*Table 3. Statistical Comparison of Lesion Subtype Distributions Across Demographic Groups*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Lesion Subtype** | **All MS (n=381)** | **Female MS (n=273)** | **Male MS (n=108)** | **Gender Comparison** |
| **PEWMH (%)** | | | | |
| Mean ± SD | 58.02 ± 28.35 | 56.45 ± 29.12 | 61.85 ± 25.84 | U = 12,847 |
| Median [IQR] | 57.86 [32.18-75.51] | 53.64 [30.27-75.51] | 67.35 [46.05-77.97] | p = 0.018\* |
| Range | 44.97 - 71.43 | 43.10 - 71.58 | 48.90 - 70.82 | r = 0.12 |
| **PAWMH (%)** | | | | |
| Mean ± SD | 20.76 ± 21.45 | 20.52 ± 22.18 | 21.35 ± 19.64 | U = 14,236 |
| Median [IQR] | 18.60 [5.44-31.14] | 12.84 [5.48-31.45] | 18.18 [5.26-29.51] | p = 0.724 |
| Range | 14.67 - 23.85 | 14.12 - 25.58 | 16.86 - 26.80 | r = 0.02 |
| **JCWMH (%)** | | | | |
| Mean ± SD | 17.73 ± 19.82 | 18.41 ± 20.34 | 15.72 ± 18.42 | U = 13,924 |
| Median [IQR] | 13.56 [5.44-26.32] | 15.25 [6.86-25.22] | 12.32 [5.13-26.87] | p = 0.189 |
| Range | 12.06 - 21.74 | 13.19 - 22.98 | 8.95 - 24.29 | r = 0.07 |

*\*Significant after Bonferroni correction (α=0.017). Statistical testing: Mann-Whitney U with effect size r. Values represent pooled statistics across all age groups.*