SEXUAL ORIENTATION CHANGE EFFORTS AMONG LGBT+ PEOPLE OF KERALA: PREVALENCE, CORRELATES, AND MENTAL HEALTH ASPECTS

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Sexual orientation change efforts among LGBT+ people of Kerala: Prevalence, correlates, and mental health aspects

Abstract

Sexual Orientation Change Efforts (SOCE) have been reported worldwide and have adverse psychiatric consequences. However, no data are available for India or Kerala. We assessed the prevalence of SOCE, its characteristics, and mental health aspects among LGBT+ individuals in Kerala. This cross-sectional survey used snowball sampling. An online questionnaire collected sociodemographic information and history and characteristics of SOCE. Religiosity and SOCE-associated distress were evaluated using 6-point Likert scales. Patient Health Questionnaire (PHQ-9) screened for depressive symptoms; its ninth question assessed death wishes and self-harm thoughts. Generalized Anxiety Disorder Assessment (GAD-7) screened for anxiety symptoms. Participants' (n = 130) mean age was 26.80 ± 7.12 years. Most common biological sex (63.1%) and gender identity (50.8%) were male, and sexual orientation was gay(42.3%). Prevalence of SOCE was 45.4%. In SOCE group, 39% reported very severe distress. SOCE was most commonly self-prompted (47.5%), performed through psychotherapy (28.8%), and performed by doctors (28.8%). SOCE group had significantly higher religiosity scores ($t = 2.61$, $p = .01$). Among cisgender men, 48.48% had SOCE history, against 28.57% among cisgender women ($\chi^2 = 3.19$, $p = .07$). SOCE is highly prevalent among the LGBT+ community in Kerala, with high associated distress. Multi-level approaches are necessary to mitigate this problem.

Keywords: LGBT population, Sexual Orientation Change Efforts, Conversion therapy, Kerala, India, LGBT Mental Health, Religiosity

Introduction

Sexual orientation refers to gendered patterns in attraction and behavior, identity related to these patterns, and associated experiences (American Psychological Association [APA], 2021a). Conventionally, sexual orientation is described as heterosexual, gay, and bisexual. However, research has shown that a person's sexual orientation can range along a continuum, with exclusive attraction to a particular sex at either end of the spectrum (Savin-Williams et al., 2017). Most cultures consider heterosexuality to be the norm. Though non-binary communities had existed in South Asia for a long time, colonialism has led to the pathologisation of all gender and sexual minorities (Preston, 1987). Hence, people with other sexual orientations suffer significant stigma and prejudice.

The American Psychiatric Association removed homosexuality from the list of mental health problems five decades back. The World Health Organization removed homosexuality from the International Classification of Diseases (ICD 10) endorsed in 1990. However, mainstream society's attitudes remain essentially unchanged. Hence, attempts to "correct" sexual orientation continue to be practiced (APA, 2021b).

Sexual Orientation Change Efforts (SOCE), also called conversion therapies, refer to a range of techniques used by various mental health professionals and nonprofessionals to change sexual orientation or any of its parts (APA, 2021a). There is evidence of SOCE being practiced from the 1800s onwards (Murphy, 1992). The methods for SOCE include psychotherapy, prayers, scripture studying, aversive conditioning using electric shocks and other painful stimuli, online groups, enforcing conventional gender roles and expressions, etc (APA, 2021b). Even corrective rapes and psychosurgeries such as lobotomies have been reported (Cruz, 1999; Doan-Minh, 2019). Thus, SOCE constitute grave violations of human rights. SOCE are based on the assumption that sexual orientations other than heterosexuality are due to bad parenting, peer conditioning, emotional pressure, and moral or spiritual failure. There is no evidence that any therapy can change a person's sexual orientation (APA, 2009). Even among those who perceive their SOCE to be successful, same-sex attractions remain persistent (Flentje et al., 2014; Weiss et al., 2010). A systematic review by Przeworski et al. (2020) indicates that SOCE can result in distress, depression, suicidal ideation, anxiety, and loss of sexual feeling. In those who undergo SOCE, the odds of thinking about, planning, and attempting suicide increase by 100%, 75%, and 88% respectively (Blosnich et al., 2020). Del Río-González et al. (2021) and Salway et al. (2020) have also obtained similar findings.

Concerns regarding the harm caused by SOCE have been in the arena for at least three decades. In 1998, the American Psychiatric Association passed a resolution on appropriate therapeutic responses to sexual orientation (American Psychiatric Association, 2018). In 2016, the World Psychiatric Association passed a position statement emphasizing that various sexual orientations are normal variants of human sexuality and that same-sex attraction or behavior should be depathologized (Bhugra et al., 2016). Later, numerous professional bodies, including the Indian Psychiatric Society (2018) and the Association of Psychiatric Social Work Professionals of India (2020), passed statements against conversion therapy. Currently, conversion therapy practices are legally banned in 15 countries (Gerbut et al., 2020). Queerala, a registered community-based organization for LGBT+ individuals of Kerala, has filed a petition seeking the prohibition of all kinds of efforts to change sexual orientation (Cris, 2020b). Based on this case, in 2021, the Kerala High Court instructed the government to take stringent action against forced conversion therapies (PTI News Agency, 2021).

Worldwide, the prevalence of SOCE ranges from 3.5% (Salway et al., 2020) to 73% (Dehlin et al., 2015). No data are available regarding the same from any Indian settings. However, there have been numerous news reports of SOCE from various parts of India (Ashfaque, 2021). The alleged suicide of Anjana Harish, a 21 year old college student from Kerala after being forced into SOCE, had brought ongoing instances of the same into limelight (Cris, 2020a). Pathologising same-sex orientations is a clear violation of India's Mental Healthcare Act of India (Ministry of law and justice, 2017), which states that mental illness should not be determined on the basis of non-conformity to moral, social, cultural, work, or political values or religious beliefs prevailing in the

person's community. Considering the strictly conformist framework of Indian society and the social stigma associated with gender and sexual minorities, there may be a high prevalence of SOCE in Indian settings (Srivastava & Singh, 2015). Though methodologically rigorous epidemiological studies are not available from India, according to a survey conducted by Ipsos (2021), a multinational market research firm, 17% of the Indian population identify as not being heterosexual. Thus, SOCE may be a problem that affects a large number of people.

Consequently, we believe an estimate of SOCE in an Indian setting is highly relevant. However, to the best of our knowledge, no such study has been conducted to date. Hence, we studied the prevalence of SOCE among the LGBT+ community in the state of Kerala.

Our primary objective was to determine the prevalence of SOCE among LGBT+ individuals in Kerala. The secondary objectives were (a) to assess the characteristics of SOCE, (b) to measure the distress associated with SOCE, and (c) to compare, between those with and without a history of SOCE, relevant sociodemographic factors, the prevalence of depressive and anxiety symptoms, and presence of death wishes or self-harm thoughts.

Materials and methods

This cross-sectional study was conducted among individuals who identified themselves as belonging to the LGBT+ community in Kerala. Because no official records of those belonging to this population are available, we used snowball sampling to reach out to study participants. We did sampling with the help of Queerhythm, a registered community-based organization working in Kerala, and using social media platforms (WhatsApp and Facebook). The sample size was calculated using the formula $n = z^2(pq)/d^2$ (z = confidence level at 95%- standard value of 1.96, p = prevalence of SOCE in a previous study- 43%,(Dehlin et al., 2015) q = 1-p, d = degree of accuracy- set at 20%). The required sample size was 132.56, which was rounded off to 130.

We obtained permission from the Institutional Research Committee and Human Ethics Committee. Official permission was obtained from Queerhythm as well. Data was collected from June 2021 to January 2022. We avoided face-to-face interviews due to the restrictions related to the COVID-19 pandemic. The link to the Google forms containing informed consent, participant information sheets, and questionnaires was posted in various WhatsApp and Facebook groups, along with requests to pass it on to more potential participants. Many participants shared the questionnaire on their social media handles, recruiting more participants. People of all ages who identified themselves as belonging to the LGBT+ community of Kerala were included. Personal identification details of the participants were not collected, to maintain privacy and anonymity.

Besides the sociodemographic proforma, a questionnaire (attached in supplementary material) with items related to SOCE, including biological sex, gender identity, sexual orientation, religiosity, etc., too was provided. Participants plotted their own and their family's religiosity on two separate six-point Likert scales similar to that used by Dehlin et al. (2015) (0- Nil, 1- A little, 2- Some, 3- Moderate, 4- Very much, 5- Extremely). If the person had undergone SOCE, related details such as the source that prompted the conversion effort, the person who performed the procedure, the method used, duration, frequency, age of initiation, time of the last SOCE, and the number of times they underwent SOCE were collected using open and semi-open questions. More than one response was allowed for the questions regarding the method used for SOCE, the source that prompted SOCE, and the person who performed SOCE. The participants plotted distress related to SOCE on a six-point Likert scale (0- No distress,1- A little distress, 2- Some distress, 3- Moderate distress, 4- Severe distress, 5- Very severe distress). The first author developed the questions on SOCE and the Likert scale for distress, based on previous studies (Dehlin et al., 2015; Salway et al., 2020) and also translated them to Malayalam (local vernacular). Both were content validated by two senior psychiatrists, the second and third authors. The questionnaire had both Malayalam and English versions of all questions. Likewise, translated and validated versions of PHQ- 9 (Indu et al., 2018) and GAD-7 (Patient Health Questionnaire (PHQ) Screeners, n.d.), were provided to all participants, along

with their original versions, to assess depressive and anxiety symptoms, death wishes, and self-harm thoughts. We used Question 9 of PHQ-9 ("Thoughts that you would be better off dead, or hurting yourself") to screen for death wishes and self-harm thoughts (Rossom et al., 2017). A score of >0 on this question indicates the presence of the same. At the end of the questionnaire, contact details, including the first author's phone number, were given so that the participants could seek further clarification regarding the study and, if needed, mental health help.

While reporting the information, we followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines for cross-sectional studies.

Statistical analysis

The data collected was coded and entered in a Microsoft Excel sheet, re-checked, and analyzed using IBM SPSS Statistical Software for Windows Version 22. If responses to any questions related to SOCE were not given or incomplete, we coded and reported them as "no response." Quantitative variables were summarized, depending on the distribution, using mean and standard deviation (SD) or median and interquartile range (IQR). Categorical variables were represented using frequency and percentage. Analyses were done to find the relation between the history of SOCE and relevant sociodemographic factors, the severity of depressive and anxiety symptoms, and the presence of death wishes or self-harm thoughts. Independent sample t-test or Mann-Whitney U test were used to compare continuous variables between the groups with and without a history of SOCE, while Pearson Chi-square test was used to compare categorical variables. Those who chose the option "Prefer not to say" for any of the items biological sex, gender identity, or sexual orientation were excluded from the analysis of that particular variable. Pearson's correlation was used to assess the relationship between the duration of SOCE and the severity of depressive and anxiety symptoms. A p-value of <0.05 was considered statistically significant.

Results

The total number of participants was 130. Their sociodemographic data are summarized in Table 1. The mean ± SD age of the sample was 26.80 ± 7.12 years. Two participants were adolescents (≤18 years), while three were aged >60 years. Most participants identified their biological sex and gender identity as male (63.1% and 50.8%, respectively) and sexual orientation as gay (42.3%).

The mean religiosity of the family was 3.25 ± 1.29, and that of the participants was 1.92 ± 1.10. The prevalence of SOCE was 45.4% (n = 59).

Of the participants who underwent SOCE, the majority were 21 to 30 years old (n = 40, 67.8%). Three of the four participants aged 41–50 had a history of SOCE. Two of the three participants above 60 years had undergone SOCE. Amongst those biologically assigned males and females, 46.34% and 35%, respectively, had undergone SOCE. Of the 19 participants identified as transgender, 17 (89.5%) had undergone SOCE. Among gay, bisexual and pansexual participants, 30 (54.54%), 9 (37.5%), and 1(12.5%), respectively, had a history of SOCE. Among the heterosexual participants, 12 (46%) had experienced SOCE. This constituted almost exclusively of transgender participants (n = 10, 83.3%). The majority (n = 33, 55.9%) first underwent SOCE at 15–20 years of age. The mean age of initiation of SOCE was 18.86 ± 4.40 years.

SOCE was most commonly self-prompted (n = 28, 47.5%) or prompted by family (n = 22, 37.3%, Table 2). Doctors performed most of the SOCE (n = 17, 28.8%). Psychotherapy was the commonest method used (n = 17, 28.8%). Three participants had reported using surgical methods for SOCE, and all of them were found out to be transgender persons. For 40 participants (67.8%), SOCE occurred more than a year back. The median (interquartile range, IQR) duration of SOCE was 2 (1–4.75) years. The mean number of times a person underwent SOCE was 5.04 ± 3.62.

The median (IQR) distress score in those with history of SOCE was 4 (2–5). Severe distress due to SOCE was reported by 25.4%, and very severe distress by 39% (Figure 1).

A history of SOCE was present in people of all educational statuses and occupational categories (Table 3). SOCE was significantly more prevalent among those with higher religiosity ($t = 2.61$, $p = .01$). While 48.48% of the 66 cisgender men had history of SOCE, the proportion was only 28.57% for the 28 cisgender women. (The percentage numbers mentioned in Table 3 are different from this. It is because, to maintain consistency with other variables in the table, the percentages presented there are of those with and without history of SOCE belonging to these two gender identity categories. The χ^2 or p values do not get affected by this.) However, the difference did not reach statistical significance. No significant relation was found between the history of SOCE and biological sex, sexual orientation, educational status, occupation, monthly income, or religiosity of the family. Those with and without SOCE did not differ in the severity of depressive or anxiety symptoms (Table 3).

No significant correlation was found between the duration of SOCE and the severity of depressive or anxiety symptoms (Table 4). Likewise, no statistically significant difference was found between those with or without a history of SOCE regarding death wishes and self-harm thoughts (Table 5).

Discussion

This is the first study to assess the prevalence of SOCE in an Indian setting. The prevalence of SOCE in our sample was 45.4%. The study revealed severe to very severe distress associated with SOCE in most participants. We also found a significant association between the history of SOCE and higher religiosity in the participants.

Most participants were 21 to 30 years old and identified their biological sex and gender as male. This may reflect access to social media through which sampling was done. Conversely, this may also point to a lack of access to online peer support for women, adolescents, and older adults belonging to the LGBT+ community.

Of the participants, 45.4% had undergone SOCE. This prevalence is much higher than 3.5% reported from Canada (Salway et al., 2020) and 7% from USA (Blosnich et al., 2020). The questions regarding SOCE used in both these studies were similar to ours. As in our study, the Canadian study also used an online questionnaire. A study in the Southern United States showed a prevalence of 11.6% (Higbee et al., 2022). Another study in the USA among men who have sex with men found the prevalence to be 15% (Meanley et al., 2020a). The national LGBT+ survey by the UK government (Jowett et al., 2021) estimated it to be 2.9%. On the other hand, Dehlin et al. (2015), among LDS church members, a highly conservative group, found the prevalence to be 73% among men and 43% among women. We could not find any data regarding the same in India or Kerala. The high prevalence found in our study strongly suggests that SOCE is common in the community despite being a blatant violation of human rights. This may be a reflection of the conservative nature of the Indian/Kerala society, the lack of awareness regarding variations in sexualities, and the strong negative attitudes against the LGBT+ community in our setting (Srivastava & Singh, 2015). Our study included only those participants who frequented social media and were active in online support groups. Thus, considering the large number of LGBT+ people who may be closeted, chances are that the actual prevalence of SOCE is even larger.

Most respondents first underwent conversion therapy when they were less than 20 years of age. This may be because the majority of our participants were young. Previous studies also have shown that nearly half of the individuals first undergo conversion efforts in childhood or adolescence.(Meanley et al., 2020b; Williams Institute, 2019)

Most SOCE attempts were self-prompted or initiated by families. Self-prompted SOCE may result from internalized stigma, which is high among the LGBT+ community (Dhabhar & Deshmukh, 2021). A study among sexual minorities in Hong Kong noted religious and interpersonal factors as the primary motivations for SOCE. It also found that participants with higher internalized homophobia and identity disturbances were likelier to have undergone SOCE (Chan et al., 2022). The former has been used as a measure of minority stress (Bhugra et al., 2022), which is associated with various mental health outcomes, according to a model by Meyer (2003). This model considers various factors like race, gender, prejudice events, coping skills, social support, etc. Thus, the model emphasizes the intersectional nature of the stigma and discrimination faced by the LGBT+ community and can be used to explain higher prevalence of their mental health problems.

We found that families had instigated nearly 40% to undergo SOCE. Blais et al. (2022), based on their study on sexual orientation and gender identity conversion efforts, observed that only about half of their participants had consented to the same; among those who consented, only 55% knew the nature of the procedures. Families initiate conversion procedures usually to conform to religious and sociocultural values, avoid family conflicts, and protect the person from harm (Chatterjee & Mukherjee, 2021). A study on parent-initiated SOCE found that parents enforcing conversion therapy can lead to much distress for the individual and is associated with suicidal ideation, low self-esteem, substance use, and poor life satisfaction (Ryan et al., 2020). This may be even more relevant in the Indian setting, where individual autonomy is often sacrificed to maintain family integrity.

People who performed SOCE most commonly were doctors, psychologists, and religious leaders. This is in line with various reports of conversion therapy that have gained public and media attention in recent times (Ashfaque, 2021). A report on the global prevalence of conversion therapy found that most SOCE worldwide are carried out by doctors, followed by religious authorities (Adamson et al., 2020). Views of mental health professionals, for example, can influence the client's decision to undergo SOCE (APA, 2009). Hence, the involvement of licensed professionals in conversion therapy is a matter of great concern. Banwari et al. (2015) found that medical students and interns of an Indian medical college had inadequate knowledge about homosexuality. According to Niranjan Yr et al. (2022), medical students of South India hold negative attitudes toward homosexuality, and being cisgender male was a significant predictor in this regard. 2009 study by Kar et al. found that 15.9% of medical students from Kolkata (in West Bengal state of India) considered homosexuality a disease, a 2022 study by Kar et al. done in two medical colleges in Kolkata and two in other towns of West Bengal found a lower rate of 5%. Though the authors could note a positive change in attitudes related to homosexuality, the large number of students who held negative attitudes toward the LGBT+ community points to the lack of training in queer-affirmative clinical practice. The models of the same developed for western settings may not be suitable for India as the discrimination faced by LGBT+ community here intersects with multiple factors like caste, class, public policy, employment, housing, etc (Kottai, 2022). A resource book on queer- affirmative clinical practice, developed by Mariwala Health Initiative, Mumbai (Ranade et al., 2022) points to the need to consider all axes of power and privilege when dealing with gender and sexuality. In August 2022, the National Medical Commission of India (NMC) updated recommendations in Psychiatry and Forensic medicine on competencies related to LGBT+ issues expected from undergraduate medical students (National Medical Commission,n.d.). On September 4, 2022, NMC also declared conversion therapy an act of professional misconduct (Perappadan, 2022). We hope that such measures will help improve the current dismal situation.

The most common method of conversion therapy meted out was psychotherapy. According to the global prevalence report on conversion therapy, methods used for SOCE are broadly categorized into psychotherapeutic, medical, faith-based, and punishment-based (Adamson et al., 2020). In our study, other methods of SOCE, such as forcing oneself to develop heterosexual interest, prayer, medicines, surgery, and hormone therapy, too were reported. Three transgender participants had recounted using surgical methods for SOCE. This may refer to sex reassignment surgeries, which have been reported to cause changes in sexual orientation (Auer et al., 2014). Similar methods have also been revealed in studies from around the world (Przeworski et al., 2020). Shidlo and Schroeder (2002) observed that

methods used for conversion therapy had remained the same in the last few decades, except for a decline in the use of aversion therapy. A systematic review on SOCE observed that religious methods of SOCE have the most common prevalence overall (Przeworski et al., 2020).

Some participants who had identified themselves as heterosexual also reported SOCE. This constituted almost exclusively of transgender participants. The questionnaire not having rigidly defined various sexual orientations may have been a reason for this. For instance, the words "gay" and "heterosexual" can cause ambiguity in the case of transgender participants. Besides, sexual orientation is a continuum, and the questionnaire attempted only a categorical assessment. Hence, it may have caused ambiguity for participants from the questioning part of the LGBT+ spectrum. Only a small portion of those who identified as bisexual or pansexual reported a history of SOCE. None of the asexual participants had undergone SOCE. This may be due to the lack of visibility and awareness regarding these orientations in mainstream society, putting lesser pressure on them to change. A previous study too had reported a similar finding (Blosnich et al., 2020).

Most participants who had undergone SOCE reported severe distress due to the same. According to a developmental model of SOCE made by Shidlo and Schroeder (2002), clients who perceive their SOCE as failure suffer disillusionment after the therapy and go into a state of numbness, dissociation, or resurgence of ego-dystonic same-sex desires. This later transforms into feelings of guilt, low self-esteem, and self-harm attempts. Thus, an individual who goes through SOCE suffers both during and after the procedure.

The population that undergoes SOCE tends to have strongly conservative religious views that lead them to seek to change their sexual orientation (Tozer & Hayes, 2004). We found a statistically significant relationship between a person's religiosity and the chances of having undergone SOCE. This is in congruence with numerous previous studies documenting strong relations between religiosity and SOCE (Blais et al., 2022; Dehlin et al., 2015; Plante, 2022; Ryan et al., 2020). Religion is one of the social structures through which stigma related to sexual and gender minorities is propagated. Especially in conservatively religious individuals, non-heterosexual orientation is perceived to be dissonant with their faith, and they fear a loss of identity, role, and sense of order and purpose (Weiss et al., 2010). In qualitative studies, religious beliefs have been cited as an important reason to undergo SOCE (Flentje et al., 2014; Ryan et al., 2020). In a report on conversion therapy from Australia, religious conversion efforts were called a "vexed problem" (Jones et al., 2018). In the USA, 60% of those who undergo SOCE do so in religious settings (Flentje et al., 2014; Meanley et al., 2020a; Williams Institute, 2019). Janssen and Scheepers (2019), who studied the influence of various dimensions of religiosity on attitudes toward homosexuality, concluded that integration into religious communities, particularistic religious beliefs, and salience of religion in a person's life are associated with rejection of homosexuality, probably because these factors lead to stronger traditional gender beliefs and authoritarian personality. According to Adamczyk (2017), who examined the influence of socio-political changes on religious climate of various nations and cultures, a composite intersection of economic, political, legal and cultural changes lead to public opinions on homosexuality. Bullough (1976), who divided cultures into sex-positive and sex-negative, based on attitude toward sexual activity for pleasure, added that several factors can cause changes in attitudes of a culture, and illustrated this using the example of Hindu culture, which changed from sex-positive to-sex negative after being influenced by various external forces.

SOCE was more prevalent among cisgender men than cisgender women, though the difference did not reach statistical significance, probably due to our small sample size. Dehlin et al. (2015) obtained a similar finding in their study on LDS church members. Thepsourinthone et al. (2020) found that there is more pressure on non-heterosexual men to conform to masculine ideals, putting them under greater stigma and prejudice. Falomir-Pichastor and Mugny (2009) explained this using the social identity theory, according to which, gay men threaten hegemonic masculinity, and thus are perceived as an out-group. Patriarchal norms and sex-negative cultures further reinforce this, as evidenced by the observation of Sánchez et al. (2010) that among gay men, endorsement of traditional masculine ideals is associated with internalized homophobia.

Most of the transgender people in our study had undergone SOCE. This finding is in line with study by Higbee et al. (2022). This may point to the double discrimination faced by the transgender community as they lie at the intersection of being both a sexual and gender minority. This may also be due to transgender individuals having more exposure to healthcare settings for procedures like sex reassignment surgery (Turban et al., 2020). A study from Canada observed that transgender participants face the additional burden of Gender Identity Change Efforts along with SOCE (Salway et al., 2020). Hence, policies to address SOCE should consider the different needs of each part of the LGBT+ spectrum.

A systematic review listed depression, anxiety, substance use, and suicidal ideation and attempts as health outcomes of SOCE (Przeworski et al., 2020). We, however, did not find a relation between depressive or anxiety symptoms and a history of SOCE. This may be due to our small sample size and confounding factors like access to social media support and those without a history of SOCE too being under the stress of the ongoing COVID-19 pandemic. We found wishes of death and self-harm to be more prevalent among those who had undergone SOCE, but the difference was not statistically significant

Shidlo and Schroeder (2002) had explored the perceived benefits of SOCE, including feeling hopeful, getting relief from talking, and better relationships. However, these benefits can be gained through other therapies not associated with the adverse outcomes of SOCE (APA, 2009; Przeworski et al., 2020). American Psychological Association (2009) has observed that variations in sexual orientations are not pathologies and that LGBT+ individuals can lead fulfilling lives and engage in stable relationships. Hence, affirmative therapies based on comprehensive assessment, unconditional acceptance, support, active coping, identity exploration, and identity development have been recommended (APA, 2009; Beckstead & Morrow, 2004).

Strengths and limitations

The strengths of our study include the fact that the data was collected through online questionnaires, adhering to the COVID protocol. The sample was community-based and not a clinical one. We used snowball sampling. We could maintain complete anonymity and privacy of the participants. To our knowledge, no other studies have reported the prevalence of SOCE in an Indian setting.

One limitation was that since the study used online sampling through social media, it wasn't possible to define the study population clearly or calculate the response rate. Hence, the findings may have limited generalizability. Our sample size was inadequate to detect the differences in characteristics among those with and without a history of SOCE. Since it was a cross-sectional study, we did not ascertain longitudinal characteristics like the progression of the distress over time. Recall bias and confounding factors like access to social media support may have influenced the results. The inclusion was solely based on self-identification by the participant, and there was no provision for cross-checking by the investigators.

Suggestions and future directions

The finding that SOCE are very much prevalent also points to a large number of LGBT+ individuals who are closeted and have little access to mental health services. Hence, legislative action is of vital importance. Active support should be provided to survivors of SOCE. Queer Affirmative Clinical Practice should be introduced into the curriculum for health professionals. Interventions at individual and community levels should incorporate members of the LGBT+ community as well as professionals. We also recommend more research into the physical and mental health needs of SOCE survivors. Qualitative studies and longitudinal studies into these aspects may reveal more details. Prospectively studying the developmental impact SOCE has on adolescents may reveal vital data. Prevalence of SOCE in other Indian states should be studied, as our findings may not be generalizable

to all parts of India. It is imperative to conduct more research into suitable therapeutic modalities for survivors of SOCE and form clear guidelines regarding the same.

Conclusion

SOCE are prevalent among the LGBT+ community in Kerala despite clearly violating human rights. Active interventions by various organizations and statements from professional bodies have not been able to stop these practices. We found severe distress associated with the same; thus, many who have undergone SOCE may require mental health support. Our research explored various factors related to SOCE and found a significant impact of religiosity. Further, our study also points to the active involvement of professionals, religious leaders and family in SOCE. This underscores some lack of scientific temperament and queer affirmative training in the current setting. Thus, multi-level approaches can be the way forward in addressing this malady that the LGBT+ have been battling for centuries.

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Declaration of Conflicting Interests

All three authors are LGBT+ allies. The first author has participated in some awareness activities of Queerthythm, a registered NGO working among the LGBT+ community of Kerala, which helped in the sample collection.

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Table 1- Characteristics of the study sample (N=130)

VARIABLE	Mean (SD)/ n(%)
Age (in years)	26.80±7.12
Biological Sex	
Male	82(63.1)
Female	42(32.3)
Intersex	2(1.5)
Prefer not to say	4(3.1)
Gender Identity	
Male	66(50.8)
Female	28(21.5)
Transgender	19(14.6)
Prefer not to say	4(3.1)
Other	13(10)
Sexual Orientation	
Gay	55(42.3)
Heterosexual	26(20)
Bisexual	24(18.5)
Pansexual	8(6.2)
Asexual	3(2.3)
Prefer not to say	3(2.3)
Other	11(8.5)
Education	
No formal education	1(0.8)
Primary school	0
Middle school	0
High school	4(3.1)
Intermediate/Diploma	26(20)
Graduate	39(30)
Professional Degree	45(34.6)
Other	15(11.5)
Occupation	
Un-employed	33(25.4)
Unskilled work	4(3.1)
Semi-skilled	3(2.3)
Skilled	10(7.7)
Clerical	2(1.5)
Semi-professional	6(4.6)
Professional	48(36.9)
Other	24(18.5)
Monthly Income (Indian rupees)	26142±66087.89
Religion	
Hindu	47(36.2)

Christian	15(11.5)
Muslim	14(10.8)
Other	4(3.1)
Nil	50(38.5)

Table 2- Details of SOCE (n=59)

QUESTION	n(%)
Who prompted them to undergo SOCE?	
Self	28(47.5)
Family	22(37.3)
Friends	5(8.5)
Religious leader	1(1.7)
Other	2(3.4)
No response	1(1.7)
Who carried out the SOCE?	
Doctor	17(28.8)
Self	12(20.3)
Psychologist	11(18.6)
Religious leader	6(10.2)
Other	6(10.2)
No response	7(11.9)
How old were they when they first underwent SOCE?	
<15 years	9(15.3)
15-20 years	33(55.9)
21-30 years	14(23.7)
No response	3(5.1)
What kind of SOCE did they undergo?	
Psychotherapy	17(28.8)
Forced themselves to develop a heterosexual interest	11(18.6)
Prayer	4(6.8)
Medicine	3(5.1)
Surgery	3(5.1)
Gaslighting	3(5.1)
Hormone therapy	2(3.4)
Corrective therapy	2(3.4)
No response	14(23.7)
When did they last undergo SOCE?	
<1 year back	15(25.4)
>1 year back	40(67.8)
No response	4(6.8)
How long did they undergo SOCE?	
<1 year	10(16.9)
1-5 years	34(57.6)
>5 years	4(6.8)
No response	11(18.6)
How many times did they undergo SOCE?	
1-5	29(49.2)
6-10	4(6.8)

>10	14(23.7)
No response	12(20.3)

SOCE: Sexual Orientation Change Efforts

Table 3- Associations between various factors and history of SOCE (N=130)

VARIABLE	SOCE		Test statistic (t value/ U/χ^2	P value
	No (n=71) **n (%)/mean (SD)/median (IQR)**	**Yes** (n=59) **n (%)/mean (SD) /median (IQR)**		
Age	26.42±7.90	27.25±6.12	-0.63[a]	0.526
Biological sex **(n=124)[d]**				
Male	44(61.97)	38(71.70)	1.28[b]	0.258
Female	27(38.03)	15(28.30)		
Gender identity **(n=126)[e]**				
Male	34(62.96)	32(80.0)	3.19[b]	0.07
Female	20(37.04)	8(20.0)		
Sexual orientation **(n=127)[f]**				
Gay	25(35.7)	30(52.6)	8.45[b]	0.133
Heterosexual	14(20)	12(21.1)		
Bisexual	15(21.4)	9(15.8)		
Pansexual	7(10)	1(1.8)		
Asexual	3(4.3)	0(0)		
Other	6(8.6)	5(8.8)		
Education				
No formal education	0(0)	1(1.7)	3.91[b]	0.562
Up to High school	1(1.4)	3(5.1)		
Intermediate/Diploma	13(18.3)	13(22)		
Graduate	21(29.6)	18(30.5)		
Professional Degree	28(39.4)	17(28.8)		
Other	8(11.3)	7(11.9)		
Occupation				
Un-employed	19(26.8)	14(23.7)	1.93[b]	0.380
Professional	29(40.8)	19(32.2)		
Others[g]	23(32.4)	26(44.1)		
Monthly Income (Indian rupees)	0(0-30000)	10000(0-30000)	1847.00[c]	0.223
Religion				
Hindu	22(31)	25(42.4)	4.67[b]	0.323
Christian	10(14.1)	5(8.5)		
Islam	7(9.9)	7(11.9)		
Other	1(1.4)	3(5.1)		
Nil	31(43.7)	19(32.2)		
How religious was their family?	3.13±1.23	3.41±1.35	-1.23[a]	0.219
How religious were they?	1.69±0.87	2.19±1.27	-2.61[a]	0.010*
Total depression score[h]	10.59±7.56	11.06±6.63	-0.37[a]	0.707
Total anxiety score[h]	9.58±5.96	9.48±5.44	0.09[a]	0.922

SOCE: Sexual Orientation Change Efforts

*statistically significant,

[a] t value, [b] χ^2 value, [c]U value

[d] Two persons of intersex and four who replied "prefer not to say" were excluded from the analysis.

[e] Here we wanted to know only if there is a difference between cisgender men and cisgender women. Transgender and "Other" groups were not included in this analysis due to small numbers. However, a chi-square test attempted with all four gender categories had revealed a significant difference between groups (χ^2 value of 25.72 with $p < 0.001$)

[f] Three persons who replied "prefer not to say" were excluded from the analysis

[g] Included those in unskilled work, semi-killed, skilled, clerical, and semi-professional in the category of 'Others.'

[h] Three participants had not responded to PHQ 9 and GAD 7, of which one had a history of SOCE.

Table 4- Correlation of duration of SOCE with depressive and anxiety symptoms (n=127)[a]

VARIABLE	Duration of SOCE	
	Correlation coefficient	**P value**
PHQ-9 score	-0.13	0.393
GAD-7 score	0.04	0.815

SOCE: Sexual Orientation Change Efforts, PHQ-9: Patient Health Questionnaire, GAD-7: Generalized Anxiety Disorder Assessment

[a] Three participants did not respond to PHQ-9 or GAD-7

Table 5- Association between SOCE and the presence or absence of death wishes and self-harm thoughts (n=127)[a]

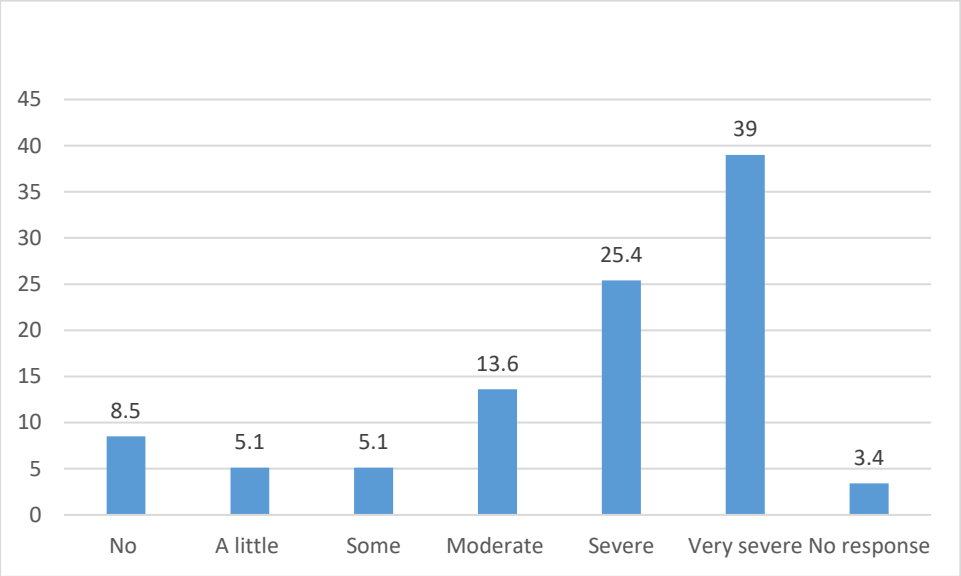
VARIABLE		Death wishes or self-harm thoughts		χ^2 value	P value
		Absent **n=53**	Present[b] **n=74**		
History of SOCE	Present	20(34.5)	38(65.5)	2.31	0.128
	Absent	33(47.8)	36(52.2)		

SOCE: Sexual Orientation Change Efforts

[a] Three participants had not responded to PHQ-9.

[b] Those who reported that they had such wishes "several days," "more than half the days," or "nearly every day" were clubbed into a single group of "present."

Figure 1**:** Categories of severity of mental distress due to SOCE (n=59)



SOCE: Sexual Orientation Change Efforts