected College of nursing, Thrissur.

OBJECTIVES:

1. Assess the pre-test level of learning skills among first year BSc nursing students.
2. Assess the post test level of learning skills among first year BSc nursing students.
3. Determine the effectiveness of motivational techniques on learning skills among first year BSc nursing students.
4. Identify the association between learning skills among first year BSc nursing students and selected demographic variables.

OPERATIONAL DEFINITIONS:

1. Assess:
In this study assessment refers to the evaluation of the motivational techniques on learning skills among the first year BSc nursing students as measured by modified rating scale.

2. Effectiveness:
In this study effectiveness refers to the extent of variation in post test score obtained by first year BSc nursing students on learning skills after the administration of motivational techniques.

3. Motivational techniques:
In this study motivational technique refers to the structured interventional programme designed by the investigator intended to improve the learning skills and improve confidence of first year BSc nursing students through lecturing and demonstration.

4. Learning Skills:
In this study learning skills are an array of skills which tackle the process of organizing and taking new information and the ability to reflect upon the performance.

5. First year BSc nursing students:
In this study first year BSc nursing students refers to students undergoing first year BSc nursing programme in a selected college of nursing, Thrissur.

ASSUMPTIONS:

1. First year BSc nursing students may have some learning skills.
2. Motivational techniques may improve the learning skills among first year BSc nursing students.

HYPOTHESIS:

H_1: There will be a significant difference between the pre-test post-test levels of learning skills among first year BSc nursing students.

H_2: There will be a significant association between learning skills among first year BSc nursing students and selected demographic variables.

REVIEW OF LITERATURE:

The review of this study has been organised and presented under the following headings:

1. Interventional programme to improve learning skill.
2. Problems related to learning.

METHODS AND MATERIALS:

Research approach:
Quantitative approach

Research design:
Pre-experimental one group pre test post test design

Variables:

- **Dependent variables**

Learning skills.

- **Independent variable**

Motivational techniques.

Setting of the study:
Snehodaya College of nursing.

Population:
First year BSc nursing students.

Sample:
First year BSc nursing students of Snehodaya College of nursing.

Sample size:
47 first year BSc nursing students.

Sampling technique:
Convenient sampling technique.

Sampling criteria:
Inclusion criteria:
First year BSc nursing students studying in Snehodaya College of nursing, students who are available at the time of the data collection.

Exclusion criteria:
Students who are not willing to participate in study.

Tool/Instruments:
Section A:
The demographic proforma of first year BSc nursing students consist of 13 items. The respondents were requested to place a tick mark against the appropriate boxes.

Section B:
Likerts modified learning skill self assessment scale consists of 28 items with 3 alternative response for assessing the learning skill among First year BSc nursing students.

Scoring methods:
In learning skill self assessment scale, the positive questions are given with score 3 to often, 2 for sometimes and 1 for never. In negative questions score 3 for never, 2 for sometimes and 1 for often. The score should be calculated according to the student preferences and obtain by score.

Mark distribution:
Excellent learning skills - >80%
Good learning skills - 65 % - 75%
Average learning skills - 40% - 64%
Poor learning skills - <40 %

Pilot study:
The pilot study was conducted to the second year BSc nursing students of Snehodaya College of nursing .. 5 Samples of second year students were selected using convenient sampling technique. Pilot study reveals that motivational technique and tool were found to be clear and understandable and methodology proposed that found to be feasible to conduct the study. The reliability of the tool was assessed using split half method, Karl Pearson's correlation co-efficient formula was used to find the correlation and reliability of the tool was 0.7.

Main study:
The permission for conducting the study was obtained from the principal of Snehodaya College of nursing Vallakkunnu. The data collected from first year BSc nursing students. After taking consent pretest was conducted by providing a structured questionnaire before the interventional programme, and the post test was conducted after 12 days from the day of pre test. The interventions are given for 30 minutes. In first session pretest, time planning are provided. In second session study tips, positive thoughts are given. On third session relaxation techniques like yoga, deep breathing exercises are given. On fourth session guided imagery, yoga, deep breathing exercises and outdoor games are provided. On fifth session onwards guided imagery, relaxation techniques like yoga, deep breathing exercises and outdoor games like spoon racing, badminton, ball passing are provided. On the twelfth day after the interventions post test was conducted. The data was analysed using descriptive and inferential statistics.

RESULTS AND DISCUSSION:

SECTION I: Distribution of first year BSc nursing students according to demographic characteristics:
Among 47 samples, 8.51% selected population belongs to 18 yrs, 72.34% belongs to 19 yrs and 19.14% belongs to above 19 yrs, all are females, 44.68% belongs to urban area and 55.31% belongs to rural area,10.65%

belongs to Malayalam medium, and 89.36% belongs to English medium of education.

Among 47 samples 51.06% belongs to pre degree as education of parents, 23.40% belongs to graduate, 10.63% belongs to school education , 8.51% belongs to diploma, 4.25% belongs to post graduates and 2.12% belongs to any other as education of parents, 17.02% belongs to below 10000 Rs monthly income, 25.53% belongs between Rs 10001-20000, 25.53% belongs to Rs 20001-30000, 8.5% belongs to Rs 30001-40000 and 23.40% belongs to above Rs 40000 monthly income, 80.85% belongs to aided school, 8.51% belongs to unaided school and 10.63% belongs to government school, 76.59% belongs to book as best source of information, 14.89% belongs to lecturer and 8.5% belongs to internet as best source of information. Among 47 samples, 19.14% belongs to more than 4 hrs duration of study, 51.06% 3hrs, 23.40% 2 hours, 6.38% 1hr, 38.29% belongs to learning by reading, 4.25% belongs to learning by writing, 12.76% belongs to learning by making notes and 44.68% belongs to using all the above study method.

Among 47 samples no one has nursing foundation and nutrition as difficult subject, 2.12% have anatomy, 8.51% have physiology, 53.19% have microbiology, 6.38% have biochemistry and 29.78% have psychology as most difficult subject. Among 47 samples no one has psychology and biochemistry as easy subject, 21.27% have nursing foundation, 12.76% have anatomy, 6.38% have physiology, 2.12% have microbiology, and 57.44% have nutrition as most easy subject, 57.44% belongs to night time study and 42.56% belongs to day time study.

SECTION II: Distribution of first year BSc nursing students based on learning skills before and after motivational techniques:

After the completion of the study it was revealed that 8.5% of first year BSc nursing students have excellent learning skills in pre test and 74.4% have excellent learning skills in post test. 66% have good learning skills in pre test and 25.5 % in post test. 25.5% have average learning skills in pre test and none of them have average learning skill in post test. None of them have poor learning skills in pre test and post test.

Table 1: Distribution of first year BSc nursing students based on learning skill before and after motivationaltechnique N=47

Grade of learning skill	Pre test		Post test	
Range	Frequency	Percentage (%)	Frequency	Percentage (%)
Excellent (67-84)	4	8.5	35	74.4
Good (55-66)	31	66	12	25.5
Average (34-54)	12	25.5	0	0
Poor (<34)	0	0	0	0

Table: 2 Difference in mean learning skill of first year BSc nursing students before and after motivational technique N=47

Score of learning skills	Mean	Mean difference	Standard deviation	t value	Inference
Pre test	57.56		8.94		
		14.11		16.10	Significant
Post test	71.67		6.509		

$t_{46} = 2.02$ P<0.05

SECTION III: Effect of motivational techniques among first year BSc nursing students.

The computed t value 16.10 is greater than table value (2.02) and it is significant at 0.05 levels. So the research hypothesis is accepted. Therefore it can be inferred that the motivational technique is effective to improve the learning skill among first year BSc students.[11]

SECTION IV: Association between learning skills and selected demographic variables

There is significant association between learning skill among first year BSc nursing students with one of the selected demographic variable that is type of school studied(χ^2=25.505),so for this variable null hypothesis is rejected and research hypothesis is accepted. For the other variables where there is no association with learning skills among first year BSc nursing students that is age, area of residence, education of parents, monthly income of parents, time of day like to study, medium of education till 10th standard, method preferred for study, duration of the study in day, best source of information for study. For these variables the null hypothesis was accepted and research hypothesis was rejected. [11]

Table 3: Association between learning skills of first year BSc nursing students and selected demographic variables N=47

Demographic variables	X^2 value	df	P value
Age	2.307	4	9.49
Area of residence	1.805	2	5.99
Type of school studied	25.505	4	9.49*
Education of parents	8.404	10	18.31
Monthly income of parents	10.94	8	15.51
Time of day like to study	5.0358	2	5.99
Medium of education till 10th standard	0.178	2	5.99
Method preferred for study	8.3657	6	12.599
Duration of the study in day	8.44	6	12.59
Best source of information for study	7.237	4	9.49

P<0.05=*significant

CONCLUSION:

The present study assessed the effectiveness of motivational techniques on learning skills of first year BSc nursing students. Comparing to pre test, 74.4% has excellent learning skills and 25.5% have good learning skills in post test. The association between learning skill and demographic variables are assessed by chi-square test and in result there is association between types of school studied and learning skills of students so for this variable research hypothesis is accepted and null hypothesis is rejected and for other variables null hypothesis is accepted and research hypothesis is rejected. This study proved that motivational techniques have effectiveness on learning skills.

NURSING IMPLICATIONS:

The findings of the study have implications in the field of nursing practice, nursing education, and nursing research.

Nursing practice:

Motivational techniques are effective to learn the communication skills and clinical skills of nursing students. Motivational techniques promote interest, confidence and improve performance skill thereby increase the quality of care.

Nursing education:

Nursing teachers should emphasize the importance of awareness of learning skills to the students. Motivational techniques are very much effective to improve the academic performance of nursing students. It develops better understanding, motivation, positive attitude and better achievement in the examination.

Nursing administration:

It has been suggested that in service education on motivational techniques can be conducted to nurse educators and ward incharges regarding the effectiveness of motivational skills. The administrator can initiate the nurse in conducting and participating in various educational programmes. It helps to improve the clinical skills and learning skills of the nurses to improve the professional standards.

Nursing research:

The study throws light on effectiveness of motivational techniques and academic performance. There is a lot of scope for exploration in this area. There is a need to carry out more researches on effectiveness of motivational techniques in the current scenario. In nursing education, other professional education and in general education. Nurses should initiate to conduct the research in motivational techniques regarding learning skill.

LIMITATION:

1. The extraneous variables like attitude, intelligence, memory, motivation by the participants were different for each student but it is not considered on this study.
2. Mental state of the participants during study is different.
3. Small sample size and single setting restricted the generalization of the study.
4. The available time given was limited.

RECOMMENDATIONS:

Keeping in the view the findings of the study, the following recommendations are made:

1. The study can be done in different settings.
2. Further study could be conducted by giving maximum time for intervention.
3. A similar study can be conducted in different curriculum other than nursing.
4. The study can be replicated in the larger samples

REFERENCE:

1. Worg Q H. Learning motivation in Chinese nursing students. Pubmed[document on internet]:The institute of school of nursing Binzhou Medical University china;2014.Available from: http//www.medtextpublications.com
2. Tomnele N, Sevi S, Kanedibak Y, Saveli s. Relationship with learning style and academic performance. Pubmed [document on internet]: The Institute;2018. Available from: www.ncbi.n/m.gov/pmc
3. Yardina A, Bektanm, Ozkufulen, Master G K, Geredeker, Busbakat H. Relationship between study process, motivation resourceand motivation problems of nursing students in different educational system. pubmed [Document on internet].The institute;2016.Available from:www.ncbi.n/m.nih.gov/pmc.
4. Sookkin J, Oak M, Chang H. Evidence based practice education program using multifactorial intervention. Pubmed [Document on internet]. The institute; 2019.Available from:www.ncbi.n/m.nih.giv/pmc.
5. Glnasni M, Moonaghi K, Hiydavi A. To assess student related academic engagement. pubmed [Document in internet]. The Institute; 2017.Available from:www.ncbi.n/m.gov/pmc.
6. Hadi Hasankhan, Aliveza Mahajjel, Azad. Study to assess the influence of motivational techniques on academic performance among dental undergraduate students. pubmed[Document on internet].The Institute;2013.Available from:www.ncbi.n/m.nih.gov/pmc.
7. Sultan A Almalki. Study aim to investigate the relation between self efficacy and learning motivation among nursing students. pubmed [Document on internet].The institute;2019.Available from:www.ncbi.n/m.nih.gov/pmc.
8. Chen J, Chenyc, Sung H C, Hseih T C, Leemc, Chang C Y. The prevalence and related factors of depressive symptoms among junior college nursing students. pubmed [Document on internet].The Institute;2015.Available from:www.ncbi.n/m.gov/pmc.
9. Frank, Tillian Gilbreth. Study regarding their time and motivation studies and study affected the motivation of employees. pubmed[Document on internet].The institute;2009.Available from:www.ncbi.n/m.gov/pmc.
10. Kurian A G, Oermannetal. Studies regarding learning difficulties of students to determine the realness for new learning experience for higher class. pubmed[Document on internet] .The institution; 2009. Available from:www.ncbi.n/m.gov/pmc.
11. Suresh K Sharma. Nursing reseach and statistics:3. Elsevier:2018.171-174
12. B J Zimmerman Journal of educational psychology: 3.81. 1989. 329-339
13. C Gbolhc and M David. Journal of education and practice: 12.5. 2014.139-150.