

## **Quality of Life and Mental Health of Elderly in Meghalaya, India**

Grace M. Basanshrieh

The Quality of Life and Mental Health status of 476 elderly persons in rural and urban Meghalaya state in India were assessed and their relationship to area of residence, gender, marital status, education, occupation, and type of family examined during 2018-19. The World Health Organization Quality of Life- BREF (WHOQOL, 1998) and Mental Health Inventory-18 (Veit & Ware, 1983) were used during household interviews with men and women elders who cooperated well. High scores were obtained for all the facets in the 2 questionnaires. Overall, the quality of life was found to be good despite various drawbacks and constraints in the State. Apparently the unique matrilineal family pattern and the Khasi Culture seems responsible for the good perception and the strong social relationships seem to help maintain high quality of life and psychological health, in the presence of inevitable physical discomforts and chronic morbidity. Quality of life and mental health were strongly correlated. Similar studies in other Indian states and effective elderly care services are recommended.

**Keywords:** Elderly India, Meghalaya. WHOQOL-BREF, MHI-18, Quality Of Life, Mental Health

### **Introduction**

The concept of quality of life (QOL) is very broad and dynamic (Owczarek, 2010; Farquhar, 1995). One can find diverse definitions for this term in the literature, but all of them take cultural, social and environmental individuality into consideration (WHO, 1996; 2008). According to the World Health Organization, it is the perception of the individuals' position in life, expectations, standards and concerns (WHO, 2012). As a person ages, the quality of life and mental health also change. The elderly population (those aged 60 years or more) in India is projected to increase from 8 percent in 2015 to 19 percent in 2050, and 34% by the end of the century (UNFPA 2019). When populations age rapidly, governments are often unprepared to mitigate the consequences; which has implications for the socio-economic and health status

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especially of the elderly (Giridhar et al 2012). Consideration of older adults' quality of life (QOL) is becoming increasingly important in the evaluation, quality improvement and allocation of health and social care services. Studies done in India and abroad have shown diverse results with men showing better quality of life (Shah et al , 2015) in Gujarat, with education and age also influencing physical, environmental and psychological domains(Parsuraman, et al 2021) in Tamilnadu .In contrast, Zin et al (2020) made an Assessment of quality of life among 616 elderly aged 60 years or over in Myanmar reported that participation in group activities increased QOL scores while comorbidities affected the QOL for psychological health and environment domains. Most studies (Atril et al 2020 in Iran; Elsous et al 2019, in Gaza strip; Wang et al. 2020, in China) confirm the role of ill-health and social support as two major forces in quality of life of elderly. Older adults are disproportionately affected by several chronic conditions. Common health conditions in older age include hearing loss, cataracts and refractive errors, back and neck pain and osteoarthritis, chronic obstructive pulmonary disease, diabetes, depression, and dementia (Thakur et al, 2013; Lepsy et al 2021; Selvamani and Singh, 2008; Santhalingam et al. 2021).

Culture plays a significant role in health of populations, and undergirds much of the factors reported to be associated with quality of life, but this aspect has not been highlighted. Northeast India with its eight states has predominantly tribal communities, with rich cultural traditions, life styles, economic and environmental features. Meghalaya, one of the states, is unique in its practice of matrilineal system, and well known for its simple living, high literacy and predominantly Christian (74.59%). As per 2011 population census literacy rate in Meghalaya has seen upward trend and is 75.48 percent, male literacy stands at 77.17% while female literacy is at 73% (Govt. of India, Govt. of Meghalaya: Census 2011).

Urbanization and ideas of modernization are gradually increasing into the society and likely to affect the present sociocultural scenario. Based on a sample of 231 persons, Thomas and Diengdoh (2019) report briefly some aspects of aging, while Nongbri and Raptap (1992) describe gender issues and impact of modernization in Meghalaya. There are hardly any studies on quality of life or mental health status of the elderly in Meghalaya or in any of the other northeastern Indian states. The widely used WHOQOL(1998) in rest of the world has not been included in any of the research studies, which will affect national planning for the elderly. Given the unique lifestyles of the population, it is imperative that research be undertaken urgently to study the changing trends in socioeconomic and demographic patterns on quality of life of the elderly, who can make significant contributions to the society by virtue of their knowledge, skills and attitudes. It will be important to identify the specific impact if any of the matrilineal system in family formation and changes, social bonds and gender equities in the quality of life of the elderly, particularly women, and their role in society.

This research could fill the gap in our knowledge of QOL and Mental health of elderly in a typical tribal population. Therefore, the objectives of the study are: To describe the quality of life among the elderly people, to estimate the Mental Health status of the elderly people and its relationship to quality of life and to determine the

roles of area of residence, gender, marital status, education, occupation, and type of family living of the elderly in impacting the quality of life and Mental Health. Hence intensive research was started during 2018 to determine Quality of Life and Mental Health status of elderly persons in Meghalaya state and their relationship to area of residence, gender, marital status, education, occupation and type of family.

### Material and Methods

Meghalaya meaning “abode of clouds”; from Sanskrit *megha*, “cloud” + *â-laya*, “abode”) is a state in north-eastern India(See Map: Figure I) formed on 21 January 1972,. Meghalaya covers an area of approximately 22,430 square kilometres, with an estimated population in 2020 as 36.53 lakhs.

Figure I. Map of Northeastern India Showing Meghalaya



The state is bound to the south and west by Bangladesh and to the north and east by India's State of Assam. The capital of Meghalaya is Shillong. English is the official language of Meghalaya. The Khasi, Jaintia, Bhoi, War tribes who inhabit Meghalaya claim to have descended from the ‘Ki Hynniew Trep’ and are now known by the generic name of Khasi-Pnars or simply Khasis, having the same traditions, customs and usage with a little variation owing to geographical divisions. (Roy and Rizvi, 2006). The Khasis, have a matrilineal society. Descent is traced through the mother, but the father plays an important role in the material and mental life of the family (Gopalakrishnan 1995). The traditionally complementary roles of men and women in the family, in particular the role of the mother's eldest brother or maternal uncle (u kñi) and of the youngest daughter (ka khadduh), are central to the Khasi matrilineal social structure, whose basic unit is the kur, or clan.(Roy 1963) In the Khasi society,

the youngest daughter is the sole receiver and custodian of the ancestral property; the son is not entailed to inherit the ancestral property, but he may receive a share of the acquired property. Not only does she inherit ancestral property, her house is regarded as a place which all religious rites and ceremonies are conducted and added to that, the responsibility to look after her parents, grandparents, unmarried sons or daughters, immediate relations who have none to care for them. Therefore, though she obtains a major share of property, but along with it also comes a huge task of looking after the other immediate relations as mentioned who have none to care for them. The elderly men especially are accorded a place of honor and dignity and their decisions are highly considered when it comes to clan, village panchayats, community/social meetings or political matters. They are regarded as experienced, well-versed in such affairs and they are very much respected in society. The people of Meghalaya are known to be hospitable, cheerful and friendly. Endowed with rich natural and horticultural resources, the state is full of vibrant culture, tradition, great scenic beauty, and tranquility, which are some of the attractions that can pull any tourist in. The Map of Meghalaya state is given in Fig.II.

Figure II: Map of Meghalaya state showing the districts



According to the 2011 census the total population of elderly (60+) in Meghalaya is 137,148 comparing to 105726 of 2001 census (Statistical Handbook Meghalaya, 2017). A cross-sectional Quantitative Survey of Elderly was done on a multistage random cluster sample using personal house-to-house interviews by a qualified psychologist. From the eleven districts of Meghalaya, one district (East Khasi Hills) was purposively chosen, a list of all the blocks obtained from Census 2011, Government of Meghalaya, and one, the Myllem block was selected since it includes rural and urban settings. This block comprises of 95 villages and 8 towns. Three villages and one town were randomly selected based on the size of the population, and 476 elderly males and

females who attained the age of 60 years and above were interviewed in the selected villages.

Quality of Life of the elderly was assessed using the WHOQOL BREF(WHO,1995,1996), which has been used globally and thoroughly validated. The English version was translated to the Khasi vernacular according to the guidelines given by the WHO, and field tested through pilot studies in Meghalaya outside the Myllem Block for internal consistency, item-total correlations, discriminant validity and construct validity through confirmatory factor analysis. For assessing the mental health of the elderly, the Mental Health Inventory-18 (MHI-18) inventory was used (Veita and Ware, 1983) one of the more popular and well-validated instrument to measure psychological distress and wellbeing. This inventory provides an assessment of several domains of mental health including anxiety, depression, behavioral control, and positive affect. The WHOQOL-BREF and the MHI-18 inventories were completed, together with socio-demographic and health status questions. Triangulation is an essential requirement in social science research, and was done in several ways. Based on a 10% sample from the quantitative surveys, intercorrelations were calculated between similar items in the WHOQOL and MHI, e.g. the psychological domains in the WHOQOL and MHI. All the correlation coefficients were statistically highly significant. As a routine, after every interview, the researcher talked informally with the respondent to confirm some of the responses without offending or threatening the respondent. All elders interviewed were extremely cooperative and welcomed the research and the procedures. Initial Meetings with six community Leaders (Headmen), ASHA and Anganwadi workers and with representatives from the community was undertaken before conducting the interview as a part of the surveys.

WHO QOL-BREF is a 26-item questionnaire for assessing the quality of life based on a 5-point rating scale over a two weeks period. This tool assesses the overall quality of life and the overall quality of health while the other 24 facets are divided into four domains, namely: "Physical, psychological, social relationships and "environment. The quality of life domain scores was calculated as usual by multiplying the mean domain score by a factor of 4, resulting in a range from 4 to 20 for each domain. The Mental Health Inventory- 18 assesses psychological distress and well-being in 4 domains: Anxiety, Depression, Positive Affect and Behavioral Control. The translated versions of the QOL and MH inventories were given to a few experts and community leaders for critical reviews and approval.

A pilot study was conducted on 5 elderly people residing in a randomly selected semi urban area in Shillong, Myllem Block, to test both the standardized questionnaire of WHOQOL and MHI- 18. Test-retest responses, and concurrence of similar questions in various domains were checked for consistency and validity based on re-interviews. The pilot studies helped to refine some of the questions and statements to ensure clear understanding of the various facets study, change certain wordings and also to check for cultural appropriateness. The QOL and MH inventories are very well validated and easy to administer. The data collection for this research was from October 2018- November 2019. Raw data were entered on Microsoft Excel sheets, edited, and transferred to SPSS software for analyses. The MLCU Research Ethics Committee (UREC) approved the research project before the data collection was conducted.

Structured tools were cited and permission was sought by the researcher to use the tools. All research participants were provided a consent form and a briefing letter. Both verbal and written consent was obtained during the data collection, keeping in mind the dignity and respect of the individual.

### Findings

A total of 476 elders were studied, of which 245(51.5%) were from rural areas and 231 from urban; 108 were men and 368 were women. The distributions by age of respondents are presented in Table 1

Table 1 Age-Distribution of Elderly

Age (In Years)		Male No. %		Female No. %		Total No. %	
60-69	No	49	45.4	186	50.5	235	49.4
70-79	No	44	40.7	120	32.6	164	34.5
80-89	No	13	12.0	55	14.9	68	14.3
90 & over	No	2	1.9	7	1.9	9	1.9
Total	No	108		368		476	

The place of birth of nearly 90% was within East Khasi Hills district with 90% resident for over 25 years. The distributions were similar for males and females( $p=0.538$ ). The educational attainment is given in Table 2.

Table 2 Educational Status in Rural and Urban Areas

Education		Area		Total
		Rural	Urban	
Upto X Grade	No.	172	109	281
	%	70.10	47.20	58.90
XII Grade	No	18	29	47
	%	7.40	12.60	9.90
Graduate	No.	22	50	72
	%	9.00	21.60%	15.20
Postgraduate	No.	2	11	13
	%	0.80	4.80%	2.70
Illiterate	No.	31	32	63
	%	12.70	13.90%	13.30
Total	No.	245	231	476
	%	100.00	100.00	100.00

About 8% of men and 15% of women were illiterate, nearly 60% had studied up to tenth grade. About 3% were postgraduates. The educational levels of the elders show

statistically high significant difference( $p<0.01$ ) by area of residence; Men were relatively more educated compared to females and the differences were statistically significant( $p<0.01$ ) a majority had been in good professions. The differences between men and women were statistically significant( $p<0.01$ ) Comparisons by Current Marital status are shown in Table 3.

Table 3 Marital Status of Elders in Each Area

Current Marital Status		Area		Total
		Rural	Urban	
Married	No.	111	89	200
	%	45.10	38.50	41.90
Unmarried	No.	14	14	28
	%	5.70	6.10	5.90
Widowed	No.	112	121	233
	%	45.90	52.40	45.00
Divorce/Separate	No.	8	7	15
	%	3.30	3.00	3.20
Total	No.	245	231	476
	%	100.00	100.00	100.00

The difference in the distributions by marital status in the two area are similar ( $p=0.646$ ).

Nearly 70% of men are still married as compared to only 33% of women. Nearly 60% of elderly women are widowed as compared to only 21% of men. Maybe there are more remarriages among men and hardly any among women The type of family in which they live is shown in Table 4.

Table 4 Type Of Family of Elders in Each Area

Type Of Family		Area		Total
		Rural	Urban	
Nuclear	No.	126	117	243
	%	51.20	50.60	50.90
Extended Nuclear	No.	24	11	35
	%	9.80	4.80	7.40
Joint	No.	92	100	192
	%	37.70	43.30	40.40
Other	No.	3	3	6
	%	1.20	1.30	1.30
Total	No.	245	231	476
	%	100.00	100.00	100.00

There are no statistically significant differences in the type of family ( $p=0.166$ )

Nearly half are in nuclear families which include mother, father, and children. The differences were statistically significant between men and women ( $p < 0.01$ ). Almost 90% are living in their own house, and the male-female difference is statistically significant ( $p < 0.01$ ). In summary, there are statistically significant differences between rural and urban areas in educational and occupational levels and type of housing living in, but not in age, marital status or type of family.

### Mental Health Status of the Elderly

The MH Inventory explores Positive Affects, Depression, Anxiety and Behaviour Control. Each is further subdivided into various components. The persons are enquired on each of the components and graded into 4 categories: Rarely, Sometimes, Often and Very Often. The frequency of feeling positive effects are presented in Table 5.

Table 5 : Frequency of feeling Positive Effects

POSITIVE EFFECTS	Often		Rarely	
	No.	%	No.	%
Whether the elders find life interesting	357	75.0	7	1.5
Whether they felt loved	360	75.7	68	14.3
Whether they are calm is shown	393	82.6	14	3.0
Whether they are cheerful	327	68.7	40	8.4
Whether they are happy	377	79.3	16	3.4

The Total Score for the domain of Positive Effects is condensed in Table 6.

Table 6 Total Score for Positive Effects

Total Score	Positive Affects	
	No.	Percent
0-10	10.	2.0
11-15	68	14.2
16-20	93	19.6
21-25	187	39.4
26-30	118	24.8
Total	476	100.0

The overall score for Positive affects was quite high for 40% of elders and 2% scored low.

The findings of the MHI for the second domain of depression are given in Table 7.



Table 7 : Feeling Depressed

FEELING DEPRESSED	RARELY		OFTEN	
	No.	%	No	%
Whether they are depressed	341	71.7	64	13.4
Whether downhearted	343	73.1	82	17.2
Whether they are Moody	335	70.3	79	16.5
Whether they are in Low spirits	358	75.2	78	16.4

The Total Score for the domain Depression is given in Table 8.

Table 8 Total Score for Depression

Total Score Depression	Total	
	No	%
Less than 10	8.	1.7
10 – 14	51.	10.7
15 – 19	173.	36.3
20 - 24	244	51.3
Total	476	100.0

Nearly 90% had a depression score of 15 or more. The findings for the third domain of ANXIETY are presented in Table 9.

Table 9 : Feelings Of Anxiety

Feelings of Anxiety	Rarely/Never		Often	
	No.	%	No.	%
Whether they feel nervous	343	72.1	68	14.2
Whether they are Tense	352	74.0	84	17.6
Whether they are Relaxed	40	8.4	308	64.7
Whether they are Restless	357	75.0	63	13.3
Whether they feel Anxious	370	77.7	48	10.1

The Total Score for Anxiety is now displayed in Table 10.

Table 10 Total Score for Anxiety

Total Score Anxiety	Total	
	No.	%
Up to 10		1
		0.20
11 – 15		15
		3.20
16 – 20		109
		22.90

Total Score Anxiety	Total	
	21 - 25	No.
%		38.00
26 - 30	No.	170
	%	35.70
Total	No.	476
	%	100.00

The total score for Anxiety is over 20 for nearly 75% of the elders. The findings for the fourth domain Behaviour Control are presented in Table 11.

Table 11 Behaviour Control

Behaviour Control	Often		Rarely	
	No	%	No.	%.
Whether they have control of their behaviour	286	59,2	58	12,2
Whether they are emotionally stable	322	67.7	116	24.3
Whether they feel there is no future	279	58.6	157	33.0
Whether they have a feeling of let-down	376	79.0	78	16.4

The Total Score for the domain Behaviour control is summarised in Table 12.

Table 12 Total Score for Domain Behaviour Control

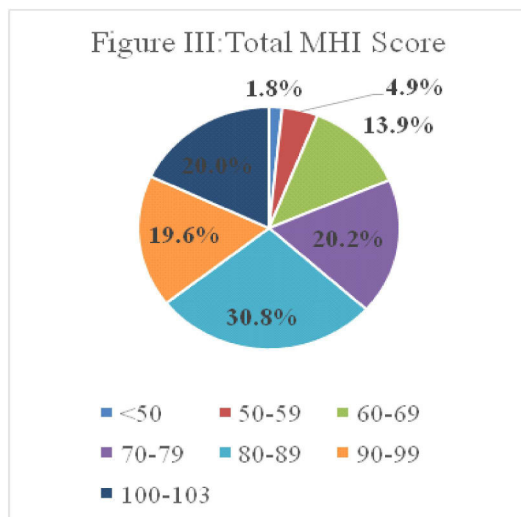
Total Score Behaviour Control	Total	
	No.	Percent
0 - 4	22.	4.6
5 - 9	34	7.2
10 - 14	121	25.5
15 - 19	221	46.4
20 - 24	78	16.3
Total	476	100

Less than 5% have a score below 5. The Total MHI score is presented in Table 13 and Figure III.

Table 13 Total MHI Score

Total MHI Score	Total	
	No.	Percent
<50	10.	2.1
50-59	31	6.5
60-69	76.	16.0

Total MHI Score	Total	
	No.	Percent
70-79	100	21.0
80-89	146	30.7
90-99	93	19.5
100-103	20	4.2
Total	476	100.0



In summary, nearly 75% of the elderly have 70 or more score for the total MHI score.

**Quality of Life of Elderly**

The first domain is for the Physical aspects and contains the findings on 7 facets. The first subgroup deals with Pain and Discomfort and the extent to which the elderly experience pain or discomfort is presented in Table 14.

Table 14 Physical Aspects of Quality of Life

PHYSICAL ASPECTS	SLIGHTLY		OFTEN	
	No	%	No	%
Pain and Discomfort	278	58.4	88	18.5
Dependence on Medication/ medical therapy	238	50.0	139	29.2
Lack of Energy and Fatigue experienced	249	52.3	81	17.0
Problems in Mobility	316	66.4	51	10.7
Disturbances in Sleep	370	77.8	19	4.0
Difficulties in performing activities	339	71.2	35	7.4
Difficulties in work	323	67.9	42	8.8

The Total Score for Physical activities is summarized in Table 15.

Table 15 Total Score Physical

Total Score Physical	Total	
	No	Percent
<20	56.	11.8
21-25	191.	40.1
26-30	169	35.5
31-35	60.	12.6
Total	476	100.0

About half scored relatively high, another 40% moderately and 12% low. The findings on the psychological domain are displayed in Table 16.

Table 16 Findings on Psychological Aspects

Psychological Aspects	Often		Rarely	
	No.	%	No.	%
Experiencing Positive Feelings	379	79.6	10	2.5
Strengthened by spiritual activity/religion	376	79.0	13	2.7
Thinking, Learning, Memory, Concentration	315	66.2	46	9.7
Concern for body image and appearance	312	65.7	19	4.0
Concerned about self-esteem	427	89.7	5	1.0
Experience of Negative feelings	242	51.0	29	6.1

The Total Score for the Psychological domain is summarised in Table 17.

Table 17 Total Score Psychological

Total Score Psychological	Total	
	No.	Percent
<16	5.	1.0
16-20	77.	16.2
21-25	293.	61.6
26-30	101	21.2
Total	476.	100.0

As seen, nearly 80% scored relatively high on the psychological domain and only about 1% very low.

Quality of Life in the social domain is described in Table 18.

Table 18 Findings in Social Domain

Social Domain	Often		Rarely	
	No.	%	No.	%
Values placed on social relationships	406	85.3	4	0.8
Quality placed on sexual activities	162	81.0	5	2.4
Availability of social support	286	59.9	12	2.5

The Total Score for this domain is presented in Table 19.

Table 19 Total Score of Social Domain

Total Score Social Domain	Total	
	No	Percent
0 – 5	4.	0.8
6 – 7	97	20.3
8 - 10	185	38.9
11 – 12	134.	28.2
13 – 15	56.	11.8
Total	476	100.0

About 20% have low scores, 70% are medium and only 12% have high scores. Quality of Life in fourth domain environment is given in Table 20.

Table 20 Issues in Environment

Environmental Issue	Rarely		Often	
	No.	%	No.	%
Physical safety and security issues	369	77.6	9	1.9
Environmental issues	347	72.9	20	4.3
Financial considerations	240	50.4	37	7.8
Problems in Information needs	247	51.9	63	13.2
Difficulties in leisure and recreation	258	54.2	59	12.4
Problems in Home Environment	424	89.1	3	0.6
Difficulties in obtaining services	350	73.6	6	1.3
Problems related to Transportation	340	71.4	19	4.0

The Total score for this Environment domain is condensed in Table 21.

Table 21 Total Score Environment

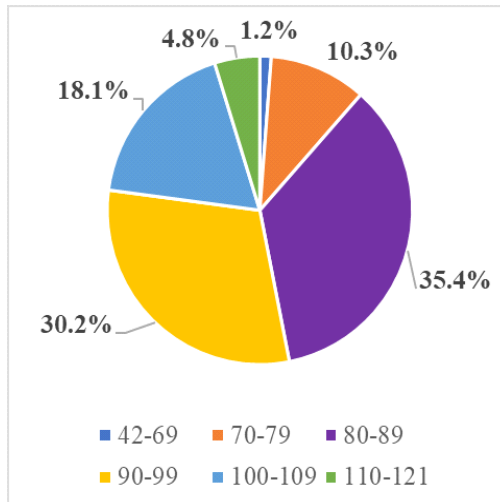
Total Environment Score	Total	
	No.	Percent
Less than 20	3.	0.6
20 – 24	29	6.1
25 – 29	202	42.6
30 – 34	188.	39.4
35 – 40	54	11.3
Total	476.	100.0

Fifty percent have high scores but 40% only moderate The Total Score for the entire QOL questionnaire is summarised in Table 22 and displayed graphically in Figure IV.

Table 22 Total Score for Quality of Life

Total Score QOL	Total	
	No	Percent
42-69	6	1.2
70-79	49	10.3
80-89	168	35.4
90-99	144	30.2
100-109	86	18.1
110-121	23	4.8
Total	476	100.0

Figure IV Total QOL Score



Nearly half have scored quite high and another one-third moderately on the quality of life questionnaire. The QOL is further condensed into 3 categories as Poor 1(0.2%), Fair 205(43.1%) and Good 270(56.7%). The descriptive statistics based on total scores of various domains in MHI and QOL are displayed in Table 23 and emphasize the conclusions drawn earlier.

Table 23 Descriptive Statistics of Scores

	Minimum	Maximum	Average		Std. Deviation
			Mean	Std. Error	
TotlScrePAMHI	0	30	21.59	0.243	5.299
TotlScreDMHI	5	24	18.93	0.167	3.646
TotlScreAMHI	0	30	23.39	0.198	4.317
TotlScreBCMHI	0	24	15.23	0.228	4.979
TotlScreMHI	36	103	79.14	0.618	13.484
TotlScrePhQoL	7	35	25.41	0.206	4.498
TotlScre PQoL	9	30	23.29	0.143	3.127
TotlScreSQoL	0	15	9.58	0.114	2.48
TotlScre EQoL	12	40	29.84	0.179	3.903
TotalScore QoL	42	121	91.21	0.487	10.62

Mental Health was strongly correlated with the Quality of life with the Pearson Correlation coefficient “r” between the total scores of QOL and MHI was +0.444( $p < 0.01$ ). In the Rural it was +0.484( $p < 0.001$ ) and in Urban, +0.436( $p < 0.01$ ).

Finally, as the last objective of the research, the associations of the various socioeconomic and demographic factors with the quality of life of the elderly were studied using the t-tests and the chi-square tests of significance as well as the Analyses of Variance(ANOVA). Except for the social domain in the quality of life questionnaire, there were no statistically significant differences by gender.

On the other hand, except for the Positive Affects which refers to a subjective feeling state that incorporates long lasting mood states, such as cheerfulness, depression, happiness or anger. The scores for all other domains show statistically significant differences between Rural and Urban Areas, Rural lower than Urban. The statistical significance of the differences using t-test are presented in Table 24.

Table 24 Differences In Scores by Area of Residence

Scores	Gender	No.	Mean	SD	SE	p
TotlScrePAMHI	R	244	22.4	5.367	0.344	0.077
	U	231	20.76	5.089	0.335	
TotlScreDMHI	R	244	19.28	3.16	0.202	0.001**
	U	231	18.59	4.068	0.268	
TotlScreAMHI	R	244	23.87	3.968	0.254	0.006**
	U	231	22.9	4.623	0.304	

Contd. Table 24 Differences In Scores by Area of Residence

Scores	Gender	No.	Mean	SD	SE	p
TotlScreBCMHI	R	244	16.68	4.413	0.283	0.022*
	U	231	13.69	5.097	0.335	
TotlScreMHI	R	244	82.23	12.533	0.802	0.018*
	U	231	75.93	13.727	0.903	
TotlScrePhQoL	R	244	26.09	4.765	0.305	0.006**
	U	231	24.7	4.096	0.269	
TotlScre PQoL	R	244	23.94	3.353	0.215	0.01**
	U	231	22.59	2.712	0.178	
TotlScreSQoL	R	244	9.86	2.46	0.157	0.821
	U	231	9.27	2.47	0.163	
TotlScre EQoL	R	244	30.35	4.267	0.273	0.01**
	U	231	29.31	3.41	0.224	
TotalScore QoL	R	244	93.07	11.711	0.75	0.01**
	U	231	89.26	8.974	0.59	

\*p<0.05 \*\*p<0.01

Except for the positive affects the scores for all other domains show statistically significant differences between rural and urban areas, rural lower than urban.

The Differences in the Physical domain and the Total Score for QOL by age are statistically highly significant. The differences by Education for Psychological domain in QOL, Overall perception on Health and self-esteem show statistical Significance(p<0.5).

Overall perceptions on Quality of Life and Quality of Health are depicted in Table 25.

Table 25 Overall Perceptions on Quality of Life and Health

Perception	Good		Fair		Poor		Total	
	No	%	No	%	No	%	No	%
Quality of Life	287	60.3%	170	35.7%	19	4.0%	476	100%
Quality of Health	328	68.9%	112	23.5%	36	7.6%	476	100%

287(60.3%) rated their perception on QOL as very good or good, 170(35.7%) as neither good or bad, and the remaining 19(4.0) as bad or very bad. The differences are not statistically significant (p=0.383) for gender, age or marital status but by type of family are statistically highly significant (p<0.01), although the arithmetical differences are relatively minor the overall perceptions on Health as opposed to the QoL showed an overwhelming majority 328(68.9%) have rated very good or good



(this instance rating of very good or good correspond to WHO QoL score between 4 and 5), 112(23.5%) as neither good nor bad and the rest 36(7.6%) as bad or very bad. The differences by Area are statistically highly significant ( $p < 0.01$ ), but not by age, gender, current marital status, but highly significant for type of family.

Among the 476 elders, 287(60.3%) rated their perception on QOL as very good or good, 170(35.7%) as neither good or bad, and the remaining 19(4.0%) as bad or vary bad. The perceptions on QOL by age are presented in Table 26.

Table 26 Perceptions on QOL by Age

Perception On QOL		Age (Years)				Total
		60-69	70-79	80-89	90+	
Very Poor	No.	1	0	0	0	1
	%	0.4	0	0	0	0.2
Poor	No.	9	4	3	2	18
	%	3.80	2.50	4.40	22.20	3.80
Neither Poor/Good	No.	88	57	25	1	170
	%	37.60	34.60	36.80	11.10	35.90
Good	No.	108	84	36	5	231
	%	45.70	51.20	52.90	55.60	48.80
Very Good	No.	29	19	4	1	53
	%	12.40	11.70	5.90	11.10	11.20
Total	No.	235	164	68	9	476
	%	100.0	100.0	100.0	100.0	100.0

The differences by Age are not statistically significant ( $p = 0.257$ ).

The perceptions on QOL by Current marital status are displayed in Table 27.

Table 27 Perceptions On QOL By Current Marital Status

Perception On QOL		Married	Never	Widowed	Div/Sep	Total
Very Poor	No.	0	0	1	0	1
	%	0.0	0.0	0.5	0.0	0.2
Poor	No.	4	1	12	1	18
	%	2.0	3.6	5.8	6.7	3.8
Neither Poor/Good	No.	66	11	86	7	170
	%	33.2	39.3	37.5	46.7	35.9
Good	No.	107	13	107	7	234
	%	53.3	46.4	45.7	46.7	48.8
Very Good	No.	23	3	27	0	53
	%	11.6	10.7	10.6	0	11.2
Total	No.	200	28	233	15	476
	%	100.0	100.0	100.0	100.0	100.0

The differences are not statistically significant ( $p=0.681$ ) The Perceptions on QOL by Type of family are shown in Table 28.

Table 28 Perceptions On QOL By Type of Family

Perception On QOL		Type of family				Total
		Nuclear	Extended	Joint	Other	
Very Poor	No.	1	0	0	0	1
	%	0.4	0.0	0.0	0.0	0.2
Poor	No.	8	3	6	1	18
	%	3.3	9.1	3.1	16.7	3.8
Neither Poor/Good	No.	99	3	64	4	170
	%	40.9	9.1	33.3	66.7	35.7
Good	No.	101	22	110	1	234
	%	41.3	60.6	57.3	16.7	49.2
Very Good	No.	34	7	12	0	53
	%	14.0	21.2	6.3	0.0	11.1
Total	No.	243	35	192	6	476
	%	100.0	100.0	100.0	100.0	100.0

The differences by type of family are statistically highly significant ( $p<0.01$ ), although the arithmetical differences are relatively minor

**Discussion**

There is no doubt that aging is accompanied by increasing morbidity as reported by several studies (Alam & Karan, 2011; Santhalingam et al 2021; Joseph et al 2015) and the elderly in Meghalaya are no exception (Tables 14,15). However, the findings of the four domains of the WHOQOL-BREF unequivocally show that the quality of life of the elderly in Meghalaya are generally good and at a higher level than studies done elsewhere (Parasuraman et al. 2021; Krishnappa et al. 2021; Piliaia et al. 2019). The support of the family, and a positive mental health seem to be more important and play a major part in this situation despite various socioeconomic drawbacks of the state of Meghalaya (Govt.of India, 2020). Both the WHO-QOL-BREF and the MHI inventory have a long history of use in various populations, especially in low- and middle-income countries (WHO 1995; Zin et al 2020; Kwon et al 2020), and have demonstrated their credit worthiness in terms of both consistency and accuracy (WHO 1996). Especially the abridged version, BREF, has been subjected to a variety of validation processes (WHOQOL Group, 1998) and found to be reliable and fairly accurate apart from its simplicity and acceptability (Laxmi Devi and Roopa 2013). The translation of the English versions to the local vernacular, Khasi, following the guidelines given by the WHO (WHO, 1996), and the pilot studies in this research have ensure face ,content and construct validities and the consistencies were checked by Cronbach’s alpha. Triangulation was done for some of the facets and the researcher personally interviewed and collected the data following the WHO guidelines Thus,

one could be reasonably confident of the validity of the findings.

The elderly respondents in this study were born at least 60 years ago and might have seen some changes in the landscape, lifestyles, food security, etc. Despite possible turbulent time (eg. changes in family structure, migration, social distancing in meeting economic needs etc.), the quality of life and health, as well as their perceptions seem refreshingly positive (Table 25). Rappaport (1992) wrote about the Khasi society and its culture as it was practiced earlier and commented that the Khasi culture followed in those days (days when the indigenous cultures and traditions were free from foreign influence) was not wrong at all, but some are unsuitable in the current scenario and cautions the Khasi people to be aware of these issues such as weakening of the joint family system and urbanization. Meghalaya has enjoyed the distinction of housing the seat of government since India has achieved independence, yet the communications infrastructure in the state remains highly inadequate. Also handicapped by its location the state is landlocked and has no direct links with the other states in the region or the Indian mainland except through Assam (Gopalakrishnan, 1995). Despite these sociopolitical overtones, the Khasi society has shown great resilience and seems to have maintained good quality of life in most of the domains (Tables 14,16,18,20), emphasizing the strong impact of culture and possibly the unique matrilineal family traditions. While the rural-urban divide seems prominent mainly due to education and occupation (Table 2, 24) and shows statistically significant differences in most of the domains, one observes that this is not so by gender (Table 24). While taking care of domestic responsibilities, Khasi women are engaged in trade, industry and contractual activities, contributing to the family income (Nongbri 2008). According to the census of 2011, Meghalaya as in other northeastern states has a fairly high literacy rates among both men and women.

Notwithstanding lesser education that characterizes the lives of the majority of women, hard work and perseverance have helped many of these women to overcome, and to some extent at least; enabled them to build an economic base strong enough to provide their children with a good starting point in life. Having said this, it needs to be recognized that the social, political and economic climate prevailing in Meghalaya does not allow women to realize their full potential (Nongbri, 2008). Central to the factors such as the ultimo geniture pattern of inheritance, the practice of having uxori-local son-in-law, the son dependent syndrome, and the protective attitude of daughters (Nongbri, 2008), the latter attitude is particularly pronounced among the more educated and affluent families. What is significant is that while these factors are the offshoots of the matrilineal system, they are deeply rooted in the ideology of gender inequality, which views the male as naturally superior to the female (Roy, 1963) The advent of Christianity among the Khasi people also marked a change in religious practices and rituals, while also introducing a cultural model on the basis of individual families and patriarchal values (Snaitang, 1993). Migration from rural to urban areas or from one village to another in search of livelihood has compromised the kinship ties of the kur. Although there is little doubt that women in the Khasi society enjoy more privileges than do women in patrilineal societies, it is argued that they enjoy very little actual power (Fernandes, Pereira, & Khatso, 2007; Zehol, 2013),

but the role and status of Khasi women appears to play a great role in sustaining and promoting a high quality of life. The findings on Self-esteem and various psychological and behavioral control facets (Tables 11,12) affirm this fact.

Although Meghalaya state has the dubious distinction of having almost lowest health indicators in India (Govt. of India, MoHFW,2020), it seems that the health of the elderly is not overly affected (Table 25). Two items of the WHOQOL-BREF enquires on the quality of life as opposed to quality of health (Tables 25-28). It is worth noting that while over 80% of rural elders have perceived both life and health as good or very good, for urban elders, it was less than 60% for health and less than 40% for life, the differences statistically significant( $p < 0.01$ ).

The findings of this research highlight the importance of the social domain in enhancing the quality of life (Tables 18,19). Several studies have affirmed this relationship. Social interactions, active participation in social life is related to the elder being physically active and involved in many community decisions. Chanda and Mishra (2019) based on WHO study on aging found that the elderly who were 'presently working' and showed 'more' social participation had a higher mean score for cognitive performance than their counterparts. Cao et al (2016) reported that the mean WHOQOL-BREF score for all dimensions was approximately 60, with the highest mean value (61.92) observed for social relationships, followed by environment, physical health, and psychological health domain. Contrary to popular beliefs, marital status, especially widowhood did not show clear influences on quality of life or health, and in fact widows seem to enjoy a fairly good level. Of course, there are some differences in various studies, but in the context of social milieu, elderly persons, especially women seem adjusted well reflecting perhaps the tribal culture and life style. Likewise, elders belonging to joint and extended nuclear families appear to have better quality of life again emphasizing the influence of stronger social interactions in such families. In a study by Ellena and Nongkynrih (2017), gender roles appeared more flexible in the matrilineal society and more clearly defined in the patrilineal society, and gender relations more egalitarian among the Khasis while more hierarchical among the Chakhesangs. On the other hand, Perkins, et al (2016) based on a cross-sectional study in India reports that being widowed as opposed to married was associated with worse health outcomes for women after adjusting for other explanatory factors. They add that widowhood in general was not associated with any outcomes for men except for cognitive ability, Gender, the duration of widowhood, and sociocultural and economic background must be considered when assessing the potential for widowhood to negatively impact health. In-depth studies are necessary to examine how the mechanisms linking widowhood to health vary over the course of widowhood. The Indian government's commitment to population ageing concerns is evident in two important ways: (a) being a signatory to all the global conferences, initiatives on ageing as well as the Regional Plans of Action; and (b) formulation of the National Policy on Older Persons (NPOP) in 1999, well ahead of Madrid International Plan of Action on Ageing (MIPAA), the United Nation (UN) sponsored International Plan of Action (United Nations Population Fund, 2017). Prepared at a time when the UN was finalizing Sustainable Development Goals (SDGs), it is good to see a new health SDG in the final list of 17 SDGs. SDG-3

closely related to healthy ageing states: “To ensure healthy lives and promote well-being for all at all ages through universal health coverage including financial risk protection”. (Niti Aayog, Govt.of India 2020).

The WHOQOL-BREF deals with the social domain quite broadly including personal relationships, social support, sexual activity and as seen from the results (Tables 18,19) overall assessment has been good while statistically significant variations are seen by area, education, age, and type of family. Thus, there are inter-correlations and a deeper study is required to unravel the major pathways through which social relationships are formed and strengthened (Paul & Asirvadam 2016).

The study revealed that environmental domain contributes significantly to sense of well-being of elderly group. Environmental domain refers to aspects such as physical safety and security, health and social care (availability and quality), opportunities to acquire new information and skills, participation and opportunities for recreation/leisure, etc. It was established that the study participants felt a sense of safety and security from physical harm. The availability of health and social services as well as the quality and completeness of care that he/she receives or expects to receive made the elderly have the essence of safety. This study finding is supported by Suresh (2000) in her study on Sweden elderly quality of life insinuated that elderly people living alone without a social network or close friends may have 60 per cent increased risk of developing dementia. Therefore, environmental domain to great extent influences then quality of life among the elderly group in the society.

The study further established that quality of life of elderly depends on individual perception. This is the key factor that deeply examines self-quality of health. (Farquhar,1995). This finding was supported by World Health Organization (WHO, 2008) survey report which stated that quality of life defined as an individual’s perception of their position in life in the context of the culture and values systems in which they live and in relation to their goals, expectations, standards and concerns. Further the report defined quality of life as a wellness resulting from a combination of physical, functional, emotional and social factors. The finding shows that respondents perceived to have better quality of life and are satisfied with their health. Nejati et al (2008) reports that the quality of life among elderly people was better in those who stated their health status was in good level than others who stated their health status is the same of other elderly or in not acceptable level. Possibly, for the elderly subjects a negative quality of life is equivalent to loss of health and a positive life quality is equivalent to a greater range of categories such as activity, income, social life and relationship with the family, categories which differed from subject to subject. Therefore, health seems to be a good indicator of negative quality of life, though an insufficient indicator of successful elderliness. (Thomas and Diengdoh, 2019)

The study established those social relationships impacts on quality of life of elderly and their contribution to social system. It was revealed that lack of companionship contributed to poor quality of life as affirmed by Dana et al., (2011) findings, who found out that participation has a unique contribution to older adults’ well-being where satisfaction with participation rather than the accomplishment of activities is of importance. They lacked the main Quality of Life themes that emerged in the

study conducted by Gabriel & Bowling (2004) such as having good social relationships, help and support; living in a home and neighborhood that is perceived to give pleasure, feels safe, is neighborly and has access to local facilities and services including transport ; engaging in hobbies and leisure activities (solo) as well as maintaining social activities and retaining a role in society ; having a positive psychological outlook and acceptance of circumstances which cannot be changed; having good health and mobility ; and having enough money to meet basic needs, to participate in society, to enjoy life and to retain one's independence and control over life.

According to WHO quality of life defined as an individual's perception of their position in life in the context of the culture and values systems in which they live and in relation to their goals, expectations, standards and concerns (Nejati et al 2008; Sola et al 2008). Adding to the previous definition, quality of life can be described as a wellness resulting from a combination of physical, functional, emotional and social factors (Ware & Sherbourne, 1992). Therefore, health seems to be a good indicator of negative quality of life, though an insufficient indicator of successful elderliness. In their studies, Browne et al (1994) remarked that many elders who complained less about their environmental limitations and took solace in religious faith, keeping good social relationships It was revealed that psychology of the elderly greatly determines how well they interact with nature and it has impacts on social system either positive or negative. Abeles, Gift and Ory (1994), from their study deduced the psychosocial factors are key determinants and indicators of quality of life in old age.

While this research has several strengths based on adequate samples, good cooperation by respondents and valid tools for collecting qualitative data, it could have some biases due to its cross-sectional study design, and perhaps not more extensive or probing in nature. Due to time constraints, much wider larger sample of elders could not be studied. Obviously there are significant intercorrelations among the various domains, and pathways through which quality of life emerges, which would help better explanations on the state of health.

Social science research even when using validated tools such as WHOQOL and MHI are still subjective despite the best Likert-type of scales. Scores and numerical expressions of essentially soft data of intimate nature have their limitations in interpretations. However, the best possible tools were used and therefore the information on quality of life and health of the elderly in Meghalaya state can be considered true and acted upon. No doubt future research can build on the baseline data with more sophisticated tools, probing deeper through cohort or interventional studies.

The phrases translation research, translational research, and translational science have been used to describe the systematic effort to convert research outputs into practical applications to enhance human health and well-being. Hundreds of studies on quality of life and health, many using the WHOQOL-BREF have been published over the past three decades with valuable data on elderly, but often conflicting. There is hardly any study going beyond these pioneering efforts to carry more in- depth cohort or interventional studies to explain or even to identify causative factors or pathways for enriching quality of life against aging processes (WHO 2012). There

have been plans and policies but very little action on field testing. It is time to take up such studies and apply the present research findings to benefit Meghalaya and similar populations. There is a sense of urgency since urbanizations and changes in the name of modernization might destroy the rich cultural traditions and practices which maybe in fact at the root of high quality of life enjoyed by the people of Meghalaya. Improving the tools for assessing the quality of life schedules and adding on supplementary questionnaires would be worthwhile research especially in promoting active aging, enabling the elderly to become valuable members of societies in which they live. (Freund & Riediger, 2003; Miriam & Kee, 2014. Ramamurthi, 2003). Future research can also focus on interventional studies, counselling programs and training of caregivers, and provide clues for initiating educational programs at Universities and Vocational training centers.

### Acknowledgement

I wish to extend my heartfelt gratitude to my supervisor, Dr. CJ Thomas and my co supervisor Dr. Debbie Zothanpari for encouraging me and guiding me to complete my work. I am thankful to Martin Luther Christian University for the opportunity to pursue and accomplish this course. I would like to thank the community leaders and health workers for approvals and providing field support. I am greatly indebted to Prof.P S.S. Rao, Adjunct Professor, MLCU, for his encouragement and untiring support throughout my research.

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