






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Recruiting data-obscured populations: strategic local government referral sampling for qualitative studies

Shinto Joseph¹ , Jasmine Mathew¹  & Joseph Kuncheria¹ 

The research community must develop innovative methodologies that encompass all segments of society in social science research. Undeniably, there are neglected or unidentified sections of society, and including them in research poses challenges. The Gulf Breadwinner Bereavement (GBB) research conducted among the Kerala women who lost their husbands in the Gulf countries to COVID-19 introduces a new category called Data-Obscured Populations (DOP). It outlines the Local Government Referral Sampling (LGRS) strategy for identifying them. LGRS leverages the established networks and the trust of local government authorities to identify and recruit participants. The GBB study demonstrates the effectiveness of the LGRS in engaging DOP across Kerala. Despite challenges, the method proved to be robust and adaptable, providing valuable insights and data saturation. The study underscores the potential of LGRS to revolutionise qualitative research methodologies, offering a scalable and culturally sensitive approach to participant recruitment. This paper expands the methodological toolkit of social science research by establishing a strong foundation for future applications of LGRS in various research contexts, emphasising its ability to support ethical and inclusive research practices and reliable findings.

¹Rajagiri College of Social Sciences (Autonomous), Kochi, India. email: shinto@rajagiri.edu; jasminemsajan@gmail.com; emkay2001@gmail.com

Introduction

Participant recruitment is central to qualitative research, as it shapes the credibility and success of the study (Bonisteel et al., 2021; Negrin et al., 2022). The significant impact of recruitment on study outcomes has made it a critical methodological consideration, leading to the emergence of recruitment literature (Arcury & Quandt, 1999; Jessiman, 2013; Kristensen & Ravn, 2015; Rugkåsa & Canvin, 2011; Turner & Almack, 2017; Wigfall et al., 2013). Strategic recruitment is crucial to ensure data depth and diversity while mitigating bias (Arcury & Quandt, 1999; Hudson et al., 2016; Ellard-Grey et al., 2015). Accurate representativeness of samples is essential in capturing the complexities and nuances of human experience under study. Effective recruitment strategies guarantee an accurate representation of the study population, enhancing the richness and relevance of the data collected. Furthermore, these strategies have the inherent flexibility to adapt according to the traits of the target population (Bonisteel et al., 2021; Namageyo-Funa et al., 2014).

However, recruitment challenges are frequently overlooked, hindering successful qualitative research across diverse contexts (Garnett & Northwood, 2021; Namageyo-Funa et al., 2014). Recruitment involves multiple phases of meticulous planning and execution to address the specific challenges posed by the target population (Bonisteel et al., 2021). The complexities of recruiting vulnerable populations underscore the need for trust-building, trauma-informed approach, and ethical practices to foster participation and data integrity (O'Brien et al., 2022; Turner & Almack, 2017). Recruiting reflects the credibility of insights, especially when researching marginalised or hard-to-reach populations (Ellard-Grey et al., 2015; Negrin et al., 2022; Rockliffe et al., 2018). Nevertheless, some social groups often present challenges for researchers due to their vulnerability, social position, physical location, concealed status, or coexistence of these factors (Ellard-Grey et al., 2015; Rockliffe et al., 2018). On the other hand, some vulnerable groups are weary of participating in research (O'Brien et al., 2022).

Study context and recruitment challenges. The first author's PhD study on Gulf Breadwinner Bereavement (GBB) examined the experiences of women in Kerala who lost their husbands to COVID-19 while the men were working in Gulf countries. Kerala has a long history of labour migration to the Gulf, where expatriates often serve as primary breadwinners for their families. The COVID-19 pandemic disrupted this dynamic, leading to deaths occurring far from home and creating unique challenges for the bereaved families in coping with their loss and financial insecurity.

The participants were characterised by their transnational bereavement and the sociocultural implications of their loss. However, identifying and recruiting these women posed significant challenges due to their marginalisation and the lack of readily available data. First, existing official records, such as local government or public health databases, excluded expatriates who died abroad, leaving bereaved families unaccounted for. Second, the sensitive nature of widowhood, compounded by cultural stigma and economic dependency, led potential participants to remain silent about their experiences. Lastly, the absence of formal support networks for participants further complicated the identification process.

Recognising these challenges, the study required a targeted and innovative sampling strategy to locate and engage this otherwise overlooked population. Therefore, devising a suitable recruitment strategy necessitated a clear understanding and precise conceptualisation of the target population.

Hard-to-reach populations. Researching certain populations presents substantial challenges due to their characteristics or accessibility issues (Bekteshi et al., 2024; Ellis, 2021). Although researchers often refer to these populations as "hard-to-reach", the terminology is contested because the factors making the population hard to reach vary from institutional legitimacy and structural precarity to individual characteristics (Corrales, 2023; Ellis, 2021). Tourangeau's (2014) classification of "hard-to-survey" populations, adapted by Khoury (2024) into the qualitative context, comprehensively outlines the characteristics of populations that pose challenges for research due to their inherent attributes. The categories are; (1) Hard-to-reach: This group includes individuals who are mobile and difficult to contact. They often lack stable housing or live in transient conditions, making consistent communication challenging, (2) Hard-to-sample: These populations are not listed on population registers and are rare within the general population. This rarity makes it difficult to gather a representative sample, (3) Hard-to-identify or Hidden: Populations in this category engage in risky or sensitive behaviours. Their actions may be stigmatised or illegal, leading them to conceal their identities to avoid detection or judgement, (4) Hard-to-persuade: These individuals are unwilling to participate in research. This reluctance can stem from distrust, fear of exposure, or lack of interest in the research, (5) Hard-to-interview: This group includes individuals who face physical, mental, linguistic, or other barriers that prevent them from participating in interviews. Another framework presented by Freeman et al. (2021) in health research consists of three categories: Hard-to-reach, which refers to those who are difficult to find; Hidden, representing those who do not wish to be found; and Seldom-heard, referring to those who are often excluded from recruitment.

While the existing classifications have outlined various challenges in engaging certain groups, a critical gap remains for those not directly identifiable through conventional data sources. This paper introduces a newly recognised category termed 'Data-Obscured Populations (DOP).' This category encompasses groups that lack official data representation, rendering them invisible in traditional research landscapes. For example, in the GBB study, participants were not identified as a distinct social group of transnational widows, whose husbands had died across borders. This exclusion occurred because these deaths were not officially registered with local governments. Although both the deceased and the bereaved individuals exist in population records, the specific category of cross-border bereavement is not explicitly marked. This distinction sets DOP apart from traditionally recognised hard-to-reach or hard-to-sample populations by highlighting their existence in official records without explicit categorisation or visibility, necessitating innovative approaches to identify and engage them in research.

Recognition of this category highlights the need for innovative research approaches that delve deeper into the societal fabric to uncover and understand these neglected segments. By bringing attention to DOP, this paper aims to foster a more holistic understanding of societal dynamics and ensure that no group remains outside the purview of insightful research and policy-making.

Data-observed populations. The background study of the GBB research revealed that due to pandemic restrictions, the bodies of 997 Keralites who succumbed to the virus in the Gulf Cooperation Council (GCC) countries (information confirmed via responses to Right To Information [RTI] applications sent to Indian Embassies and Consulates in the GCC countries) could

not be repatriated. Consequently, these deaths were not recorded in the Kerala government's databases (information confirmed via responses from the Department of Non-Resident Keralites Affairs (NORKA), local self-governing bodies, and health department sections that track COVID-19 fatalities in the state).

The researcher sent RTI applications to obtain the contact information of the spouses of the deceased. However, the Embassies rejected them by applying section 8(1)j of the RTI Act 2005, which pertains to the disclosure of personal information. Furthermore, the researcher verified with the officials that the contact details available with Embassies and Consulates typically belonged to the deceased's sponsors, relatives, or representatives from voluntary organisations who took responsibility for consenting burial and collecting death certificates and other pertinent documents. The details of the spouses of the deceased who were in Kerala during the time of their death were not registered with any database, leaving a significant gap in accessible information. This absence of direct data in official records prompted the researcher to define the study population as a DOP.

The term "Data-Obscured Populations" emphasises the lack of available data that obscures the group from scholarly attention and indicates the need for research methodologies that uncover and address these obscured demographic segments. The researcher's reasons for selecting it as an effective term are as follows: (1) Highlighting data invisibility; The term directly points to the absence of data as the primary barrier to recognition and study, which is distinct from other factors like geographical inaccessibility or social stigma, (2) Implying potential for discovery; By using "obscured", the term suggests that these groups are not inherently unreachable or unimportant, but rather hidden beneath the current limits of research practices, (3) Encouraging methodological innovation; It prompts researchers to innovate ways to gather data and insights about these groups, potentially leading to the development of tools and techniques that can broaden the scope of research to include neglected populations, (4) Avoiding stigmatisation; Unlike terms that might imply fault or reluctance on the part of the population (such as "hard-to-reach"), "Data-Obscured" places the onus on the research community to bridge the gap, fostering a more inclusive and responsible approach to study design.

Sampling for participant recruitment and imperative for a new technique. Sampling in qualitative research refers to selecting individuals from a larger population, which begins with clearly defining the target population. The goal of sampling is to choose participants who can provide rich, relevant, and diverse insights into the phenomenon under study (Gill, 2020). Sampling offers a selection of potential participants to recruit. Proper sampling is crucial to ensure that the recruitment targets the right individuals. Thus, the sampling technique effectively situates the study with a trustworthy data collection and analysis framework (Campbell et al., 2020).

Convenience or volunteer sampling is a commonly used technique in qualitative research, which involves collecting data from participants who volunteer to participate in the study or are willing and most accessible and approachable to the researcher (Gill, 2020; Scholtz, 2021). While convenience sampling is easy to implement and cost-effective, it may not always yield participants who can provide the most relevant or best information for the study (Emerson, 2021; Gill, 2020). Additionally, it may not be suitable for sampling hard-to-reach populations as they are not easily identifiable.

Purposive or judgemental sampling is another technique in qualitative research for selecting specific cases that are highly

informative about the phenomenon being studied. This involves the researcher choosing participants based on specific characteristics and knowledge that align with the study objectives (Moser & Korstjens, 2018). This method assumes that the researcher can readily identify potential participants and has preexisting access to them (Khoury, 2024). Hence, when dealing with invisible populations, purposive sampling may not be suitable due to challenges in both identifying and accessing these groups.

Snowball sampling, also referred to as chain referral sampling, is a targeted sampling technique valuable when individuals in the target group are unknown or inaccessible to the researcher (Pahwa et al., 2023; Parker et al., 2019). It is a favoured method in qualitative research, hinging on networking and referrals. Snowball sampling involves identifying initial respondents, who refer the researcher to additional respondents. The process begins by connecting with the initial 'snowflakes' to form larger 'snowballs' as the study progresses (Khoury, 2024). However, DOP is hidden in plain sight, and the likelihood of familiarity among the individuals in the group is extremely low. Additionally, all the affected families may not have strong social networks or connections facilitating referrals. Moreover, direct referrals by acquaintances or relatives might cause emotional distress, as bereaved families might feel uncomfortable being identified and contacted through informal networks.

To address the limitations of the traditional sampling methods in reaching DOP, this paper introduces the Local Government Referral Sampling (LGRS) strategy. This method was specifically designed for recruiting widows of Kerala expatriates who succumbed to COVID-19 in the GCC countries. By leveraging the extensive networks and local knowledge of government entities, this approach facilitates the identification and referral of potential participants who are often invisible. This strategy not only improves the inclusivity and diversity of the sample but also fosters trust and collaboration with the community, ensuring that the voices of these vulnerable populations are effectively represented in the research.

Methods

LGRS is a strategic sampling method developed to identify and engage unidentified vulnerable groups by leveraging local government networks. This method leverages the administrative position and extensive reach of local government bodies to facilitate research that traditionally faces challenges in identifying and accessing certain demographic groups due to their invisibility or marginalisation within the mainstream systems.

Rationale for devising LGRS. Social science research, especially studies focusing on sensitive topics like bereavement, requires precise and representative data. The lack of effective sampling methods can lead to incomplete or skewed data, undermining the validity of the study. By collaborating with local government bodies, researchers can ensure a systematic and comprehensive approach to sampling. LGRS aims to utilise the established networks and the trust of local government authorities to identify and recruit participants. Local authorities can provide insights into community dynamics and potential participants, leading to eliciting accurate and rich data.

Moreover, engaging local governments can ensure that the recruitment process respects community norms and values. This collaboration can enhance the ethical conduct of research by ensuring that participants are approached respectfully and their consent is obtained appropriately. Additionally, utilising local government referrals can foster trust between researchers and participants. When individuals are approached through familiar

and trusted local government channels, they are more likely to participate and provide honest responses.

Conceptual framework of LGRS. LGRS is built on the premise that local governments are deeply embedded within the community fabric and maintain comprehensive insights about their constituents. These bodies often have up-to-date information and a direct line of communication with residents through various community engagement initiatives. By utilising these existing networks and the trust they have built within the communities, LGRS can effectively reach populations that are otherwise overlooked in conventional research methodologies.

Theoretical foundation of LGRS. LGRS leverages a structured communication network to identify and recruit participants from DOP. The process relies on theoretical frameworks of Community-Based Participatory Research (CBPR), Social Capital Theory, Social Network Theory, Diffusion of Innovation Theory, and Trauma-Informed Research (TIR).

Community-based participatory research (CBPR). CBPR is a collaborative research approach that involves community members and researchers as equal partners in all aspects of the research process. This method ensures that the research is culturally relevant and mutually beneficial (Collins et al., 2018; Denis, 1992; Duke, 2020). LGRS builds on CBPR by engaging local government as key community stakeholders. This partnership guarantees the sampling process is grounded in the community's social and cultural context, promoting cultural relevance and mutual benefit.

Social capital theory. Social capital theory posits that social networks, norms, and trust within a community facilitate coordination and cooperation for mutual benefit. Social capital can improve the efficiency of society by enabling coordinated actions and fostering a sense of community (Putnam, 2000; Woolcock & Narayan, 2000). Local government authorities often possess significant social capital within their communities. LGRS leverages this social capital to facilitate access to DOP, relying on the trust and networks established by the local government.

Social network theory. Social network theory examines the structure and dynamics of relationships within a network of individuals or organisations. It focuses on how the patterns of connections influence behaviours, information flow, and resource distribution within the network (Liu et al., 2017; Wasserman & Faust, 1994). This theory supports the structured, hierarchical approach used in LGRS to navigate and utilise community networks effectively to reach potential participants and collect their contact details. The local government members and health workers involved in the communication network of LGRS act as nodes.

Diffusion of innovations theory. This theory explains how, why, and at what rate new ideas and technologies spread through cultures. It highlights the role of opinion leaders and social systems in the adoption of innovations (Dearing & Cox, 2018; Rogers, 2003). In the LGRS model, the members of the local government act as opinion leaders within their communities, promoting the research study and encouraging participation. The endorsement by trusted local leaders helps to diffuse the idea of participation in the study.

Trauma-informed research (TIR). TIR integrates an understanding of the prevalence and impact of trauma into all aspects

of the research process. This approach emphasises creating a safe and supportive environment, recognising the signs of trauma, and responding appropriately to minimise re-traumatisation and promote empowerment (Goodwin & Tiderington, 2022; Isobel, 2021). Given the sensitive nature of the studies involving DOP or those affected by bereavement, LGRS incorporates trauma-informed principles. Local government officials, often familiar with the community trauma histories, can approach participants sensitively and assist researchers in providing appropriate support by leveraging locally available mental health resources.

Guiding principles of LGRS. LGRS is built upon the guiding principles that ensure the research process is ethical, culturally sensitive, and effective in engaging DOP. These principles are derived from the theoretical frameworks that provide a robust foundation for the LGRS methodology.

Collaboration and partnership. Establishing collaborative partnerships between researchers and local government authorities is fundamental to LGRS. This partnership is based on mutual respect and a commitment to addressing the needs of the DOP. Researchers work closely with local government officials in the sampling process. This principle is rooted in CBPR, which emphasises involving community members and stakeholders to ensure cultural relevance and mutual benefit.

Trust and ethical engagement. Building and maintaining trust with the community is crucial in qualitative research. In LGRS, local government bodies, trusted by the community, facilitate initial contact and introductions, ensuring participants feel safe and respected through the recruitment and data collection process. This principle draws from social capital theory, leveraging the existing networks and trust within the local communities.

Safety and empowerment. Ensuring participant safety and empowerment is critical for qualitative research, especially when working with populations that may have experienced trauma or other vulnerabilities. LGRS model incorporates trauma-informed practices to create a safe and supportive environment for participants. The study is introduced to participants by local government representatives who are familiar with and trusted within the community. This familiarity helps participants feel safe and reassured about the research process. LGRS empowers participants through the choice of sharing contacts with the researcher. Moreover, collaboration with local governments facilitates the mobilisation of locally available support resources such as counselling services, and social support networks that can provide additional assistance to participants.

Cultural sensitivity and relevance. Understanding and respecting the cultural context of the target population is essential for qualitative research. In the LGRS model, researchers' interactions with local government representatives provide insights into the local cultural traits and help tailor culturally sensitive and relevant research communication, increasing the likelihood of participation. This principle aligns with CBPR, ensuring the research process is culturally appropriate and beneficial to the community.

Inclusivity and representation. Ensuring that the sample is inclusive and representative of the diverse segments within the target population is critical for the validity of qualitative research. In the LGRS model, local government bodies help identify and recruit participants from various subgroups within the target population, guaranteeing a diverse and representative sample. This principle is supported by social network theory, which

Table 1 Steps in participant recruitment using local self-government referral sampling.

Number	Step	Objective
1	Identifying and selecting the Local Self-Government Institution (LSGI)	Choose an appropriate LSGI that aligns with the research goals and has a strong presence and trust within the community.
2	Making initial contacts with LSGI & forming a communication network	Establish a primary point of contact and form a communication network within the LSGI for effective collaboration.
3	Engaging the central node (President of LSGI)	Share the communication content with the LSGI President so they can communicate in the network.
4	Collaborating with intermediaries (Members of LSGI)	Distribute tasks and information through the members of the LSGI.
5	Mobilising operational groups (ASHA Workers)	Engage ASHA workers in the front-line efforts to identify and approach potential participants.
6	Receiving referrals	Gather and consolidate information on potential participants identified by the operational groups and communicate it to the researcher.
7	Checking referrals	Evaluate referrals received from the central node and decide the next step based on the presence or absence of referrals.
8	Recruiting participants	Establish contact with potential participants, assess their eligibility, and secure their informed consent for participation in the study.
9	Collecting data	Gather comprehensive and accurate data from the recruited participants through culturally sensitive and ethical methods.
10	Reflecting, refining, and iterating the process	Continuously improve the LGRS model by reflecting on the process, incorporating experiences from the previous LSGIs, and iterating the recruitment process until research reaches data saturation.

explains the accurate identification of potential participants through active community networks.

Effective communication and participation. Effective communication and active participation are critical to the successful dissemination of research initiatives within communities. In LGRS, local government members act as opinion leaders, facilitating clear and consistent communication about the research and actively encouraging the potential participants. This principle is based on the diffusion of innovation theory, which underlines the important role of communication channels and opinion leaders in the adoption of new ideas.

Sustainability and capacity building. The sampling strategy must be effective for the current study and sustainable for future research. It should enhance the capacity of local communities and institutions to participate in and support research. LGRS involves training members in the communication network, including local government officials and community members in research practices to create a research-friendly environment that future studies also may benefit. This approach is aligned with CBPR, which aims to empower communities through active involvement in the research process.

Steps in LGRS and participant recruitment. The LGRS method systematically engages and recruits participants from DOP. This section outlines the detailed steps in implementing the LGRS model, from the initial identification of suitable local government institutions to the final reflection and refinement of the process. Each step is designed to ensure ethical engagement, cultural sensitivity, and effective data collection, leveraging the trust and networks established within the community. By following these steps, researchers can provide a structured and comprehensive approach to qualitative research that respects the needs and contexts of the participants. Table 1 shows the steps and their objectives.

Identifying and selecting the local self-government institution (LSGI). In the initial phase, it is imperative for researchers to meticulously select one LSGI that aligns with their research objectives and holds a strong presence and trust within

the community. When choosing an LSGI, researchers must thoroughly analyse crucial factors such as the likelihood of finding potential participants within the LSGI's jurisdiction, level of community engagement, trust levels, and the operational capacity of the LSGI. These factors can be assessed effectively through extensive research, including media reports and direct communication with community leaders and members.

In the GBB research, the researcher gathered valuable insights from Uber drivers in Kochi, a city with a well-connected Uber service that includes drivers from various parts of Kerala. Engaging with these drivers provided important information that influenced the selection of LSGIs. The study leveraged these drivers as informal representatives of different geographical areas in the state. The researcher interacted with the drivers during everyday rides to and from the doctoral centre. During these conversations, they inquired about any known COVID-19 deaths among Gulf expatriates in their localities. However, the information obtained from the Uber drivers did not guarantee referrals from the LSGIs. As a result, when selecting an LSGI other than the initial one, the researcher carefully considered the experiences and insights from the previous institution and the associated processes.

Making initial contacts with LSGI and forming a communication network. In this step, the researcher has to establish a primary point of contact and form a communication network with LSGI for effective collaboration. The initial contact involves establishing communication with key officials within the LSGI, such as the President or other senior members, through formal letters, emails, or phone calls. Researchers should schedule and conduct introductory meetings to present the research objectives, the importance of the study, and the expected outcomes. During these meetings, an official letter from the doctoral centre, including the study details, researcher's registration, and ethical clearance details, should be produced to the President. Additionally, a communication network should be formed to facilitate the flow of information and referrals. In the author's GBB research, this network included the President of the LSGI as the central node, other members of the LSGI as the intermediaries, and Accredited Social Health Activists (ASHA) workers as operational groups.

Engaging the central node. The central node, typically the President of the LSGI, plays a crucial role in facilitating communication and collaboration within the network. Engaging the central node involves several key activities to ensure effective coordination and information flow. During initial meetings, researchers should provide the central node with comprehensive details of the study, including its objectives, methodology, potential risks, and benefits. This ensures that the central node is fully informed and can accurately convey this information to intermediaries, operational groups, and potential participants.

Researchers should provide the central node with clear and concise information that can be easily shared with intermediaries. This can be done through WhatsApp messages, flyers, or other communication tools. In the GBB research, WhatsApp messages included specific details of the potential participants, i.e., the widows of Kerala expatriates who died of COVID-19 in the GCC countries, were shared. The messages also detailed the information that needs to be collected from the identified participants and instructions on collecting the required information and reporting back to the researcher.

The central node is responsible for coordinating with the intermediaries, which involves passing on the information from the researcher to the intermediaries, ensuring they understand their roles and responsibilities in the research process. By providing clear and easily sharable information and establishing clear lines of communication, the central node can effectively collaborate with intermediaries and facilitate the identification and recruitment of participants.

Collaborating with intermediaries. Collaborating with intermediaries involves leveraging the group of LSGI members to reach potential participants. The central node passes on the information and instructions from the researcher to the LSGI members, who act as intermediaries. These intermediaries play a critical role in ensuring that the research objectives and procedures are communicated to the operational groups. Task delegation is a key aspect, where intermediaries are assigned specific areas or groups within the community to focus on. This organised approach helps in covering a larger geographical area and reaching a more diverse participant pool.

Intermediaries ensure that the operational groups are well-prepared and equipped with the information needed to approach the potential participants effectively. This includes sharing WhatsApp messages, flyers, and other materials that detail the study objectives, participant criteria, and specific information that needs to be collected. Additionally, intermediaries are responsible for maintaining continuous communication with the central node, reporting progress, addressing any issues, and ensuring that collected information is accurately recorded and passed back to the central node. This collaborative effort ensures that the research process is streamlined and efficient, leveraging the strengths and local knowledge of LSGI members to facilitate successful participant selection.

Mobilising operational groups. Mobilising operational groups is a critical step in the LGRS model, as these individuals are deeply embedded within the community and trusted by the residents. In the GBB research, ASHA workers constituted the operational groups. The intermediaries provided the operational groups with information on research and the researcher, and a checklist of required information that needs to be collected from the participants. The primary task of the operational group is to identify potential participants, brief the study to them, and collect their contact details. Then they report back to the intermediaries and discuss any challenges or questions they encounter. By leveraging their established relationships and trust within the community,

the operational groups can effectively engage participants, ensuring that the sampling process is efficient and respectful. This mobilisation not only facilitates the smooth operation of the LGRS model but also enhances the credibility and reliability of the data collected.

Receiving referrals. This step ensures that the information collected by the operational group is accurately communicated up the chain. Once ASHA workers identify potential participants, describe the study to them, and collect their contact details, they report this information to the intermediaries. The intermediaries play a vital role in consolidating these referrals, ensuring that all necessary details are complete and accurate. They verify the information and address any inconsistencies. The intermediaries then communicate this information to the central node. The central node is responsible for reviewing the referrals, collating all relevant data, and addressing any remaining issues. Once the information has been verified and consolidated, the central node reports it to the researcher.

This structured communication ensures that the researcher receives accurate and complete information about the potential participants, facilitating effective and ethical recruiting. By leveraging the communication network, the LGRS model ensures that referrals are handled systematically and reliably, enhancing the overall quality and integrity of the research process.

Checking referrals. Upon receiving the communication from the central node, the researcher has to review the information to determine if there are any referrals. This step involves two possible scenarios; the presence or absence of referrals. If referrals are present, the researcher proceeds to the recruitment phase. If no referrals are present, the researcher has to select another LSGI to repeat the process, beginning from step 1. This ensures that the research continues despite the initial lack of referrals, maintaining the integrity and progress of the study.

Recruiting participants. Recruiting referrals involves the researcher's initial contacts with the potential participants identified through the LGRS process. The researcher begins by creating rapport with the referrals, ensuring a respectful and culturally sensitive approach. This initial communication includes a detailed explanation of the research objectives, potential risks, and benefits, as well as addressing any questions or concerns the participants may have. The goal is to build trust and ensure that the participant feels comfortable and informed about their involvement in the study.

During this interaction, the researcher assesses the referrals's willingness to participate and applies the study's inclusion and exclusion criteria to determine the eligibility of each referral. In the GBB study, the inclusion criteria required the referral's stay in Kerala, while the exclusion criteria included remarriage. This careful assessment ensures that only eligible participants are recruited for the study. Once eligibility is confirmed, the researcher secures informed consent, ensuring that the participants fully understand their rights and the nature of their involvement. Then, the researcher preschedules data collection sessions, coordinating times and locations that are convenient for the participants. The entire recruitment process should be conducted in a culturally sensitive manner, adhering to the principles of TIR to ensure the safety, respect, and empowerment of participants.

Collecting data. Once a participant is recruited and has given informed consent, the actual data collection begins. This phase involves meticulously planned sessions to ensure reliable and valid data is gathered. The researchers collect data using

qualitative methods tailored to the study's needs. It is essential to create a comfortable environment that encourages open communication, considering the participant's schedule and preference. Researchers must employ culturally sensitive approaches, respecting participant's backgrounds, beliefs, and customs. This involves appropriate language, being aware of cultural norms, and fostering an atmosphere of trust and respect.

Maintaining ethical standards is crucial during data collection. Researchers must ensure participant privacy and confidentiality, anonymising data where possible and securely storing all collected information. For studies involving sensitive topics, such as grief, researchers should be prepared to provide emotional support resources to participants if needed. Accurate recording and transcription of data are vital, with detailed notes, audio, or video recordings used as per the participant's consent. This thorough and respectful approach ensures that the data collected is robust, ethical, and truly reflective of the participant's experiences, enhancing the overall validity and reliability of the research findings.

Reflecting, refining, and iterating the process. Reflecting on the recruiting process is essential for identifying strengths, weaknesses, and areas for improvement. After each round of data collection, researchers should review the effectiveness of their methods and the overall process. This reflection involves analysing the feedback from participants, the efficiency of communication networks, and the adequacy of support provided by the LSGI. The experience gained from working with the previous LSGI provides valuable insights into the effectiveness of the strategies used and highlights potential adjustments for future iterations.

Based on their reflections, researchers must refine their approach by incorporating lessons learned and best practices. They should also use their knowledge to strategically select the next location for their study based on the likelihood of finding potential participants. This iterative process continues until the research reaches data saturation, meaning the point where the data provides a sense of closure against the study objectives. By iterating the LGRS model, researchers ensure continuous improvement and adaptation to the unique contexts of participants, ultimately enhancing methodological rigour and research reliability.

Figure 1 shows the participant recruitment process using the LGRS.

Development of the LGRS model for the Gulf Breadwinner Bereavement Study. The GBB study was conducted in Kerala, a southern state of India. Geographically, Kerala is divided into three regions: Central Kerala, South Kerala, and North Kerala. According to the Indian local administrative system, Kerala is governed locally by 6 Municipal Corporations, 87 Municipalities, and 941 Grama Panchayats. The details of the elected members of all these local bodies are readily available online.

Action 1 & Responses: Based on a 2020 newspaper report about the COVID-19 death of a Kerala expatriate, a native of a city in Central Kerala, the researcher began the sampling process by contacting a Municipal Corporation in Central Kerala. The researcher initially called the office number and was directed to the Birth and Death Registration Section, where it was reported that the death of expatriates had not been registered with the local body. The front office then connected the researcher to the Health Section, which also confirmed that COVID-19 deaths of expatriates were not registered in their records.

Reflection 1: Searching through administrative sections does not yield any data. It becomes apparent that I need to contact local

body members directly to gather information about the potential participants. Additionally, it would be better to try smaller local bodies, such as Municipalities or Grama Panchayats, where representatives might have more detailed knowledge about the residents in their constituencies.

Action 2 & Response: Taking into account the information on COVID-19 Malayalee (Keralite) deaths in the Gulf shared by Uber taxi drivers from North Kerala, the researcher called the Chairperson of a Municipality in North Kerala and described the study. The chairperson plainly replied that there were no such cases in that Municipality.

Reflection 2: The chairperson may have responded that way due to personal reasons or without paying attention to the request. It would be beneficial if I try another municipality in the region to find potential participants.

Action 3 & Responses: The researcher contacted the second Municipality in North Kerala. The Chairperson replied that there are potential participants in the area, and connected the researcher to the Health Inspector (HI) to get details. The HI then connected the researcher to the District Medical Officer (DMO) office. The DMO office reported that no data was recorded about COVID-19 Gulf deaths and advised contacting the Revenue Division Office (RDO), which also reported having no data.

Reflection 3: The communication content has to be revised to specify that no records are available on potential participants, which is why the researcher is contacting you personally to see if you know of any such cases. It would be beneficial to contact LSGI members with better visibility in the locality, as they might have more detailed knowledge about the residents.

Action 4 & Responses: Following a 2020 newspaper report on COVID-19 Malayalee deaths in the Gulf, the researcher contacted a municipal secretary in South Kerala and collected the contact details of a municipal councillor with significant visibility in the locality. The researcher then contacted that particular councillor, explained the study, and outlined the support needed. The councillor collected and shared the contact details of the wife of an expatriate who died in a Gulf country due to COVID-19 infection. This was the first referral in the study. However, the referral was not recruited as the person was remarried.

Reflection 4: The strategy proved effective even without recruitment. It is advisable to follow the same approach with another Municipality in the region.

Action 5 & Responses: The researcher contacted another municipal secretary in South Kerala and collected the contact details of a councillor with significant visibility in the locality. The researcher then contacted the councillor and described the study. The councillor mentioned the network of ASHA workers and the knowledge they possess about the residents in the Municipality. Following the councillor's advice, the researcher drafted a WhatsApp message in the vernacular language and shared it with the ASHA workers. The ASHA workers surveyed the locality and reported no potential participants in the area.

Reflection 5: Leveraging the network and knowledge of ASHA workers would be beneficial for sampling the target population. It is advisable to try this approach in Central Kerala.

Action 6 & Responses: Following a 2020 newspaper report on COVID-19 Malayalee deaths in the Gulf, the researcher contacted a municipal secretary in Central Kerala and collected the contact details of a municipal councillor with significant visibility in the locality. Without involving ASHA workers, the councillor provided referral 2. However, the referral was not recruited for the study due to remarriage.

Reflection 6: Repeat the process with another Municipality in the region.

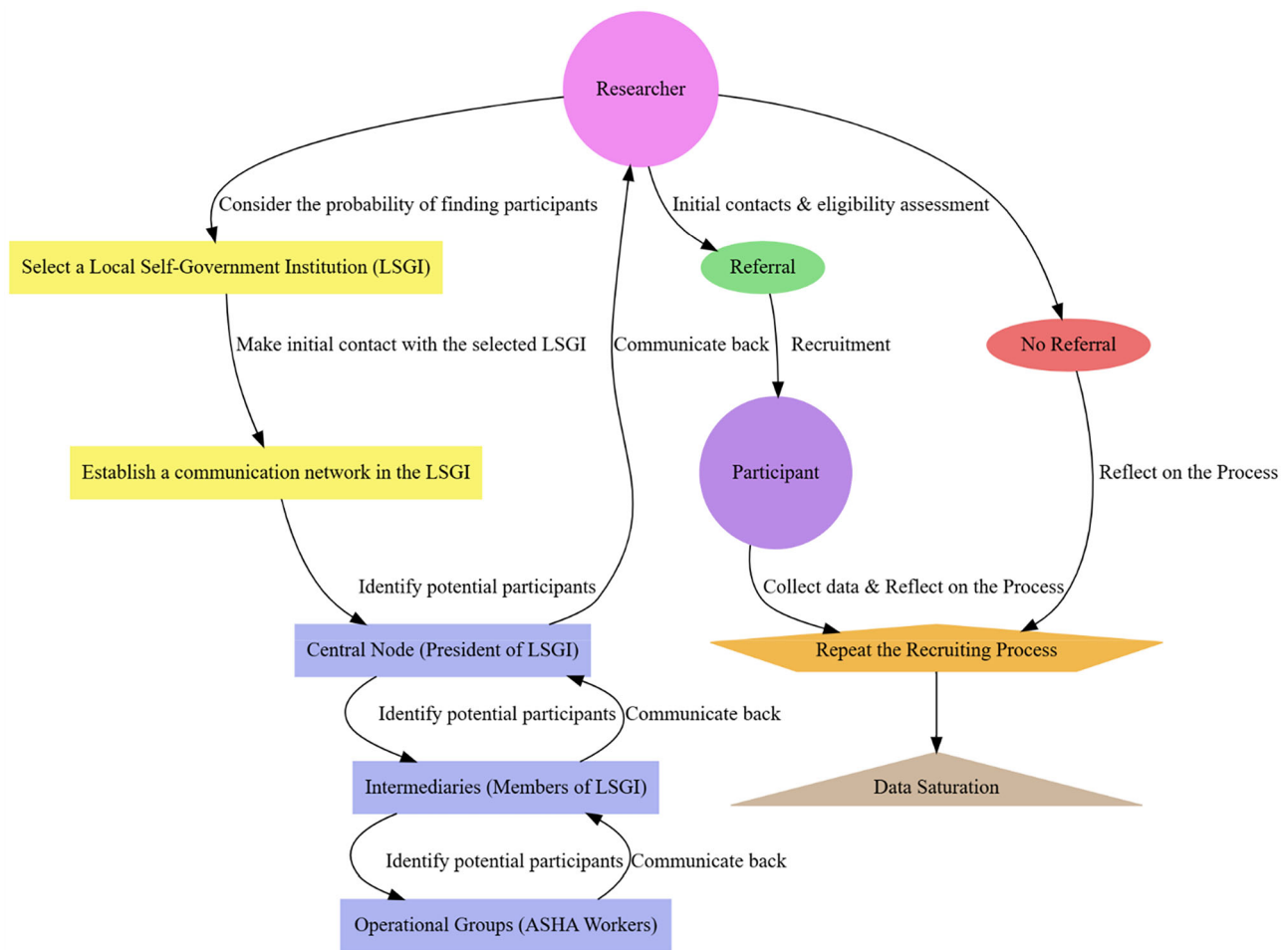


Fig. 1 Participant recruitment process using the local government referral sampling.

Action 7 & Responses: The researcher repeated Action 6 with another Municipality. This time, the councillor provided referral 3, who was recruited as participant 1 of the study.

Reflection 7: *The referral was prompt and accurate, and the response came from a female councillor. It may be beneficial to prioritise contacting female representatives over male ones, as women might exhibit more empathy towards other women who have lost their partners. This empathy could make it easier for them to recall details of potential participants. Additionally, considering that most of the deceased were labourers in the Gulf, conducting searches in Grama Panchayats (Rural Local Bodies) could be more effective in finding participants.*

Action 8 & Responses: In light of the information shared by an Uber taxi driver, the researcher visited a Grama Panchayat in Central Kerala and described the research to the President. The researcher discussed the importance of passing the communication to other members of the Panchayat and the ASHA workers. A WhatsApp message about the study was shared with the President, who then distributed it through the communication network. In response, the researcher received 4 from a female member of the Panchayat, and this referral was successfully recruited as Respondent 2.

Reflection 8: *The response was quick. Women are often compassionate and remember those who are affected, and they excel in utilising their agency to collect information. Moreover, Central Kerala appears to recognise the importance of academic research. It would be beneficial to seek additional cases in other Panchayats in the region.*

Action 9 & Responses: The researcher repeated Action 8 with another Grama Panchayat, obtained Referral 5, and recruited Respondent 3.

Reflection 9: *Repeat the process in another Grama Panchayat in the region.*

Action 10 & Responses: The researcher repeated Action 8 with another Grama Panchayat and obtained Referral 6. However, the person perceived a PhD research as not beneficial to her and declined participation.

Reflection 10: *The sampling process is found effective even without participation. Try the same strategy with Grama Panchayats in South Kerala.*

Action 11 & Responses: The researcher repeated Action 8 with another Grama Panchayat, obtained Referral 7, and recruited Participant 4.

Reflection 11: *The sampling process is found effective. Therefore, try the same strategy with Grama Panchayats in South Kerala.*

Action 12 & Responses: The researcher repeated Action 8 with another Grama Panchayat, obtained Referral 8, and recruited Participant 5.

Reflection 12: *The sampling process is found effective. Therefore, try the same strategy with Grama Panchayats in South Kerala.*

Action 13 & Responses: The researcher repeated Action 8 with another Grama Panchayat, obtained Referral 9, and recruited Participant 6.

Reflection 13: *The sampling process is found effective. Therefore, try the same strategy with Grama Panchayats in South Kerala.*

Geographical Distribution of Study Participants

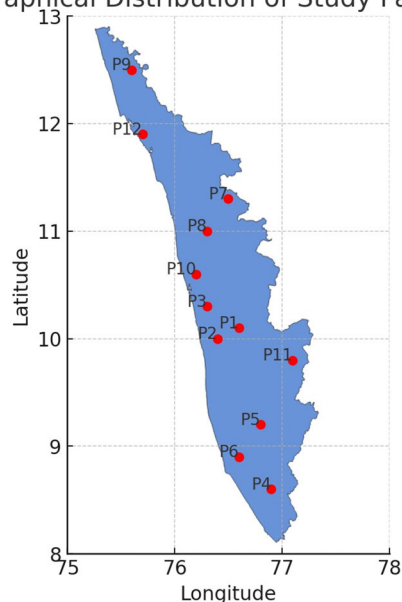


Fig. 2 Geographical distribution of GBB study participants in Kerala.

Action 14 & Responses: The researcher repeated Action 8 with another Grama Panchayat. Unfortunately, the response from the President was undesirable and politically biased. The President alleged that the researcher was trying to defame the ruling party during the parliamentary elections by highlighting the neglect that expatriates faced during the pandemic.

Reflection 14: It is naïve to conclude that the ruling party is against academic research. Therefore, it is advisable to try in North Kerala, where the party has a strong base.

Action 15–35 & Responses: The researcher repeated Action 8 with 21 Grama Panchayats in North Kerala. Eight of them responded during the initial contact that there were no cases. Nine Panchayat Presidents indicated that there were cases and promised to share the details soon, but they stopped responding after the researcher's second or third follow-up call. From four Grama Panchayats, the researcher received one referral each and successfully recruited Participant 7, Participant 8, and Participant 9. However, from one Grama Panchayat, the contact details provided were for the Referral's daughter-in-law, who denied access to the Referral, stating that the interview might upset her mother-in-law. In another Grama Panchayat that provided a respondent, the researcher was directed to the office of the Integrated Disease Surveillance Programme, where detailed records of COVID-19 cases were kept. However, no records existed on the COVID-19 deaths of Keralites in the Gulf countries.

Reflections 15–35: The sampling process demonstrates effectiveness, though challenges remain. Non-responsiveness of the Panchayat Presidents and the gatekeeping by family members highlight the need for persistent and sensitive approaches. Despite these setbacks, the process yielded three new respondents. Additionally, the researcher succeeded in proving that the ruling party is not opposed to academic research by gaining a referral from a Panchayat in a 'Party Village' dominated by the ruling party and collecting data from there. Moving forward, leveraging networks within Grama Panchayats using the same LGRS strategy may increase success rates in other regions of the state.

Action 36–37 & Responses: The researcher repeated Action 8 with two Grama Panchayats at opposite ends of Central Kerala. Both actions yielded referrals, resulting in the recruitment of Participant 10 and Participant 11.

Reflections 36–37: The strategy of engaging Grama Panchayats at different locations within the same region has proven effective, as evidenced by the successful recruitment of two participants. This reinforces the utility of the LGRS approach in diverse local contexts within Central Kerala. Additionally, with the election heat over, it may be beneficial to implement the LGRS strategy again in North Kerala.

Action 38 & Responses: The researcher repeated Action 8 with a Grama Panchayat in North Kerala, resulting in one referral who was successfully recruited as Participant 12.

Reflection 38: The successful recruitment of Participant 12 demonstrates the continued effectiveness of the LGRS strategy in North Kerala. This suggests that leveraging local networks within local governments remains a viable approach for identifying and recruiting invisible participants.

By the time data was collected from Participant 12, the researcher determined that the data saturation had been reached with respect to the study's objectives. Therefore, the researcher stopped sampling. This conclusion was based on the consistency of themes and information emerging from the collected data, indicating that further sampling was unlikely to yield new insights. Stopping the sampling at this point was a critical decision to ensure the study's efficiency and focus.

The LGRS strategy was demonstrated to be successful in drawing participants from all regions of Kerala.

Figure 2 shows the geographical distribution of participants in Kerala.

Discussion

The LGRS strategy proved to be an effective method for identifying and recruiting participants from DOPs. By leveraging the existing networks within LSGIs, the researcher was able to reach potential participants who might otherwise have been difficult to identify. The strategy facilitated the recruitment of 12 participants from diverse regions of Kerala, demonstrating its broad applicability and robustness.

Key features of LGRS. This discussion delves into the key features that make the LGRS an effective and adaptable methodology for qualitative research.

Access to data-obscured populations. LGRS enables researchers to access populations that are otherwise difficult to identify, such as families without official records or those not engaged with formal support systems. By engaging LSGIs, researchers can tap into established community networks and gain insights into these elusive groups. This approach is particularly valuable for studies like GBB research, where the target population may not be easily identifiable through conventional methods.

Accurate identification and inclusion of participants. A significant strength of LGRS is its reliance on local knowledge and networks for accurate identification and inclusion of participants. Local body members and ASHA workers have an intimate understanding of their communities. They can identify potential participants based on firsthand knowledge, ensuring that the sample accurately represents the target population. This local insight minimises the risk of overlooking eligible participants and enhances the representativeness of the study.

Building trust and rapport. Involving local body members fosters trust and rapport with participants. Community members are more likely to participate in a study when approached by familiar and trusted figures. This trust-building aspect is crucial for gathering honest and comprehensive data, as participants feel

more comfortable sharing their experiences. In the GBB study, the involvement of empathetic and resourceful female councillors exemplified how local representatives could effectively engage with the community.

Researcher safety. A key feature of LGRS is its ability to enhance researcher safety during fieldwork. By leveraging the knowledge of LSGIs, LGRS facilitates general safety assessments of participant locations before any home visits. Local representatives provide insights into the social and physical environments of the areas, ensuring that researchers can conduct visits without undue risk. This precautionary measure minimises potential risks to the researcher and promotes efficient and secure data collection.

Opportunities for capacity building. LGRS provides opportunities for capacity building in community engagement. By training local body members and operational groups, researchers can enhance the community's capacity to participate in and support research activities. This training can include ethical considerations, data collection techniques, and communication strategies, empowering local representatives to contribute effectively to the research process. Such capacity building also strengthens the community's overall engagement with future research initiatives.

Scalability and adaptability. The LGRS strategy is scalable to different regions and adaptable to various cultural and socio-economic settings. Its flexible framework allows researchers to tailor the approach to specific local contexts, whether in urban, rural, or semi-urban areas. The successful implementation of LGRS in Central, South, and North Kerala demonstrates its scalability and adaptability. Researchers can modify the strategy to suit different population sizes, geographic locations, and cultural backgrounds, making it a versatile tool for diverse research settings.

Iterative refinement. The iterative nature of the LGRS allows for ongoing refinement and improvement of the methodology. Researchers can continuously reflect on the process, incorporate feedback, and make necessary adjustments. This iterative approach ensures that the strategy remains effective and responsive to emerging challenges and insights. In the GBB study, iterative refinement was crucial in overcoming initial setbacks and achieving successful participant recruitment.

Reflective selection of LSGI. Reflective selection of LSGI is foundational to the success of LGRS. Carefully choosing LSGIs that are well-positioned to identify and engage marginalised populations enhances the inclusivity, trust, and ethical integrity of the research. This selection process involves evaluating the LSGI's level of community engagement, local knowledge, and reputation within the community. By selecting LSGIs that are deeply embedded in their communities, researchers can leverage the institution's inherent trust and local insights to facilitate participant recruitment and data collection. The ability to choose the right LSGI is a critical determinant of the success of the LGRS strategy.

Challenges in LGRS. While the LGRS strategy offers many advantages for recruiting DOPs, it is not without challenges. Recognising and addressing these challenges is essential to maximise the effectiveness of the LGRS approach.

Non-responsiveness from the local officials. One of the primary challenges encountered in LGRS is non-responsiveness from local officials. In some instances, Panchayat Presidents may not

respond to initial contact or follow-up requests. This lack of engagement can stall the recruitment process and limit access to potential participants. To mitigate this, researchers need to employ persistence and possibly explore multiple communication channels to establish contact and build rapport.

Political sensitivities. Political biases and sensitivities can also pose significant challenges. Local officials might perceive the research as politically motivated, especially during elections, leading to reluctance or outright refusal to cooperate. Researchers must navigate these sensitivities delicately, clearly communicating the academic and non-political nature of the study. In some cases, it may be necessary to postpone engagement in politically charged areas until after elections or political events have concluded.

Gatekeeping by family members. Gatekeeping by family members can hinder access to potential participants. Family members, concerned about the well-being of their relatives, might deny researchers access to the individual they wish to study. This gatekeeping can be particularly challenging in studies involving sensitive topics, such as bereavement researchers need to approach these situations with empathy and sensitivity, ensuring that the potential participant's family also understand the purpose and safeguards of the study.

Resource limitations. Resource limitations, including time, funding, and personnel, can also affect the implementation of LGRS. The process of engaging multiple LSGIs, and following up with potential participants requires substantial resources. Researchers need to plan and allocate resources effectively, seeking additional funding or partnerships if necessary to support the LGRS approach.

Implications for future research. The LGRS strategy has significant implications for future research, offering a powerful and flexible approach to engaging DOPs. By enhancing access, fostering community engagement, building trust, and improving data quality, LGRS can greatly benefit qualitative research across various fields. Its scalability, adaptability, and capacity for iterative refinement make it a valuable tool for researchers conducting ethically sound and culturally sensitive studies. As demonstrated in the GBB study, LGRS has the potential to transform the way researchers approach participant recruitment and data collection, ultimately leading to richer and more meaningful research outcomes.

Recommendation for local governments. Local governments can establish a Research and Development (R&D) section to promote ethical and culturally sensitive studies. This R&D section would facilitate the maintenance of accurate information about the community, enabling a comprehensive understanding of its needs. Such data can guide the formulation of multipronged policies and programmes that cater to all categories of people, ensuring inclusive and effective governance. By institutionalising the research-oriented approach, local governments can support continuous improvement in public services and community engagement, fostering a proactive and informed administrative environment.

Conclusion

The research community must develop innovative methodologies that encompass all segments of society in social science research. The fact that there are neglected and unidentified vulnerable sections of society is undeniable, and including them in research poses challenges. The GBB research introduces a new category

called DOP and outlines the LGRS strategy for identifying them. The study successfully demonstrates the effectiveness of the LGRS strategy in engaging DOP across Kerala. Despite challenges, the method proved to be robust and adaptable, providing valuable insights and reaching data saturation.

By utilising local government networks and fostering community engagement, LGRS improved the quality and reliability of the research. The GBB study highlights the potential of LGRS to revolutionise qualitative research methodologies, offering a scalable and culturally sensitive approach to participant recruitment. It lays a strong foundation for future applications of LGRS in various research contexts, emphasising its adaptability to support ethical and inclusive research practices.

Data availability

No datasets were generated or analysed during the current study.

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Author contributions

This research was conducted as part of JM’s PhD study. JM was responsible for the conceptualisation, design, data collection, analysis, and manuscript drafting. SJ, as the in-house research mentor, guided the research process, particularly in the methodological framework and strategic execution, and contributed to the final revisions of the

manuscript. JK, as the PhD supervisor, provided critical oversight, offering theoretical and analytical insights that shaped the direction of the study. All authors reviewed and approved the final version of the paper for submission.

Competing interests

The authors declare no competing interests.

Ethical approval

This study obtained ethical clearance from the Rajagiri Institutional Ethics Committee. Ethical approval no: RCSS/IEC/005/2024, Dated: 02 February 2024.

Informed consent

This study obtained informed consent from all participants

Additional information

Correspondence and requests for materials should be addressed to Shinto Joseph, Jasmine Mathew or Joseph Kuncheria.

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