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QUALITY OF LIFE ACROSS SOCIODEMOGRAPHIC GROUPS AMONG TRANSGENDER INDIVIDUALS IN KASHMIR: A CROSS-SECTIONAL STUDY

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Abstract

Background. Transgender individuals in the region of Kashmir face deeply entrenched stigma and discrimination, which is further entrenched by cultural, religious and institutional structures and manifests in numerous forms of harassment. However, there is a lack of empirical data and insight into how such experiences and social determinants may affect the quality of life of transgenders living within these unique cultural and socio-cultural settings.

Methods. A purposive and snowball sampling was used to recruit 200 transgender individuals across the Kashmir in a cross-sectional survey. The quality of life was determined by the use of the WHOQOL-BREF (1996) that provides a score in four domains, namely, physical health, psychological health, social relationships and environment. JAMOVI and IBM SPSS 26 were used to run descriptive statistics, Mann Whitney U test, independent samples t-tests and one-way ANOVA with GamesHowell post hoc comparisons.

Results. Participants reported uniformly low to moderate QoL across all domains, with social relationships (M = 1.80) and environment (M = 1.83) showing the lowest mean scores. Trans male participants reported significantly lower QoL than trans female participants across all domains (all $p \leq 0.005$). Urban residence was associated with better QoL in most domains. Age, living arrangement and income level each produced significant between-group differences; the youngest age group and the lowest income group consistently demonstrated the poorest outcomes across all domains.

The participants indicated that the QoL was consistently low to moderate in all domains, with the lowest mean scores of social relationships (M = 1.80) and environment (M = 1.83). Trans male respondents had a significantly lower QoL than trans female respondents across all the domains (all $p \leq 0.005$). The association of urban residence with improved QoL was indicated in most domains. The age, living arrangement and income level all yielded significant between-group differences; the youngest age group and the lowest income group demonstrated the poorest results across all domains.

Conclusions. Transgender individuals in Kashmir constitute a population at elevated risk for compromised QoL, particularly in the social and environmental spheres. The findings highlight the intersecting roles of gender identity, socioeconomic position, urban–rural disparity, age and living arrangement in shaping well-being. Gender-affirming policies and anti-discriminatory policies against discrimination are imperative, and reforms of inclusive policy should also be made to enhance the outcomes of this immensely marginalized population.

1. INTRODUCTION

Transgender individuals across the globe are disproportionately exposed to discrimination, harassment and stigmas that negatively affect their psychological and social well-being (Grant et al., 2011; Budge et al., 2013; Clements-Nolle et al., 2006). The Minority Stress Model, which was first introduced by Meyer (Meyer, 2003), is a widely used model of the way the chronic minority-specific stressors such as the anticipated rejection, the enacted stigma and internalised discrimination are translated into a high level of psychological distress and low quality of life (QoL) in gender minorities. Studies conducted in various national settings have repeatedly shown that transgender individuals indicate poorer QoL outcomes than the general population, specifically in the mental and social aspects (Jellestad et al., 2018; Motmans et al., 2012; Newfield et al., 2006; Murad et al., 2010).

In India, the legal status of transgender individuals was changed radically after the Supreme Court decision in National Legal Services Authority v. Union of India (National Legal Services Authority v. Union of India, 2014), in which the third gender was officially recognised and gender-based discrimination was prohibited. This framework was further expanded by the Transgender Persons (Protection of Rights) Act (Transgender Persons (Protection of Rights) Act, 2019) which mandated that there should be no discrimination in education, employment and healthcare. Even with such legislative progress, enforcement remains inconsistently and transgenders still face widespread stigmatisation in the

course of their day-to-day social interactions, healthcare facilities and formal institutions (Bhattacharya et al., 2022; Pandey, 2018). The statistics provided by the National AIDS Control Organisation show that about 40 percent of transgender people in India have experienced violence or harassment (National AIDS Control Organisation, 2015 and the percentage of those who leave formal education is extremely high because of the peer victimisation and institutional neglect (National Human Rights Commission, 2017).

The state of Jammu and Kashmir within the Indian subcontinent is an especially unique case concerning the study of transgender lives. Kashmir is marked by the dense moral fabric, organised on Islamic religious ideas, concepts of family honour and respectability and close family ties. The expression of gender that falls out of normative femininity or masculinity in this cultural environment is not only stigmatised in personal terms but seen as a form of a transgression against the family honour, making transgender people hyper-visible and socially vulnerable (Bund, 2018). The local terms - Laanch or Hijra - have derogatory overtones in the vernacular Kashmiri language, the extent to which social revulsion towards transgender identity is perceived in the area (Bund, 2018). Compared to other regions of India, where Hijra communities have comparatively well-organised socio-cultural systems, the transgender community in Kashmir is loosely networked, with no institutional power of the guru-chela system elsewhere (Bund, 2018; Nanda, 1990).

There is a lack of empirical research based on the specifics of the Kashmiri sociocultural setting even though some studies have explored QoL among transgender people in a Western setting (Jellestad et al., 2018; Newfield et al., 2006; Murad et al., 2010) and to a smaller degree in the context of India in general (Lal, 2023; Raj & Dubey, 2024). The intersection of religious conservatism, patriarchal kinship norms and economic precarity creates a unique configuration of minority stressors whose impact on QoL has not been systematically quantified. It is imperative to comprehend how sociodemographic factors, such as gender identity, domicile, age, living arrangement and income level modulate the QoL outcomes to gain insights into evidence-based interventions that assist this population.

The purpose of the current study was thus to assess the QoL of transgenders in Kashmir with a standardised, cross-culturally validated measurement tool and to determine the relationship between the major sociodemographic variables with QoL in terms of physical, psychological, social, and environmental domains.

2. METHODS

The current study adopted quantitative cross-sectional survey design. The Board of Research Studies, University of Kashmir (Notification No. F(BORS-Education) Res/KU/2024, dated 27 June 2024) approved the ethical aspects of the study and the study itself was done according to the standards of the Declaration of Helsinki (World Medical Association, 1964/2013). Data collection was done only after formal departmental clearance which was taken with the Head of the Department of Psychology, University of Kashmir.

2.1. Sample

Purposive and snowball sampling techniques were used to recruit participants across Kashmir. It is estimated that there are 2,000 or more transgender in Kashmir based on the 2011 Census of India which enumerated 4,137 transgenders in the Union Territory of Jammu and Kashmir in general. A minimum sample of 200 was obtained using the Raosoft sample size calculator with a 95% confidence level and margin of error of 5 against this population estimate. Since the target population is hidden and inaccessible, which aligns with the previous findings on transgender communities in South Asia (Bund, 2018; Nanda, 1990; Khan et al., 2009) regarding their inaccessibility, snowball sampling was used following initial identification through social media or local non-governmental organisations operating within the transgender welfare domain. Those who agreed to participate were then encouraged to make referrals to their social contacts, which enabled them to access a wider and more representative sample.

Inclusion criteria were: (1) being a self-identified transgender individual; (2) aged 16 years and above; and (3) resides in the Kashmir Valley; and (4) able to comprehend and respond to the questionnaire. Those who failed to satisfy these requirements were excluded. The collection of data was anonymous. A total of 200 participants filled the questionnaire and were incorporated in the analysis.

2.2. Measurements

2.2.1. Quality of Life

The WHOQOL-BREF (1996) was used to assess QoL. The instrument is a 26-item tool that was developed by the World Health Organization through cross-cultural field testing of over 20 countries, and it assesses the quality of life in four areas, namely, physical health, psychological health, social relationships, and environment. Two additional items evaluate general health perception and overall QoL. All the items are rated on a five-point Likert scale; domain scores are calculated based on standard WHO scoring guidelines and transformed into a 0-100 scale, with higher scores reflecting higher QoL (The WHOQOL Group, 1998). The WHOQOL-BREF has high internal consistency, test-retest reliability, and construct validity in the diverse and marginalised populations (The WHOQOL Group, 1998; Skevington et al., 2004; Saxena et al., 2001). The present study employed the validated Urdu version of the WHOQOL-BREF because Urdu is a commonly learned second language across Kashmir. Formal permission to use the instrument was obtained from the WHO via the official request portal (Request ID: 202401866).

2.2.2. Sociodemographic Characteristics

A structured sociodemographic questionnaire was used to gather data on age (categorised 16-25, 26-35, 36-45 and 46-55 years), domicile (rural or urban), income level (classified using the modified Kuppuswamy scale with five classes), gender identity (trans female or trans male) and living arrangement (alone, in a community cluster, or with family). The distribution of the district was also done on a district wise basis in ten districts of the Kashmir.

2.3. Data Analysis

JAMOVI (version 2.x) and IBM SPSS Statistics version 26 were used to conduct all statistical analyses. Frequency distributions and descriptive statistics (means, standard deviations, standard errors, skewness, and kurtosis) were calculated on all QoL variables. The dichotomous variable of gender identity was compared in groups through the Mann-Whitney U test due to the small number of trans males in the subgroup and the distribution characteristics of the data. Comparison of QoL between domicile categories was done by independent-samples t-tests. One-way analysis of variance (ANOVA) was used to test the differences in QoL among the age groups, categories of living arrangements, and categories of income levels. In the event ANOVA returned a significant value, GamesHowell post hoc tests were conducted due to the absence of equal variance assumptions and the fact that the test is strong in the case of when group sizes are unequal. The statistical significance was determined as $p < 0.05$ (two-tailed) throughout.

3. RESULTS

3.1. Sample

The final sample comprised 200 transgender individuals (Table 1). The majority identified as trans female (n = 191; 95.5%), with only 9 participants (4.5%) identifying as trans male. Age was distributed across four groups, with the 26–35-year bracket being the most represented (30.0%), followed by 36–45 years (27.5%) and 16–25 years (26.5%). A minority fell in the 46–55-year bracket (16.0%). Most participants were from urban areas (60.5%), and the largest single-district representation was from Srinagar (28.0%), followed by Pulwama (16.0%) and Baramulla (12.5%). Economically, the sample was heavily concentrated in the lower income strata: 40.5% belonged to the lowest income class (Class V) and 21.5% to the lower-middle class (Class III). Only 8.0% fell in the upper income class. Regarding living arrangements, 41.0% lived alone, 31.5% resided in community clusters, and 27.5% lived with their families.

Table 1. Demographic profile of transgender participants (N = 200).

Variable	Category	n	%
Age (years)	16–25	53	26.5
	26–35	60	30.0
	36–45	55	27.5
	46–55	32	16.0
Domicile	Rural	79	39.5
	Urban	121	60.5
Income level	Upper (Class I)	16	8.0
	Upper Middle (Class II)	42	21.0
	Lower Middle (Class III)	43	21.5
	Upper Lower (Class IV)	18	9.0
	Lower (Class V)	81	40.5
Gender identity	Trans female	191	95.5
	Trans male	9	4.5
Living arrangement	Alone	82	41.0
	In a community cluster	63	31.5
	With family	55	27.5
District (largest)	Srinagar	56	28.0
	Pulwama	32	16.0

	Baramulla	25	12.5
	Others	87	43.5

Note. Income classification based on modified Kuppuswamy scale. MR = mean rank.

3.2. Descriptive Statistics

Table 2 presents the descriptive statistics for all WHOQOL-BREF domains. Mean scores across all domains were low to moderate on the five-point Likert response scale. Psychological health yielded the highest domain mean (M = 2.28, SD = 0.49) and social relationships the lowest (M = 1.80, SD = 0.65). Overall QoL (M = 2.15, SD = 0.75) and general health (M = 2.24, SD = 0.85) were similarly low. Skewness values were positive across all domains, indicating a tendency toward lower QoL scores in the distribution, with the social relationship domain exhibiting the greatest positive skew (0.87). The kurtosis value for physical health (1.44) indicated a more leptokurtic distribution relative to the other domains.

Table 2. Descriptive statistics of WHOQOL-BREF domain scores among transgender participants (N = 200).

Domain	M	SD	SE	Skewness	Kurtosis
Overall QoL	2.15	0.75	0.05	0.18	−0.37
General health	2.24	0.85	0.06	0.25	−0.30
Physical health	2.18	0.48	0.03	0.19	1.44
Psychological health	2.28	0.49	0.03	0.09	0.58
Social relationships	1.80	0.65	0.04	0.87	0.44
Environment	1.83	0.48	0.03	0.70	−0.20

Note. SD = standard deviation; SE = standard error.

3.3. Frequency Distribution by QoL Level

Table 3 presents the frequency distribution of participants across low, average, and high QoL levels for each domain, defined using a ±1 SD cut-off from the domain mean. Across all domains, the majority of participants fell within the average range. The social relationships domain had the greatest concentration of participants in the average range (70.5%), as did the environment domain (74.0%). Proportions classified as high were smallest in the physical domain (8.5%) and the environment domain (12.0%), indicating that relatively few participants experienced high levels of well-being in these areas. The general health domain showed the highest proportion in the high category (37.5%), though this still reflects the overall low-to-moderate profile of the sample.

Table 3. Frequency distribution across low, average, and high QoL levels (N = 200).

Domain	Low f (%)	Average f (%)	High f (%)
Overall QoL	38 (19.0%)	101 (50.5%)	61 (30.5%)
General health	40 (20.0%)	85 (42.5%)	75 (37.5%)
Physical health	24 (12.0%)	137 (68.5%)	17 (8.5%)
Psychological health	24 (12.0%)	140 (70.0%)	36 (18.0%)
Social relationships	32 (16.0%)	141 (70.5%)	27 (13.5%)
Environment	28 (14.0%)	148 (74.0%)	24 (12.0%)

Note. f = frequency. Low, average, and high categories defined as ≤ (M − SD), (M ± SD), and > (M + SD), respectively.

3.4. QoL by Gender Identity

A Mann–Whitney U test was conducted to compare QoL between trans female (n = 191) and trans male (n = 9) participants. As shown in Table 4, trans female participants obtained higher mean ranks than trans male participants across all six QoL variables, and all differences were statistically significant. The most marked difference was observed in the social relationship domain (U = 251.0, z = −3.644, p < 0.001), followed by the environment domain (U = 319.5, z = −3.195, p = 0.001). Overall QoL (U = 373.0, z = −3.122, p = 0.002) and psychological health (U = 349.0, z = −3.035, p = 0.002) also differed significantly, as did physical health (U = 373.5, z = −2.872, p = 0.004) and general health (U = 413.5, z = −2.796, p = 0.005). These findings indicate that trans male participants reported substantially lower QoL across all domains.

Table 4. Mann–Whitney U test comparing QoL by gender identity (N = 200).

Domain	Trans female MR	Trans male MR	U	z	p
Overall QoL	154.56	97.95	373.0	−3.122	0.002
General health	150.06	98.16	413.5	−2.796	0.005
Physical health	153.50	97.47	373.5	−2.872	0.004
Psychological health	157.22	97.83	349.0	−3.035	0.002
Social relationships	168.11	97.31	251.0	−3.644	<0.001
Environment	160.50	97.67	319.5	−3.195	0.001

Note. MR = mean rank. Group 1 = trans female (n = 191); Group 2 = trans male (n = 9). Significance level $p < 0.05$.

3.5. QoL by Domicile

Independent-samples t-tests comparing urban and rural participants revealed that urban residents reported significantly higher QoL across five of six variables (Table 5). Significant differences were found for overall QoL ($t = -3.236$, $p = 0.001$), physical health ($t = -3.581$, $p < 0.001$), psychological health ($t = -5.584$, $p < 0.001$), social relationships ($t = -3.684$, $p < 0.001$), and environment ($t = -2.374$, $p = 0.019$), with urban participants consistently scoring higher. The sole exception was general health, where the difference between rural (M = 2.14) and urban participants (M = 2.31) did not reach statistical significance ($p = 0.177$).

Table 5. Independent-samples t-test comparing QoL by domicile (N = 200).

Domain	Rural M (SD)	Urban M (SD)	t	p
Overall QoL	1.94 (0.40)	2.28 (0.89)	−3.236	0.001
General health	2.14 (0.69)	2.31 (0.94)	−1.354	0.177
Physical health	2.03 (0.34)	2.28 (0.54)	−3.581	<0.001
Psychological health	2.06 (0.34)	2.43 (0.52)	−5.584	<0.001
Social relationships	1.59 (0.51)	1.93 (0.70)	−3.684	<0.001
Environment	1.74 (0.41)	1.90 (0.51)	−2.374	0.019

Note. M = mean; SD = standard deviation. Levene's test-corrected degrees of freedom applied where variances were unequal.

3.6. QoL by Age Group

One-way ANOVA revealed significant between-group differences in QoL across all domains as a function of age (Table 6). The strongest age-related effect was observed in the environment domain ($F(3, 195) = 20.886$, $p < 0.001$), followed by overall QoL ($F(3, 195) = 10.843$, $p < 0.001$) and psychological health ($F(3, 195) = 10.609$, $p < 0.001$). Significant effects were also found for physical health ($F(3, 195) = 9.328$, $p < 0.001$), general health ($F(3, 195) = 9.002$, $p < 0.001$), and social relationships ($F(3, 195) = 3.917$, $p = 0.010$).

Games–Howell post hoc tests revealed a consistent pattern: participants in the youngest age group (16–25 years) scored significantly lower than all older age groups ($p < 0.05$) across overall QoL, general health, physical health, psychological health, and the environment domain. For social relationships, the youngest group scored significantly lower only relative to the 36–45-year group ($p = 0.012$). No significant differences in QoL were observed among the three older age groups in any domain.

Table 6. One-way ANOVA comparing QoL by age group (N = 199).

Domain	SS	df	MS	F	p
Overall QoL	16.123	3	5.374	10.843	<0.001
General health	17.569	3	5.856	9.002	<0.001
Physical health	5.789	3	1.930	9.328	<0.001
Psychological health	6.789	3	2.263	10.609	<0.001
Social relationships	4.773	3	1.591	3.917	0.010

Environment	11.018	3	3.673	20.886	<0.001

Note. Between-groups df = 3; within-groups df = 195 for all domains except as noted. Games–Howell post hoc results indicated that Age Group 1 (16–25 years) scored significantly lower than all other groups ($p < 0.05$) in all domains except social relationships, where it differed significantly only from Age Group 3 (36–45 years; $p = 0.012$).

3.7. QoL by Living Arrangement

ANOVA comparing QoL across three living arrangement categories — alone, in a community cluster, and with family — produced significant results in all domains (Table 7). The environment domain exhibited the largest effect ($F(2, 197) = 26.666$, $p < 0.001$), followed by psychological health ($F(2, 197) = 16.119$, $p < 0.001$) and physical health ($F(2, 197) = 13.242$, $p < 0.001$). Significant differences were also found for general health ($F(2, 197) = 8.495$, $p < 0.001$), overall QoL ($F(2, 197) = 4.436$, $p = 0.013$), and social relationships ($F(2, 197) = 3.844$, $p = 0.023$).

Games–Howell post hoc comparisons showed that participants living alone (Group 1) scored significantly lower than both those residing in community clusters (Group 2) and those living with family (Group 3) across general health, physical health, psychological health, and the environment domain (all $p < 0.001$). Significant differences in overall QoL and social relationships were found specifically between those living alone and those living with family. No significant differences in QoL were observed between Groups 2 and 3 in any domain.

Table 7. One-way ANOVA comparing QoL by living arrangement (N = 200).

Domain	SS	df	MS	F	p
Overall QoL	4.861	2	2.431	4.436	0.013
General health	11.471	2	5.736	8.495	<0.001
Physical health	5.491	2	2.745	13.242	<0.001
Psychological health	6.816	2	3.408	16.119	<0.001
Social relationships	3.162	2	1.581	3.844	0.023
Environment	9.654	2	4.827	26.666	<0.001

Note. Between-groups df = 2; within-groups df = 197. Games–Howell post hoc: Group 1 (alone) < Groups 2 (community) and 3 (family) for general health, physical, psychological, and environment ($p < 0.001$). Groups 2 and 3 did not differ significantly in any domain.

3.8. QoL by Income Level

One-way ANOVA demonstrated that income level was significantly associated with QoL across all domains (Table 8). The physical health domain showed the strongest income-related effect ($F(4, 194) = 22.888$, $p < 0.001$). Significant differences were also found for overall QoL ($F(4, 195) = 7.013$, $p < 0.001$), psychological health ($F(4, 195) = 6.064$, $p < 0.001$), general health ($F(4, 195) = 5.073$, $p = 0.001$), social relationships ($F(4, 195) = 3.969$, $p = 0.004$), and environment ($F(4, 195) = 3.541$, $p = 0.008$).

Games–Howell post hoc tests indicated that participants in the lowest income group (Class V) scored significantly lower than all other income groups across all QoL domains ($p < 0.05$). No significant differences in QoL were found among the remaining four income groups.

Table 8. One-way ANOVA comparing QoL by income level (N = 200).

Domain	SS	df	MS	F	p
Overall QoL	14.185	4	3.546	7.013	<0.001
General health	13.617	4	3.404	5.073	0.001
Physical health	14.789	4	3.697	22.888	<0.001
Psychological health	5.362	4	1.340	6.064	<0.001
Social relationships	6.339	4	1.585	3.969	0.004
Environment	3.069	4	0.767	3.541	0.008

Note. Between-groups df = 4; within-groups df = 195. Games–Howell post hoc: Income Group 5 (lowest) scored significantly lower than all other income groups ($p < 0.05$) across all domains. No significant differences among Income Groups 1–4.

4. DISCUSSION

The study assessed QoL among transgender people in Kashmir based on a validated, cross-culturally standardised tool and investigated the influence of sociodemographic variables on domain-specific well-being outcomes. The overall results validate that transgender individuals in this deeply conservative sociocultural setting have consistently low to moderate QoL, with the social and environmental spheres appearing to be the most significantly impacted. These findings are aligned with the larger literature demonstrating that transgender populations have poorer QoL outcomes compared to the general population, especially in the mental and social domains (Jellestad et al., 2018; Motmans et al., 2012; Newfield et al., 2006; Murad et al., 2010), and generalize this evidence base to the previously understudied South Asian context.

4.1. Overall and Domain-Specific QoL

The overall QoL scores in all WHOQOL-BREF domains were low to moderate, with the lowest mean (M = 1.80) in the social relationship domain and the highest mean (M = 2.28) in the psychological domain. These especially low scores in social relationships are consistent with findings of severe social isolation of transgender people in South Asian settings (Bund, 2018; Nanda, 1990) and are consistent with finding that social functioning was the most drastically reduced domain when comparing transgender participants with the general population (Jellestad et al., 2018). The Kashmiri social structure is structured in terms of kinship, community notoriety, and religious conformity, which can be viewed as exclusion mechanisms against those who are perceived to be violating gender norms. The majority of the participants in this study reported little or no interaction with their families and most of them had migrated to Srinagar in search of livelihood in an informal economy. Social disconnection from family and natal communities is therefore not incidental but structurally produced by the intersecting demands of cultural honour and economic survival.

Material deprivation is also indicated by the low scores on the environment (M = 1.83). Majority of the participants were of the lower income groups and a significant percentage resided alone or in community groups without access to stable housing, healthcare or formal employment. These conditions are similar to the items of the WHOQOL-BREF of the environmental domain that measures financial resources, physical safety, access to healthcare, and living conditions (The WHOQOL Group, 1998). Research from other contexts have found structural barriers such as economic vulnerability and inaccessible healthcare to be the determinants of low environmental QoL in transgender populations (Coswosck et al., 2022; Hancock et al., 2011).

4.2. QoL by Gender Identity

Trans male respondents reported significantly lower QoL than trans female respondents in all domains. It is a significant observation that differs with some studies in the West that found no significant gender differences in QoL among transgender samples (Jellestad et al., 2018; Auer et al., 2017), but generally concurs with the evidence that suggests that trans men might be more vulnerable due to their relative invisibility and smaller community support networks (Reisner et al., 2013). Trans females (mostly Hijra or Laanch) in Kashmir retain loosely structured community structures and cultural functions such as ceremonial singing and dancing at weddings and birthdays that offer a certain level of social bonding and economic service, though tenuous (Bund, 2018). Trans men, in their turn, hold an almost completely hidden social status in the region, lacking the same level of community organization or established cultural roles. Their invisibility, while offering protection from certain forms of overt harassment, also forecloses access to community-based coping and solidarity. The structural isolation is consistent with the significantly lower social relationships scores observed in trans male participants.

4.3. QoL by Domicile

Participants in urban areas reported significantly better QoL across five of six domains than those in rural areas, the only difference being general health This pattern is consistent with the wider literature identifying urban settings as more protective environments for transgender well-being, primarily by virtue of greater access to healthcare, informal support networks and opportunities for economic participation (Coswosck et al., 2022). Srinagar, the largest urban centre, concentrates majority of the sample which is 28% and offers some level of access to non-governmental organisations, informal community gathering space, and some level of anonymity that urban environment may support against the level of social scrutiny that may exist in the close-knit rural setting. The fact that there is no significant disparity in general health between rural and urban populations implies that the perception of general health is not strongly influenced by domicile per se and perhaps, is more strongly mediated by personal experiences of discrimination and health service accessibility.

4.4. QoL by Age Group and Living Arrangement

The consistent and robust result of all ANOVA analyses was that the younger respondents (16-25 years) indicated a significantly lower QoL than all the older respondents in most domains, but the three older respondent groups showed no significant difference from one another. This pattern is identical to those observed by Motmans et al., 2012) and Jellestad et al., 2018, who also identified age as a significant modulator of QoL among transgender population and consistent with the literature indicating that younger transgender individuals are more psychologically vulnerable during identity formation in non-affirming environments. (Testa et al., 2012). In Kashmir, where family rejection typically occurs during

adolescence and early adulthood, younger transgender individuals must simultaneously negotiate identity, social exclusion, and economic precarity with fewer years of accumulated coping resources. The age-related impact was the most significant in the environmental domain (F = 20.886), implying that the access to material resources and stable conditions of living becomes meaningful with age, possibly as individuals gradually establish independent livelihood arrangements.

Correspondingly, the living conditions of individuals living alone were also the most likely to record the lowest QoL outcomes than living in community clusters or with family. This result is theoretically consistent in the context of minority stress framework (Meyer, 2003): social support is a well-developed buffer against the psychological impact of stigma and discrimination, and its absence increases vulnerability. Social exclusion was further enhanced by the fact that participants living alone were not only deprived of any instrumental assistance, but also of emotional validation. The lack of substantial differences between community and family living implies that the positive impact of co-habitation is based more on co-presence and mutual support than on the specific nature of the living relationship.

4.5. QoL by Income Level

The income level emerged as one of the most significant determinants of QoL in all domains, and the lowest-income group (Class V) was significantly lower than all other groups. The effect was most significant in the physical domain (F = 22.888), which suggests the most direct implications of economic deprivation on physical functioning, presumably, due to limited access to nutrition, healthcare, and safe living conditions. This observation is consistent with the wider social determinants of health literature (Pascoe and Smart Richman, 2009) and transgender-specific studies indicating that economic marginalisation is a major contributor of health disparities or inequalities in this population (Coswosck et al., 2022; Hancock et al., 2011). The lack of significant differences among the four higher income categories implies that there is a threshold effect, where poverty and not incremental income change is the critical factor of QoL compromise.

4.6. Limitations and Strengths

There are a number of limitations that should be mentioned. The cross-sectional design does not allow the causal inference, the ability to determine whether lower QoL result is caused by discrimination and stigma or even whether underlying vulnerabilities predispose to both. The sample consisted mainly of trans females (95.5%), reflecting the demographic reality of the transgender population in Kashmir and the fact that the trans male population is less visible; the results on trans male participants should be interpreted with caution therefore as the subgroup number is relatively very small (n = 9). Snowball sampling and purposive sampling, though suitable in this case as it relates to this hidden population, can lead to referral bias. Moreover, the WHOQOL-BREF lacks transgender-specific QoL concerns, including gender dysphoria, gender-affirming interventions, or identity-related distress, and it might not be entirely sensitive to the wellbeing-related challenges of this group, as highlighted in previous work (Jellestad et al., 2018).

However, there are significant strengths of this study. It is, to the best of our knowledge, one of very few empirical studies of this population in the larger Kashmir region. The 200-respondent sample is one of the largest quantitative surveys of this community in the region. The WHOQOL-BREF is WHO-validated and provides standardised, internationally comparable measurement and the Urdu version in use was officially given permission by the WHO. The fact that multiple sociodemographic predictors are included and that robust post hoc procedures are utilized enhances the interpretability of the inferential findings.

5. CONCLUSIONS

The results of this study highlight the fact that transgender people in Kashmir constitute a population that is under a significant risk of having poor quality of life wherein social relations and environmental factors are two domains that are impacted most significantly. The intersecting effects of gender identity, young age, rural residence, social isolation, and economic deprivation are independent and significant contributors that shape the QoL outcomes. Trans males have a specific invisibility and vulnerability. These results call for urgent and targeted policy responses, including the meaningful implementation of the Transgender Persons (Protection of Rights) Act, strengthening of the Transgender Welfare Board of Jammu and Kashmir, expansion of gender-affirming healthcare, income support schemes and anti-discrimination measures within educational institutions and workplaces. Young, economically marginalised, and socially isolated transgender individuals are particularly justified to community-based interventions that enhance social networks and avail mental health services.

The future studies must utilize longitudinal designs to investigate the time-stability of discrimination-related stress and QoL, design or modify transgender-specific QoL measures that are validated in South Asian cultural backgrounds, and explore the role of stigmatisation, anticipated rejection, and internalised discrimination as mediating mechanisms. The presence of structural and institutional barriers, such as healthcare discrimination and legal documentation issues, as predictors of QoL will be necessary to translate the findings into practical policy recommendations.

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