

## ORIGINAL ARTICLE

# Living with motor disability between prejudice and inclusion in today's society: An observational study

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## ABSTRACT

**Background:** In Italy, more than 3 million people live with a disability. Among them, more than half experience motor impairments. Although attention to disability issues has globally increased in recent decades, literature on this topic remains limited. The aim of the study is to gather new information on the quality of life and lived experiences of individuals with motor disabilities, with particular focus on factors that may significantly influence their well-being, such as experiences of discrimination and perceived architectural barriers.

**Materials and Methods:** We ran a cross-sectional online survey (n=110) disseminated via national associations. Validated tools were used: WHOQOL-BREF, BDI-II, STAI Y-1. Descriptive statistics summarized characteristics; Pearson correlations tested links among prejudice/discrimination/architectural barriers and outcomes; one-way ANOVA compared WHOQOL-BREF domains across BDI-II severity (p<0.05).



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**Results:** Severe state anxiety was present in 95.6% (moderate 1.8%). Depression severity was minimal in 54.9% of respondents, mild in 17.7%, moderate in 13.3%, and severe in 11.5%. Satisfaction was poor for territorial mobility (49.6%), accessibility of places (39.8%), and employment services (46.0%). Higher prejudice and architectural barriers correlated with lower QoL in physical and psychological domains; ANOVA showed progressively lower QoL with increasing depression severity ( $p < 0.05$  across domains).

**Conclusions:** The findings clearly highlight the need for a holistic approach to individuals living with motor disabilities, one that goes beyond the physical condition and takes into account the fundamental role of psychosocial factors. Equally important is a societal shift in the perception of disability, to ensure full inclusion of individuals in all their complexity. ([www.actabiomedica.it](http://www.actabiomedica.it))

**Key words:** disability, prejudice, inclusion, quality of life, barriers, society.

**Running title:** Motor Disability, Prejudice and Inclusion

## Introduction

In recent decades, the discourse on disability has evolved from a medical-assistance model, focused solely on organic and etiological aspects, to a biopsychosocial approach. This shift is reflected in the transition from the International Classification of Impairments, Disabilities and Handicaps (ICIDH, 1980) to the International Classification of Functioning, Disability and Health (ICF, 2001), which embraces a multidimensional perspective of the individual and a dynamic view of disability. Motor disability, therefore, has complex consequences not only on the physical level but also on the psychological and social domains, requiring constant adaptation from both the individual and their caregiver. They are frequently confronted with barriers in environments that are not always suitable (1), as emphasized in the preamble of the United Nations Convention on the Rights of Persons with Disabilities, which states that “persons with disabilities continue to face barriers in their participation as equal members of society” (2). The Convention also provides a general definition of disability aligned with the modern conceptualization: “persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others.” These barriers can significantly impact the quality of life (QoL) of individuals

with disabilities (3). The World Health Organization (WHO) defines QoL as “an individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns” (4). In this regard, the literature depicts a complex and diverse landscape, where it is evident that the QoL of individuals with motor disabilities is influenced by multiple factors, including physical limitations, individual biological and socioeconomic characteristics, and psychosocial variables (5). A possible decline in QoL is associated with physical and functional limitations (3,6–10), as well as with the duration of such conditions (3,11–13), in addition to the presence of pain, fatigue, depression, and other secondary health conditions (14–16). These issues are further compounded by the challenges individuals often face in the workplace (5,17), where high unemployment rates and related economic hardship are common (8). Equally important is the negative influence of stigma, discrimination, and prejudice from society (1), as well as reduced social participation. According to some authors, interpersonal relationships play a vital role in the lives of people with motor disabilities, possibly even more so than the motor deficits themselves (7,18–21). This influence is further exacerbated by the detrimental effects that a lack of social relationships can have on mental health (18), which in turn may negatively impact functional limitations (13,22). Although a satisfactory QoL is essential for the well-being of each individual, it

becomes even more significant considering that, according to WHO estimates from December 2022, approximately 1.3 billion people worldwide—16% of the global population—live with a significant disability (20). In Italy, data from ISTAT in 2019 (23) indicate that disability affects approximately 5.2% of the population, or about 3.2 million people, with motor disability specifically affecting 3.1%. It is also important to consider that, since disability is strongly correlated with aging, its prevalence is expected to increase due to the rise in average age (24). This study aims to provide a clearer understanding of the relationship between motor disability, its psycho-physical consequences, and quality of life within the Italian context—issues that are still often considered taboo and are underrepresented in the current literature. The value of this work is further highlighted by the limited number of Italian studies addressing this topic.

## Methods

### *Study procedure and data collection tools*

This is an observational study conducted through an online survey aimed at collecting both qualitative and quantitative data. The study protocol was presented to several associations of individuals with disabilities operating across the national Italian territory. Collaborations were established with the following organizations: “Mollare Mai” Association, ASD “Lupiae Team Salento,” UILDM (Italian Union for the Fight against Muscular Dystrophy), “Centro Spazio Vita Niguarda,” “SportABILI,” AIDM (Interregional Association for Motor Disabilities), ACTM (Charcot-Marie-Tooth Disease Network), “You Able,” “Delfino” ODV Association, and—thanks to authorization granted by the Montecatone Rehabilitation Institute—with the Montecatone Onlus Foundation and AUS (Association of Users of the Montecatone Spinal Unit). Each association distributed the survey link to its members and/or their caregivers, who participated anonymously using tablets, computers, or smartphones. The data collection tool consisted of a brief introduction to the study and a section for informed consent. The first part collected socio-demographic and socio-health information, including participants’ satisfaction with health and social care services. A subsequent

section focused on Quality of Life (QoL), using the Italian version of the WHOQOL-BREF scale, composed of 24 items divided into four domains: physical health, psychological well-being, social relationships, and environment (25,26). Domain scores were calculated by multiplying the mean of the items in each domain by four and then converting the result to a scale ranging from 0 to 100 (27). Another section explored the main problems associated with disability, including experiences of discrimination and prejudice. In the final part of the survey, the psycho-physical consequences related to motor disability were assessed using the BDI-II (Beck Depression Inventory-II) to measure depressive symptoms and the S.T.A.I. (State-Trait Anxiety Inventory) form Y-1 to assess state anxiety levels (28,29). In addition, internal consistency was assessed for the validated scales using Cronbach’s alpha.

### *Inclusion and exclusion criteria*

The study included adult participants (>18 years old) with motor disabilities, residing in Italy, who provided informed consent. Exclusion criteria were individuals without motor disabilities, participants under the age of 18, and those who did not consent to participate in the study or to the use of their data for analysis and dissemination of the results.

### *Ethical considerations*

The study was conducted in accordance with Good Clinical Practice (GCP), the ethical principles of the Declaration of Helsinki, and current regulations regarding observational studies. The questionnaire received approval from the Ethics Committee under protocol number 174, dated 05/03/2024. Participation was entirely free, voluntary, and anonymous. Before completing the survey, participants were required to provide informed consent as a prerequisite.

### *Statistical analysis*

Descriptive statistics summarized all qualitative and quantitative variables (means and standard

deviations for continuous variables; frequencies and percentages for categorical variables). Pearson correlation coefficients were calculated to assess associations between participants perceived prejudice, discrimination, and architectural barriers and study outcomes (WHOQOL-BREF domains, STAI Y-1, BDI-II). One-way ANOVA compared WHOQOL-BREF domain scores across BDI-II severity categories (minimal, mild, moderate, severe), with post-hoc tests conducted where appropriate (two-tailed  $\alpha=0.05$ ). For all correlation analyses, 95% confidence intervals (CIs) were calculated and reported. For ANOVA models, we reported the F statistic, degrees of freedom, and p value. Analyses were performed in MATLAB, version 6.

## Results

### Section a: Socio-demographic data

A total of 110 participants were included in the analysis. Among them, 59 subjects were males (53.96%). All validated scales showed high internal consistency: WHOQOL-BREF ( $\alpha = 0.924$ ), STAI-Y1 ( $\alpha = 0.943$ ), and BDI-II ( $\alpha = 0.892$ ). The questionnaire was completed by the person with a disability in 73.6% of cases ( $n=81$ ) and by their caregiver in 26.4% ( $n=29$ ). Participants reported being non-self-sufficient in 40.9% of cases ( $n=45$ ), partially self-sufficient in 46.4% ( $n=51$ ), and fully self-sufficient in 12.7% ( $n=14$ ). A total of 36.4% ( $n=40$ ) were retired, while 45.5% ( $n=50$ ) lived with their family of origin. In 60.0% ( $n=66$ ) of the sample, the motor disability had been acquired. Physical support was primarily provided by the spouse (35.4%,  $n=39$ ) and by parents (32.7%,  $n=36$ ). The need for assistance in daily living activities was frequently perceived as a source of stress by 20% ( $n=22$ ) of participants; an equal percentage reported experiencing stress “often,” while 21.8% ( $n=24$ ) indicated feeling stressed “sometimes.” A total of 48.2% ( $n=53$ ) reported using antidepressant and/or anxiolytic medication. Regarding satisfaction with social and healthcare services, 33.6% ( $n=38$ ) rated rehabilitation services as poor, while only 1.8% ( $n=2$ ) rated them as excellent. Territorial mobility services were considered poor by nearly half of the

participants (49.6%,  $n=56$ ). With respect to access to information about rights and opportunities (e.g., websites, training centers), 31% ( $n=35$ ) reported a mild level of satisfaction, while 29.2% ( $n=33$ ) reported low satisfaction. Socialization services (such as cultural activities) were rated poorly by 38.1% ( $n=43$ ) of participants. Healthcare services were rated as mediocre by 34.5% ( $n=39$ ), sufficient by 27.4% ( $n=31$ ), and poor by 21.2% ( $n=24$ ). Satisfaction with accessibility to places (public or private facilities, architectural barriers) was rated as poor by 39.8% ( $n=45$ ), with a similar percentage reporting a mild level of satisfaction. Facilities and services specifically intended for sports activities were considered poor by 39.8% ( $n=45$ ) and mediocre by 33.6% ( $n=38$ ). Educational and school support services were associated with a mild level of satisfaction in 31.9% ( $n=36$ ) of participants. Finally, nearly half of the participants (46%,  $n=52$ ) expressed poor satisfaction with employment-related services. Sample data and self-perceived stress levels are reported in Table 1.

### Satisfaction level and service accessibility

Among the participants, high levels of dissatisfaction were reported regarding sleep quality (34.55%,  $n=38$ ), management of daily activities (50.9%,  $n=56$ ), self-perception (39.1%,  $n=43$ ), sexual life (40.9%,  $n=45$ ), and support received from friends (40.9%,  $n=45$ ). Respondents indicated being “very dissatisfied” with the availability and accessibility of healthcare services in 47.3% of cases ( $n=52$ ). The condition of their home environment was considered unsatisfactory by 32.7% ( $n=36$ ), and public transportation services were deemed unsatisfactory by 31.8% ( $n=35$ ), with an equal percentage rating them as “very unsatisfactory”. Degree of satisfactory and accessibility of services are found in Table 2.

### Anxiety, depression and quality of life perceptions in disability

#### S.T.A.I. Y-1 SCALE – STATE ANXIETY LEVELS

Anxiety symptoms were found to be absent or mild in none of the participants. In contrast, 95.6% ( $n=108$ ) exhibited severe levels of state anxiety, while 1.8% ( $n=2$ ) reported moderate levels.

**Table 1.** Sample data and self-perceived stress levels associated with the disability condition (n=110).

| Socio-demographic characteristics                               | n(%); $\mu \pm SD$         | Socio-demographic characteristics  | n(%); $\mu \pm SD$ |
|---|----------------------------|--|--------------------|
| <b>Sex</b>  |                            | <b>How long have you had a motor disability?</b>   |                    |
| Female  | 51(46.4)                   | Less than 1 year   | 5(4.5)             |
| Male  | 59(53.6)                   | More than 1 year   | 105(95.5)          |
| <b>Age</b>  | Range 19-46<br>(mean 48.2) | <b>From whom does he receive more physical support in daily life?</b>                      |                    |
| <b>Participant</b>  |                            | Son/daughter   | 12(10.9)           |
| Patient   | 81(73.6)                   | Mother/father  | 36(32.7)           |
| Caregiver   | 29(26.4)                   | Spouse   | 1(0.9)             |
| <b>Civil status</b>   |                            | Associations   | 39(35.4)           |
| Divorced  | 7(6.4)                     | Self-help group  | 4(3.6)             |
| Unmarried   | 47(42.7)                   | Other  | 8(7.3)             |
| Separated   | 3(2.7)                     | None   | 10(9.1)            |
| Married   | 45(40.9)                   | <b>Within your family are there other members with developmental disabilities?</b>         |                    |
| Widowed   | 8(7.3)                     | Yes  | 16(14.5)           |
| <b>Educational level</b>  |                            | No   | 94(85.5)           |
| High school diploma   | 46(41.8)                   | <b>Do you currently engage in sports activities?</b>                                       |                    |
| Postgraduate training   | 11(10)                     | Yes  | 33(30)             |
| Bachelor's degree   | 32(29.1)                   | No   | 77(70)             |
| Junior high school  | 17(15.5)                   | <b>Indicate your self-perceived level of stress associated with your current lifestyle</b> |                    |
| No title  | 4(3.6)                     | <b>Need to be assisted in all life activities</b>  |                    |
| <b>Work employment</b>  |                            | Never  | 22(20)             |
| Homemaker   | 7(6.4)                     | Rarely   | 20(18.2)           |
| Private employee  | 16(14.5)                   | Sometimes  | 24(21.8)           |
| Public employee   | 20(18.2)                   | Often  | 22(20)             |
| Unemployed  | 6(5.4)                     | Frequently   | 22(20)             |
| Free lancer   | 16(14.5)                   | <b>Need to be understood in the expression of needs</b>                                    |                    |
| Retired   | 40(36.4)                   | Never  | 27(24.5)           |
| Student   | 5(4.5)                     | Rarely   | 27(24.5)           |
| <b>The person with disabilities lives:</b>                      |                            | Sometimes  | 24(21.8)           |
| At home, in a family he or she established                      | 55(50)                     | Often  | 23(20.9)           |
| At home, in the family of his or her parents                    | 50(45.5)                   | Frequently   | 9(8.2)             |
| In a home of his or her own                                     | 3(2.7)                     | <b>Inadequacy of aids and spaces at home</b>   |                    |
| At brothers/sisters   | 2(1.8)                     | Never  | 31(28.2)           |
| <b>Severity condition of the person with disabilities:</b>      |                            | Rarely   | 30(27.3)           |
| Self-sufficient   | 14(12.7)                   | Sometimes  | 26(23.6)           |
| Partially self-sufficient                                       | 51(46.4)                   | Often  | 16(14.6)           |
| Not self-sufficient   | 45(40.9)                   | Frequently   | 7(6.4)             |
| <b>Disability is associated with pathology:</b>                 |                            | <b>Lack of aids to cope with disability</b>  |                    |
| Acquired  | 66(60)                     | Never  | 31(28.2)           |
| Congenital  | 44(40)                     | Rarely   | 30(27.3)           |
| <b>Can make explicit the pathology/cause of the disability:</b> |                            | Sometimes  | 26(23.6)           |
| Genetic causes  | 27(24.5)                   | Often  | 16(14.5)           |
| Perinatal causes  | 13(11.8)                   | Frequently   | 7(6.4)             |
| Prenatal causes   | 11(10)                     |  |                    |
| Oncological disease   | 7(6.4)                     |  |                    |
| Chronic disease   | 5(4.5)                     |  |                    |
| Neurological disease  | 22(20)                     |  |                    |
| Trauma  | 25(22.7)                   |  |                    |

Table 1 (Continued)

| Socio-demographic characteristics  | n(%); $\mu \pm SD$ |
|--|--------------------|
| <b>Lack of territorial nursing and medical supports at home</b>                                    |                    |
| Never  | 33(30)             |
| Rarely   | 30(27)             |
| Sometimes  | 22(20)             |
| Often  | 10(9.1)            |
| Frequently   | 15(13.6)           |
| <b>Were you taking antidepressant/anxiety medications, before your disability?</b>                 |                    |
| Yes  | 41(37.3)           |
| No   | 69(62.7)           |
| <b>Are you currently taking antidepressant/anxiety medications?</b>                                |                    |
| Yes  | 53(48.2)           |
| No   | 57(51.8)           |
| <b>Were you abusing substances as alcohol and/or drugs before your disability?</b>                 |                    |
| Yes  | 53(48.2)           |
| No   | 57(51.8)           |
| <b>Degree levels in satisfaction with social and health services</b>                               |                    |
| <b>Rehabilitative services</b>   |                    |
| Poor   | 38(33.6)           |
| Mild   | 31(27.4)           |
| Sufficient   | 27(23.6)           |
| Fair   | 12(10.6)           |
| Excellent  | 5(4.5)             |
| <b>Services for territorial mobility</b>   |                    |
| Poor   | 56(49.6)           |
| Mild   | 32(28.3)           |
| Sufficient   | 14(12.4)           |
| Fair   | 6(5.3)             |
| Excellent  | 2(1.8)             |
| Missing  | 3(2.7)             |
| <b>Access to information regarding rights and opportunities (Internet sites, training centers)</b> |                    |
| Poor   | 33(29.2)           |
| Mild   | 35(31)             |
| Sufficient   | 27(23.9)           |
| Fair   | 11(9.7)            |
| Excellent  | 4(3.5)             |
| <b>Services for socialization (activities cultural, etc.)</b>                                      |                    |
| Poor   | 43(38.1)           |
| Mild   | 37(32.7)           |
| Sufficient   | 19(16.8)           |
| Fair   | 7(6.2)             |
| Excellent  | 7(6.2)             |

| Socio-demographic characteristics   | n(%); $\mu \pm SD$ |
|---|--------------------|
| <b>Health services</b>  |                    |
| Poor  | 24(21.2)           |
| Mild  | 39(34.5)           |
| Sufficient  | 31(27.4)           |
| Fair  | 12(10.6)           |
| Excellent   | 7(6.2)             |
| <b>Accessibility to places (public or private facilities, architectural barriers)</b> |                    |
| Poor  | 45(39.8)           |
| Mild  | 45(39.8)           |
| Sufficient  | 13(11.5)           |
| Fair  | 6(5.3)             |
| Excellent   | 4(3.6)             |
| <b>Specific facilities and services for sports activities</b>                         |                    |
| Poor  | 45(39.8)           |
| Mild  | 38(33.6)           |
| Sufficient  | 15(13.3)           |
| Fair  | 6(5.3)             |
| Excellent   | 9(8.0)             |
| <b>School and educational support services</b>  |                    |
| Poor  | 32(28.3)           |
| Mild  | 36(31.9)           |
| Sufficient  | 30(26.5)           |
| Fair  | 9(8.0)             |
| Excellent   | 6(5.3)             |
| <b>Employment Services</b>  |                    |
| Poor  | 52(46.0)           |
| Mild  | 30(26.5)           |
| Sufficient  | 21(18.6)           |
| Fair  | 3(2.7)             |
| Excellent   | 7(6.2)             |
| <b>Social - welfare services</b>  |                    |
| Poor  | 35(31.0)           |
| Mild  | 35(31.0)           |
| Sufficient  | 28(24.9)           |
| Fair  | 9(8.1)             |
| Excellent   | 6(5.4)             |

**Table 2.** Degree of satisfaction and accessibility of services

| Satisfaction level of:                     | n(%)     |
|--|----------|
| <b>Sleep quality:</b>                      |          |
| Very dissatisfied                          | 38(34.5) |
| Dissatisfied                               | 31(28.2) |
| Neither dissatisfied nor satisfied         | 27(24.5) |
| Satisfied                                  | 12(10.9) |
| Very satisfied                             | 2(1.8)   |
| <b>Management way in daily activities:</b> |          |
| Very dissatisfied                          | 56(50.9) |
| Dissatisfied                               | 32(29.1) |
| Neither dissatisfied nor satisfied         | 14(12.7) |
| Satisfied                                  | 6(5.5)   |
| Very satisfied                             | 2(1.8)   |
| <b>Engage in own activities:</b>           |          |
| Very dissatisfied                          | 33(30.0) |
| Dissatisfied                               | 35(31.8) |
| Neither dissatisfied nor satisfied         | 27(24.5) |
| Satisfied                                  | 11(10.0) |
| Very satisfied                             | 4(3.6)   |
| <b>Own perceptions:</b>                    |          |
| Very dissatisfied                          | 43(39.1) |
| Dissatisfied                               | 37(33.6) |
| Neither dissatisfied nor satisfied         | 19(17.3) |
| Satisfied                                  | 7(6.4)   |
| Very satisfied                             | 4(3.6)   |
| <b>Personal relationships with others:</b> |          |
| Very dissatisfied                          | 24(21.8) |
| Dissatisfied                               | 39(35.5) |
| Neither dissatisfied nor satisfied         | 31(28.2) |
| Satisfied                                  | 12(10.9) |
| Very satisfied                             | 4(3.6)   |
| <b>Own sexual life:</b>                    |          |
| Very dissatisfied                          | 45(40.9) |
| Dissatisfied                               | 45(40.9) |
| Neither dissatisfied nor satisfied         | 13(11.8) |
| Satisfied                                  | 6(5.5)   |
| Very satisfied                             | 1(0.9)   |
| <b>Support received from friends;</b>      |          |
| Very dissatisfied                          | 45(40.9) |
| Dissatisfied                               | 38(34.5) |
| Neither dissatisfied nor satisfied         | 15(13.6) |
| Satisfied                                  | 6(5.5)   |
| Very satisfied                             | 6(5.5)   |
| <b>Conditions of own home:</b>             |          |
| Very dissatisfied                          | 32(29.1) |
| Dissatisfied                               | 36(32.7) |
| Neither dissatisfied nor satisfied         | 30(27.3) |
| Satisfied                                  | 9(8.2)   |
| Very satisfied                             | 3(2.7)   |

| Satisfaction level of:  | n(%)     |
|---|----------|
| <b>The availability and accessibility of health services:</b> |          |
| Very dissatisfied   | 52(47.3) |
| Dissatisfied  | 30(27.3) |
| Neither dissatisfied nor satisfied                            | 21(19.1) |
| Satisfied   | 3(2.7)   |
| Very satisfied  | 4(3.6)   |
| <b>Means of transport available:</b>                          |          |
| Very dissatisfied   | 35(31.8) |
| Dissatisfied  | 35(31.8) |
| Neither dissatisfied nor satisfied                            | 28(25.5) |
| Satisfied   | 9(8.2)   |
| Very satisfied  | 3(2.7)   |

**BDI-II – BECK DEPRESSION INVENTORY (DEPRESSION LEVELS)**

Among the participants, depression levels were minimal in 54.9% (n=62). Mild depression was observed in 17.7% (n=20), moderate in 13.3% (n=15), and severe in 11.5% (n=13).

**QUALITY OF LIFE - WHOQOL-BREF**

In the physical health domain, the mean score was 52.08, which can be interpreted as a perceived quality of life (QoL) at a sufficient level, though with potential physical challenges. In the psychological domain, the mean score was 56.25, suggesting a perceived QoL characterized by good psychological balance. In the social relationships’ domain, the mean score was 57.95, indicating a perceived QoL with generally good interpersonal relationships, although with a high degree of variability (min = 0). Finally, in the environment domain, the mean score was 50.40, which reflects a sufficient level of perceived QoL, though this area appears to be a potential target for intervention and improvement (Table 3).

**Anxiety, Depression and Quality of life perceptions in disability according to discrimination perceptions, prejudice and architectural barriers.**

This section focuses on analyzing possible associations between certain variables and levels of anxiety

**Table 3.** Anxiety, Depression and Quality of life perceptions in disability.

| Domain and levels      | n(%); $\mu \pm SD$ |
|------------------------|--------------------|
| <b>Anxiety</b>         |                    |
| Absent                 | 0(0)               |
| Mild                   | 0(0)               |
| Moderate               | 2(1.8)             |
| Severe                 | 108(95.6)          |
| <b>Depression</b>      |                    |
| Minimal                | 62(54.9)           |
| Mild                   | 20(17.7)           |
| Moderate               | 15(13.3)           |
| Severe                 | 13(11.5)           |
| <b>Quality of life</b> |                    |
| - WHOQOL-BREF          |                    |
| Physical               | 17.47 $\pm$ 8.03   |
| Psychological          | 35.15 $\pm$ 21.95  |
| Social Relations       | 62.48 $\pm$ 24.77  |
| Environment            | 59.06 $\pm$ 40.59  |

and depression. Specifically, the relationship between architectural barriers and psychological consequences was examined. The results indicate that, with regard to perceived anxiety levels, the more individuals with motor disabilities perceive architectural barriers, the lower their reported anxiety. This finding may appear counterintuitive and could reflect an adaptation bias, namely, individuals with greater mobility may perceive more obstacles and, at the same time, be exposed to a higher number of anxiety-inducing situations.

### QoL scale domains and architectural barriers

This graph highlights a negative correlation between the perception of architectural barriers and the physical health domain of the QoL scale. In other words, as perceived obstacles increase, the physical component of quality of life worsens.

### Correlation between QoL – Physical health domain and architectural barriers

A negative correlation was found between the perception of architectural barriers and the psychological domain of the QoL scale. As perceived obstacles increase, psychological quality of life tends to worsen. State anxiety does not appear to be directly influenced by the perception of prejudice.

However, psychological quality of life is affected: prejudice has a negative impact on perceived mental well-being. Possible mediating factors, such as self-esteem or social withdrawal, may explain the absence of a direct effect on anxiety but the presence of one on the WHOQOL psychological domain.

### Correlation between QoL Levels and BDI-II Scores

All four WHOQOL domains showed a statistically significant difference in mean scores across depression levels ( $p < 0.05$ ): Physical Health ( $F = 19.55$ ,  $p < .001$ ), Psychological ( $F = 24.99$ ,  $p < .001$ ), Social Relationships ( $F = 7.82$ ,  $p < .001$ ), and Environment ( $F = 3.47$ ,  $p = .019$ ). These results may suggest that individuals with more severe levels of depression perceive a significantly lower quality of life across all dimensions, particularly in the physical and psychological domains.

### Correlation between BDI-II (Item on Suicidal Thoughts) and QoL

Individuals reporting suicidal thoughts tend to have a significantly lower quality of life, particularly in the physical, psychological, and social relationship domains. No significant correlation was found with the environmental domain (Table 4).

### Associations and inferential analyses

Pearson correlations identified a significant association between prejudice and the WHOQOL-BREF environment domain ( $r = 0.232$ ; CI 95% = 0.05-0.40,  $p = 0.015$ ). All other associations with discrimination, prejudice, and architectural barriers were small and not statistically significant ( $p > 0.05$ ). ANOVA showed progressively lower WHOQOL-BREF scores with increasing BDI-II severity across all domains ( $p < 0.05$ ); post-hoc comparisons confirmed pairwise differences where indicated ( $\alpha = 0.05$ ).

### Discussion

The study analysed data from 110 participants, providing a broad representation of individuals with

**Table 4.** Associations between Anxiety, Depression and Quality of life perceptions in disability and discrimination perceptions, prejudice and architectural barriers.

|                                |         | <b>Discrimination</b> | <b>Prejudice</b> | <b>Architectural barriers</b> |
|--------------------------------|---------|-----------------------|------------------|-------------------------------|
| <b>Anxiety</b>                 | R       | 0.031                 | -0.012           | 0.056                         |
|                                | p-value | 0.746                 | 0.900            | 0.559                         |
| <b>Depression</b>              | R       | 0.032                 | -0.022           | -0.135                        |
|                                | p-value | 0.743                 | 0.816            | 0.159                         |
| <b>WHOQOL_Physical</b>         | R       | 0.022                 | 0.009            | -0.038                        |
|                                | p-value | 0.820                 | 0.928            | 0.696                         |
| <b>WHOQOL_Psychological</b>    | R       | 0.014                 | 0.049            | 0.034                         |
|                                | p-value | 0.885                 | 0.609            | 0.721                         |
| <b>WHOQOL_Social Relations</b> | R       | -0.013                | 0.117            | 0.053                         |
|                                | p-value | 0.894                 | 0.222            | 0.585                         |
| <b>WHOQOL_Environment</b>      | R       | 0.133                 | 0.232*           | 0.164                         |
|                                | p-value | 0.166                 | 0.015            | 0.087                         |

\*p<0.05 is statistically significant.

diverse disability conditions. The aim of this study was to provide new insights into the lived experience and QoL of adults with motor disabilities in Italy, particularly in relation to factors that may significantly influence their well-being, such as levels of anxiety and depression, architectural barriers, and experiences of prejudice related to disability. Participants reported a generally good QoL, in line with findings from other studies (1,5,14,19). This result may appear counter-intuitive when compared to the common perception, given the numerous obstacles that people with disabilities face in daily life. However, the literature widely refers to the so-called “disability paradox” described by Albrecht et al. (1999) (1,9,24), according to which people with disabilities adapt to their condition, assign meaning to it, and find the resources to regain control over their lives. With regard to external (social and environmental) factors that influence QoL, Pearson correlations showed a significant association between prejudice and the WHOQOL-BREF environment domain ( $r=0.232$ ;  $p=0.015$ ), while associations with the physical and psychological domains were small and not statistically significant. Correlations involving architectural barriers were likewise small and non-significant. Therefore, rather than a generalized effect across domains, the data indicate

a specific link between perceived prejudice and the environment domain of QoL. These findings are consistent with previous research (14,27). Consistent with our analytical plan, Pearson correlations highlighted this association with the environment domain, while one-way ANOVA confirmed significantly lower WHOQOL-BREF scores with increasing depression severity ( $p<0.05$  across domains). From a psychological perspective, nearly half of the participants showed scores indicating varying levels of depression. The correlation between depression and QoL confirmed that individuals with higher levels of depression report lower QoL across all domains. Similar results have been documented in earlier studies (12,13,17,30). A comparable pattern was observed for anxiety (12,28), with a very high portion (95.6%,  $n=108$ ) of participants showing severe levels of anxiety symptoms. These findings open new perspectives for future studies aimed at identifying effective interventions to reduce anxiety and depression levels among individuals with motor disabilities, which could, in turn, improve their perceived quality of life (31,32). Among the most significant findings, participants reported low levels of satisfaction with social and healthcare services—particularly regarding territorial mobility, accessibility of places, employment services,

and facilities for sports activities. This underscores the ongoing need for greater societal commitment to improving infrastructure, removing architectural barriers, and ensuring better employment opportunities for people with disabilities. The latter point is particularly relevant in light of the main challenges participants and their families reported facing, with financial difficulties ranked first, followed by lack of understanding from society. This study presents some limitations. Recruitment through patient associations may have introduced selection bias, potentially favouring participants who are more engaged or motivated. In addition, the cross-sectional design does not allow for the inference of causality, and the ad-hoc items assessing prejudice/discrimination and architectural barriers may not fully represent these constructs. Finally, all measures were self-reported, which may lead to recall and social desirability bias. These aspects should be considered when interpreting the findings.

## Conclusions

Participants with motor disabilities reported a generally good quality of life. However, their QoL—particularly in the psychological domain—was negatively affected by experiences of prejudice and the presence of architectural barriers. From a psychological perspective, approximately half of the participants presented with varying levels of anxiety and depression, highlighting areas where targeted interventions could be effective in improving mental well-being. Among the most commonly reported challenges faced by individuals with motor disabilities, economic difficulties ranked first. Other critical issues included the limited availability of employment services, inadequate territorial mobility, and poor accessibility to public and private spaces. The findings clearly underscore the need to implement a holistic approach to individuals living with motor disabilities—one that goes beyond the physical dimension and fully acknowledges the crucial role of psychosocial variables. Equally important is the need to reshape societal attitudes toward disability in order to promote full and meaningful inclusion of the individual in all their complexity.

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**Ethic Approval:** The questionnaire received approval from the Ethics Committee under protocol number 174, dated 05/03/2024. Participation was entirely free, voluntary, and anonymous. Before completing the survey, participants were required to provide informed consent as a prerequisite.

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