RESEARCH ARTICLE

'Makkalai Thedi Maruthuvam' scheme in Tamil Nadu: an intersectionality-based analysis of access to NCD care.

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Abstract

There are gross inequities in access to non-communicable disease (NCD) care in India. The Indian state of Tamil Nadu recently launched the "Medicine at people's doorstep" (Makkalai Thedi Maruthuvam — MTM) scheme in which screening and medications for NCDs are delivered at people's doorsteps. This is likely to improve geographical access to NCD services in the community. The objective of this study is to analyse the MTM scheme and recommend policy interventions for improved and equitable access to NCD services in the community. We analysed the MTM policy document using the intersectionality-based policy analysis framework. This analysis was supplemented further with literature review to enhance understanding of the various intersecting axes of inequities, such as gender discrimination, caste oppression, poverty, disabilities and geographical access barriers. The MTM policy document, while it removes the physical access barrier, does not frame the problem of NCDs from an intersectionality perspective. This can increase the chances of inequities in access to NCD services persisting despite this scheme. We also recommend interventions for the short, intermediate and long term to make NCD care more accessible. Creation of a gender, caste, class, geographical access, and disabilities disaggregated database of patients with NCDs, using this database for monitoring the delivery of MTM services, dynamic mapping of vulnerability of the target populations for delivery of MTM services and long term ongoing digital surveillance of factors inducing inequities to access of NCD services can all help reduce inequities in access to NCD care.

Keywords: *non-communicable diseases, Makkalai Thedi Maruthuvam, Medicine at people's doorstep, inequity, access to care, intersectionality, policy analysis*

Introduction

India has a rising burden of non-communicable diseases (NCD), especially type 2 diabetes, with Tamil Nadu (TN) state with a high burden [1]. The STEP-wise Approach to NCD Risk Factor Surveillance (STEPS), a simple tool developed by the World Health Organization (WHO), is a standardised method to collect, analyse and disseminate data on risk factors of NCDs in the member countries [2]. As per the STEPS survey conducted in 2020 in the state, only 10.8% of people with diabetes had good control of blood sugar levels [3,4]. The Covid-19 pandemic has disrupted care for NCDs further and exposed the weakness of the health system in providing institutional care resulting in increased morbidity and mortality due to non-Covid conditions in the state, as elsewhere [5]. To address these health needs and to effectively strengthen the health system's response, a holistic scheme for home-based care called "Medicine at people's doorstep" or *"Makkalai Thedi Maruthuvam"* (MTM) was launched in the state in August 2021.

The scheme has a range of services that are delivered at the beneficiaries' doorsteps. This scheme involves population-based screening for those who are 18 years and above covering 10 conditions, delivery of drugs at the doorstep for hypertension and diabetes for those who are 45 years and above, and for people with restricted or poor mobility. The scheme also has a physiotherapy component wherein a physiotherapist will provide home-based care for the same sections. The implementation cost of the scheme is over INR 2.5 billion [3]. Launched by the TN Chief Minister in August 2021, the scheme will be implemented in a phased manner to cover a total of 3 million families and 10 million population [6].

In this paper, we analyse this scheme from an equity and social justice perspective, especially considering the NCD care needs of differently-abled persons. We particularly focus on individuals who are differently abled with multiple barriers in accessing health services [4]. In this analysis, we include physical, locomotor, visual, speech, language,

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hearing, learning, intellectual and psychiatric disabilities [7]. People with these disabilities are often marginalised, live in poverty and lack access to healthcare services [7]; hence, we focus on NCD care for them.

We adopt the intersectionality-based policy analysis framework (IBPA) developed and described by Hankivsky et al [8]. The IBPA looks at policy through an intersectionality lens and considers the multiple social structures, places, and power dynamics that influence human life and experiences. Rather than considering gender, caste, class, disability as independent variables influencing health, the intersectionality paradigm views them as social characteristics which integrally interact with each other leading to various consequences. We specifically address the issue of care for NCDs in Tamil Nadu.

Methods

This is a health policy analysis study using the IBPA framework [8]. We analyse the MTM Scheme at the design level. We do not perform an implementation and outcome level analysis, as the programme is new and still evolving. The analysis of this policy at the design stage is likely to provide suggestions and recommendations for making it more equitable and just. Similar studies using IBPA have been done in Uganda and elsewhere earlier to understand barriers in access to reproductive health services among people with disabilities [9]. We used this framework as it mainly focuses on health equity as a core component of health policy, and has newer structures for a critical appraisal of a health policy wherein various spheres of the health policy are considered. It also helps to provide a policy solution through transformative insights unavailable in other health policy frameworks focused on health equity. The IBPA asks the following key questions:

1. What knowledge, values and experiences do you (the researcher) bring to this area of policy analysis?

2. What is the policy problem under consideration? — population affected, causes, beliefs, assumptions.

3. How have representations of the problem come about? — framing of the problem, evidence base, any changes in the framing of the problem.

4. How are groups differentially affected by this representation of the problem? — who is most advantaged and least advantaged? Differences between groups.

5. What are the current policy responses? — what is the policy response trying to achieve, is there a focus on specific groups of the population, how does the policy response address, maintain or create inequities, competition for resources.

6. What inequities exist in relation to the problem? — what are the intersecting social axes — race, ethnicity, class, caste, gender, sexuality, what information is available regarding these inequities,

what knowledge and evidence gap exists?

7. Where and how can interventions be made to improve the problem? — logical entry points, successful examples, who will implement the intervention, what role can the community play in these interventions?

8. What are the feasible short-, medium- and long-term solutions? — how can solutions be positioned pragmatically?

9. How will proposed policy response reduce inequities? — how will it ensure social justice, how will you ensure that the proposed options do not reinforce existing stereotypes?

10. How will implementation and uptake be assured? — who will be responsible, what time frames and accountability mechanisms are identified for implementation?

11. How will you know if inequities have been reduced? — how will you measure policy implementation and outcomes, what intersectional factors will be measured?

12. How has engaging in intersectionality-based policy analysis transformed thinking about relations and structures of power and inequity, the way in which we engage in policy development, implementation and evaluation, broader conceptualisation of power asymmetry in everyday world?

We obtained the Government Order (GO) of the MTM scheme passed in August 2021 by the Tamil Nadu government wherein the context of the current scenario of NCDs, and how Covid has impacted NCD services in the state is outlined, along with the details of the MTM scheme and the various services that will be provided through the scheme [3].

All the authors independently read the document in detail and attempted to answer the above questions. We discussed and resolved any issues we had in the way we analysed the various components of the scheme. We further expanded our understanding of the social intersectionality analysis by performing specific literature searches related to the various social factors that affect the policy.

Since this was a policy analysis study not involving any human participants, it was not reviewed by an ethics committee. The policy analysis was done from September to November 2021.

Results

In the following paragraphs, we present the findings of our policy analysis under the twelve subheadings of the IBPA framework. This is a policy analysis at the stage of design of the policy and the proposed implementation machinery.

1. What knowledge, values and experiences do we bring to this policy analysis?

RT and VG are public health practitioners and researchers. HS and KK are public health researchers and teachers. VG also works as a physician in rural communities delivering primary care diabetes services for people, including persons with disabilities. In addition to a sound understanding of public health principles and public health policy, we also bring to the study several years of grounded community health work, interacting and working with communities who have been deprived of access to good quality healthcare. We bring to this analysis insights and perspectives from critical evaluation of policies as well as grassroots perspectives of working with communities.

2. What is the policy problem under consideration?

The MTM scheme has been rolled out to address the problem of NCDs in Tamil Nadu. The Covid-19 pandemic quarantine and consequent lockdowns deprived, persons with NCDs of access to their routine medications and weakened their disease control. The MTM was rolled out to take medicines to people's doorsteps, during and after the pandemic. It was further expanded to include screening and physiotherapy services. Later, people with disabilities and restricted mobility were included in its coverage. The main assumption is that persons with NCDs which are reasonably controlled, would greatly benefit from doorstep delivery of their medicines. It would improve their adherence to drugs and hence their disease control by overcoming barriers to access. The same would apply to persons with disabilities.

3. How has the problem been represented in the policy document?

Only a few GOs have been issued to guide the roll out and implementation of the MTM programme — one on August 3, 2021 outlining the problem statement and the programme plan and another on August 30, 2021 creating a group of Mid-Level Health Providers (MLHP) who will implement the scheme. There is no formal policy document. Therefore, the framing of the problem of access to medications for NCDs is not comprehensive. The GO has framed the problem of NCDs as a major public health burden in Tamil Nadu, highlighting the fact that the Covid-19 pandemic led to disruption of NCD services. The pandemic lockdowns led to travel restrictions. Lack of a database of beneficiaries to whom the drugs had to be provided and deficits in logistics and the supply chain of NCD medications during the Covid-19 pandemic led to reduced access to NCD services. This also increased morbidity and mortality rates due to NCDs. Therefore, the policy proposes a population-based registry that would enable and support close monitoring of patients with NCDs in the community as well as taking screening for diseases, treatments, medications, and physiotherapy to their doorsteps. While including people with restricted mobility including persons with disabilities in the scheme, the GO does not frame the access to NCD medications issue specifically for this population.

The MTM scheme has the potential to be very useful even after the Covid-19 pandemic, especially for persons for whom public health facilities are inaccessible. Therefore, a more thorough framing of the problem of access to NCD medications in Tamil Nadu is required. Such a framing will ensure clarity in design, implementation and monitoring of the policy intervention.

Access to NCD services are strongly influenced by several intersecting social factors such as gender, caste, class, geography. A recently conducted systematic review revealed that women have poorer access to NCD care. The main barriers for access to care included personal, socio cultural, health system, economic, psychological and geographical barriers [10].

Studies have shown that persons belonging to the Scheduled Castes have poorer access to health services compared to the dominant castes. Various issues are faced by the Dalits and Adivasis wherein, as a part of discrimination, they are subjected to separate queues, long waiting hours, difference in health check-ups and treatment due to biased attitudes of health workers, avoidance of physical examination and avoidance of house visits [11]. In Tamil Nadu, 20% of the population belongs to the Scheduled Castes (SC) and 1.1% belongs to the Scheduled Tribes (ST), of whom 50% are women. There is evidence that all health indicators are poorer among the SC and ST communities compared to other castes. Therefore, SC and ST have poor health indicators and poor access to healthcare including NCD services [12]. Disability adds a further layer of inequity, which is particularly important for the MTM scheme as one of its target groups is persons with restricted mobility. A study conducted in Karnataka and Andhra Pradesh, Tamil Nadu's neighbouring states, showed that differently-abled persons had a higher risk of unemployment, higher risk of diabetes, and of depression. The study also showed that differently-abled persons faced significant barriers to accessing healthcare services, especially for NCDs, because of lack of awareness, cost considerations and lack of accessible transportation [13]. A more thorough framing of the problem of poor access to NCD screening and treatment services in the community in Tamil Nadu should inform the MTM scheme.

4. How are groups differentially affected by this representation of the problem?

Due to the lack of a clear representation of the inequity in access to NCD care among different vulnerable sections of society, it is likely that the inequities may never be addressed. The current representation of the problem of poor access only focuses on physical accessibility to the public health facilities due to lockdown and travel restrictions during the Covid-19 pandemic. This may be generaliseable to other

circumstances where there is poor access to transportation facilities as in remote tribal areas. It may also be generaliseable to persons with disabilities who cannot access public transport facilities. However, other types of barriers to access to care such as gender norms, social norms, lack of awareness, etc are not framed appropriately in this document and therefore, are likely to go unaddressed. Even if the MTM scheme takes the drugs and delivers them at the door step, when there is no clear problematisation of access barriers based on caste, gender, sexual orientation, etc people may not be reached by even this programme. For example, a woman health volunteer of the MTM scheme belonging to a dominant caste may refuse to enter the scheduled caste colony to deliver the drugs to a patient living there. This will render the services inaccessible to patients in the colony despite the MTM scheme. Therefore, lack of proper intersectional framing of the problem could lead to vulnerable populations becoming further marginalised.

5. What are the current policy responses to the problem?

The main problem addressed by the MTM scheme is lack of access to NCD care in the community. This policy has addressed this problem by delivering NCD medications at the doorsteps for older persons and persons with restricted mobility. The MTM scheme has deployed a cadre of community health workers and women health volunteers.. Their main responsibility is to perform screening at the community level for NCDs and to deliver medications, at the door step to the target populations. The scheme also includes physiotherapy and palliative care at the door step of the people, along with Continuous Ambulatory Peritoneal Dialysis fluids to patients with chronic kidney disease. Though the policy framework targets older persons with NCDs, it does not specifically focus on vulnerable elderly with NCDs such as women, people belonging to Scheduled Castes and Tribes, the poor or elderly with disabilities of any type. Further, it does not lay emphasis on vulnerable elderly with multiple other intersectional factors inducing inequities. The MTM scheme requires registration with details of unique identification number (AADHAAR) as well as any other form of identity proof. Therefore, the scheme excludes people who do not have any proof of identity. Such people, usually the highly vulnerable sections of the community, are likely to be excluded from the MTM scheme. This further deepens the chasm of inequity in access to care for these people.

6. What inequities actually exist in relation to the problem?

Inequities in access to healthcare services including NCD services exist in India due to multiple factors. There is a prominent rural-urban divide in access to health services. Inequitable distribution of healthcare facilities, bed to population ratio, and health human resources exist between rural and urban areas. There is inequity in access to both curative and preventive health services. Screening for and treatment of NCDs can be largely viewed as preventive services. Access to such preventive services are also inequitable [14].

Several sociodemographic characteristics influence access to healthcare services. Information asymmetry, cultural barriers, poverty, gender, religion, caste and class influence access to healthcare including for NCDs. Economic influences, social exclusion and gender discrimination are the most important factors among these [15].

People with disabilities also have poor access to healthcare services, especially NCD services. There are three main factors that influence access to healthcare for persons with disabilities. These include individual characteristics such as socio-economic factors, type of disability and level of dependence on others for activities, policy level factors such as structural design of health facilities, inclusivity of public transport and affirmative action initiatives and attitudes and perspectives of healthcare providers. There is an intersection between these factors that mediate the influence of disability on access to healthcare services with other social factors such as gender, caste, class, and geographical location. This worsens the level of inequities [16].

7. Where and how can interventions be made to improve the problem?

MTM intends to overcome the geographical access barrier to health facilities by taking medicines and screening to the doorstep. However, overcoming the geographical barrier alone is insufficient to ensure equitable access to preventive and curative NCD services. There are various policy-level interventions which will ensure equity in access to NCD services to all. Some examples of these policy interventions at the design, implementation and outcome stages are:

Interventions at design stage:

a. Generation of a population-level database disaggregated across different factors that introduces inequities in access. Gender, caste, class, religion disaggregated database of persons with NCDs would be a good starting point.

b. Generation of a population-level database of persons with disabilities who have NCDs would be an additional entry point to ensure equity.

c. Vulnerability mapping of persons with NCDs in the society across various axes of intersecting vulnerabilities would be a good exercise to map out those who are the most disadvantaged sections.

d. Prioritisation of the delivery of MTM services based on vulnerability mapping will ensure that equitable distribution of resources, time and energy takes place.

Interventions at implementation stage:

a. Ensuring allocation of funds and resources based on degree of vulnerability of the population and level of inequities in access to NCD services

b. Monitoring delivery of MTM services based on the disaggregated database and level of vulnerability.

c. Dynamic redistribution of resources and services based on periodic updating of vulnerability mapping.

Interventions at the outcome stage:

a. Periodic evaluation of drug use and clinical outcomes such as glycaemic control, blood pressure control and other clinical parameters disaggregated by various social axes that introduce inequities in access to NCD services.

b. Responsive interventions to adjust inequities in outcomes by increasing resources and inputs in populations that are vulnerable and have poor outcomes

These policy-level interventions must be implemented by the local governance bodies in association with the village health nurses and anganwadi workers in collaboration with the local community. Active community engagement in vulnerability mapping will help improve access to NCD services, especially to persons with disabilities. In Table 1, we have proposed policy interventions based on intersectionality-based policy analysis of MTM Scheme.

8. What are feasible short-, medium- and long-term solutions?

The MTM scheme is currently collecting data of all persons with NCDs with linkage to their unique identification (AADHAAR). This database can be immediately disaggregated by gender, caste, class, religion, geography, disability and level of dependence. This can be used for monitoring the delivery of MTM services. In the medium term, the state can undertake a vulnerability mapping exercise. This can be done by each health unit district under the leadership of the district health authorities using Geographic Information System (GIS) mapping techniques. This must be shared with the women health volunteers and community level workers of MTM to make them aware of the most vulnerable populations in their areas. A long-term solution would be to develop a digital surveillance of intersectional vulnerability and inequity in access to NCD services. The women health volunteers can periodically update this surveillance data. This can help keep a close watch on the most vulnerable populations with the highest level of inequities in access to NCD services. This will help address the intersectional inequities in communities.

Table 1: Proposed policy interventions based on intersectionality-based policy analysis of MTM Scheme

Policy intervention	Timeline	Mechanism of implementation	Monitoring and evaluation
Creation of population level database of NCDs disaggregated by disability, social axes of inequity	Immediate short term	Village health nurses, anganwadi workers; Enrolment with AADHAAR; Door to door enumeration and development of database.	Periodic monitoring of database to verify whether it is dynamic and up to date.
Vulnerability mapping for inequities in access to NCD care	Intermediate medium term	Research and development of vulnerability index of inequity in access to NCD care; Door to door mapping exercise	Periodic monitoring and supervision of vulnerability mapping exercise.
Allocation of funds and resources to blocks and villages based on prioritization exercise	Intermediate medium term	Based on vulnerability mapping the district prioritizes areas of high and low vulnerability and allocates resources for MTM implementation	Resource allocation to various population units based on vulnerability map; Monitoring spending of resources according to allocation.
MTM service delivery prioritized by vulnerability map	Intermediate medium term	The village level community health workers deliver MTM services as per plan laid out by district based on vulnerability map	Utilisation of MTM scheme; Drug adherence rates in communities — disaggregated analysis based on disability, social axes of inequity; Clinical outcomes — blood sugar and blood pressure control — disaggregated analysis based on disability, social axes of inequity.
Dynamic surveillance of vulnerability for inequities in access to NCD care	Long term	Establishment of HMIS to digitally monitor level of vulnerability and extent of inequities in access to NCD care	Data driven policy decisions; Responsiveness of data in the HMIS.
NCD: Non-Communicable Disease; MTM: Makkalai Thedi Maruthuvam; HMIS: Health Management Information System.			

9. How will proposed policy response reduce inequities?

Development of a social inequity and disability disaggregated population database of NCDs will make the health system sensitive to the most vulnerable sections of the society. Therefore, these people can be prioritised for MTM service delivery. The vulnerability mapping will also help in resource allocation based on needs. This will help to address the issue of inequity in access to NCD care. Delivery of MTM services without such prioritisation will reinforce existing power hierarchies within society. Those who are more aware, more accessible and easier to approach will be the ones who receive the home-based services. The most vulnerable will remain the blind spots of the health system. Monitoring the performance of MTM services using this database will also ensure equity in delivery of MTM service. A long-term plan of establishing a surveillance mechanism for monitoring MTM services will ensure the dynamic nature of the prioritisation, as factors introducing vulnerability may keep changing over time. For example, people may migrate from remote rural areas, to more accessible areas thus reducing their level of vulnerability. An active surveillance of the vulnerability will help update this vulnerability map.

10. How will implementation and uptake be assured?

The village health nurses, anganwadi workers, women health volunteers and other community level health workers can be assigned the task of developing the database of persons with different degrees of vulnerability. The local self-governance bodies can also actively engage in developing this database and ensuring a smooth delivery of the MTM scheme in the villages. District-level planning can be done after the development of the database and vulnerability mapping. This can help ensure equity in delivery of the MTM services. This district level planning can be led by the district health authorities. In the long term, the health system must invest in development of a robust health management information system that can do a continuous ongoing surveillance of vulnerability and access to NCD care services. Community engagement through all stages of the policy can ensure active uptake.

11. How will you know if inequities have been reduced?

Greater enrolment of people from high vulnerability in the MTM scheme will be a process indicator for reduction of inequities. This will be verified by comparing with the database that is generated at baseline. Greater enrolment of persons with disabilities, especially those with disabilities that make them dependent on others, will ensure reduction of the inequity induced by disabilities. The ongoing surveillance system should also monitor medication adherence, lifestyle practices, control of blood sugar, blood pressure and other biological parameters and this will ensure that inequities in health indicators are reduced.

12. How has the process in engaging with an

intersectionality-based policy analysis transformed your thinking about relations and structures of power and inequity, the ways in which you engage with policy development and implementation and broader conceptualisations of power asymmetry in everyday world?

Engaging with the IBPA has helped us look at NCDs as complex social diseases. The access to care for NCDs is also a complex social phenomenon. It has helped us understand that a "one size fits all" approach to access the NCD care will not work. We must have specific policy adaptations to different social groups. Intersecting social factors of gender, religion, caste, class, political beliefs, cultural factors, sexuality, sexual orientation and other social factors can push people into corners of extreme vulnerability and lack of access to NCD services. Recognising this reality and taking affirmative steps to correct these inequities is an ethical imperative.

Conclusions

The intersecting social dynamics of socio-economic position, gender, caste, religion, and disability create major inequities in social determinants of diabetes as well as access to screening, prevention, diagnosis, treatment and follow-up of patients with diabetes. The "Medicine at People's Doorstep" (*Makkalai Thedi Maruthuvam*) scheme offers the potential to overcome one of the greatest inequities in healthcare in the community, namely physical barrier to access. However, for this to effectively negate the inequities in access, the MTM scheme must carefully consider including certain key elements in the policy. It must frame the problem of NCDs, especially diabetes, as not just a biomedical and public health problem, but as a complex social problem influenced by intersecting social determinants of health. The scheme should ensure that at every stage of its implementation, the intersectionalities are carefully considered and addressed, so that MTM will contribute meaningfully to overcoming barriers to care for diabetes and other NCDs among all social groups, especially differently-abled persons.

References

1. Thakur JS, Paika R, Singh S. Burden of noncommunicable diseases and implementation challenges of National NCD Programmes in India. *Med J Armed Forces India*. 2020 Jul;76(3):261-267. https://doi.org/10.1016/j.mjafi.2020.03.002
2. World Health Organization. Noncommunicable Diseases and Mental Health Cluster. WHO STEPS surveillance manual: the WHO STEPwise approach to chronic disease risk factor surveillance / Noncommunicable Diseases and Mental Health, World Health Organization. World Health Organization. 2005 [Cited 2022 Mar 23]. Available from: https://apps.who.int/iris/handle/10665/43376
3. National Health Mission Tamil Nadu. Implementation of "Makkalai Thedi Maruthuvam" Scheme in Tamil Nadu. G.O (Ms) No. 340, Aug

2021. Chennai; 2021 Aug[Cited 2022 Mar 23]. Available from: http://cms.tn.gov.in/sites/default/files/go/hfw_e_340_2021.pdf

4. Senjam S, Singh A. Addressing the health needs of people with disabilities in India. *Indian J Public Health*. 2020 Jan-Mar;64(1):79-82. https://doi.org/10.4103/ijph.ijph_27_19

5. Suva M, Suvarna V, Mohan V. Impact of COVID-19 on noncommunicable diseases (NCDs). *J Diabetol*. 2021;12(3). 252-256. https://doi.org/10.4103/JOD.JOD_75_20

6. Special Correspondent. TN CM launches Makkalai Thedi Maruthuvam scheme. *The Hindu*. 2021 Aug 5.

7. The Rights of Persons with Disabilities Act, 2016, Gazette of India (Extra-Ordinary); 28 December. 2016.[Cited 2022 March 23] Available from: http://www.disabilityaffairs.gov.in/uploaad/uploadfiles/files/RPWD/ACT/2016.pdf.

8. Hankivsky O, Grace D, Hunting G, Giesbrecht M, Fridkin A, Rudrum S, et al. An intersectionality-based policy analysis framework: critical reflections on a methodology for advancing equity. *Int J Equity Health*. 2014 Dec 10;13(1):119. https://doi.org/10.1186/s12939-014-0119-x

9. Mac-Seing M, Ochola E, Ogwang M, Zinszer K, Zarowsky C. Policy Implementation Challenges and Barriers to Access Sexual and Reproductive Health Services Faced By People With Disabilities: An Intersectional Analysis of Policy Actors' Perspectives in Post-Conflict Northern Uganda. *Int J Health Policy Manag*. 2021 Apr 13. https://doi.org/10.34172/ijhpm.2021.28

10. Suresh N, Thankappan K.R. Gender differences and barriers women face in relation to accessing type 2 diabetes care: A systematic review. *Ind J Pub Health* 2019;63(1):65-72.

11. George S. *Caste and Care: Is Indian Healthcare Delivery System Favourable for Dalits?* Institute for Social and Economic Change; 2015.

12. Department of Social Justice and Empowerment. *Handbook on social welfare statistics*. New Delhi; 2018 Sep.

13. Gudlavalleti MVS, John N, Allagh K, Sagar J, Kamalakannan S, Ramachandra SS. Access to health care and employment status of people with disabilities in South India, the SIDE (South India Disability Evidence) study. *BMC Public Health*. 2014 Dec 1;14(1).

14. Baru R, Acharya A, Acharya S, et al. Inequities in access to health services in India: caste, class and region. *Economic and Political Weekly* 2010;XLV(38):49-58.

15. Mahapatro SR, James K.S, Mishra U.S. Intersection of caste, class, gender and unmet healthcare needs in India: Implications for health policy. *Health Policy Open* 2021;Vol 2:100040.

16. Gudlavalleti VSM. Challenges in Accessing Health Care for People with Disability in the South Asian Context: A Review. *Int J Environ Res Public Health*. 2018 Oct 26;15(11):2366. doi: 10.3390/ijerph15112366.

RESEARCH ARTICLE

Medical ethics teaching in the new undergraduate physiology competency-based curriculum in medical institutions in Delhi: A pilot, feasibility study.

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Abstract

Background: *Medical ethics teaching has received little attention in India's undergraduate medical curriculum, so the National Medical Commission's formal inclusion of medical ethics in the new competency-based curriculum (CBME) is creditable. However, the policymakers have left out the most crucial stakeholders — the teachers. This study was conducted to find out how physiology educators in Delhi felt about the implementation of ethics teaching in physiology in the CBME.*

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Methods: *This was a pilot, cross-sectional, observational, feasibility study conducted using a questionnaire, involving faculty and senior residents (post-MD) in the departments of Physiology at nine medical colleges in Delhi, conducted over the period from February to October 2020.*

Results: *The response rate was 76% (60/79), of which 40% (24/60) were senior residents and 60% (36/60) were faculty. Around 55% (n=33) felt bioethics and clinical ethics are not synonymous; 53% (n=32) believed ethics education can be accomplished in a large group setting; 75% (n=45) believed it should be the responsibility of the physiology faculty, rather than the clinical faculty, and 61.7% (n=37) wanted it to be included in the formative assessment. The respondents shared ethical concerns that should be included in the physiology curriculum and the best candidates to teach them to achieve integration. Despite the challenges, the majority 65% (n=39) felt ethics in the physiology CBME should be an inseparable part of teaching in all instructional modalities.*

Conclusion: *Early clinical exposure was considered preferable to the Attitude, Ethics, and Communication (AETCOM) programme. Using the five W's and one H method, we talk about how our findings can be used as a road map to help physiologists teach ethics to medical students in the new CBME.*

Keywords: *medical ethics, clinical ethics, undergraduate medical education, physiology, competency-based medical education*