Multimorbidity and Health Seeking Behavior among Geriatric population of Karachi Pakistan

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ABSTRACT:

OBJECTIVE: To determine Multimorbidity and health seeking behavior among geriatric population of Karachi Pakistan.

METHODS: A cross sectional study was carried out in Karachi with participants having age more than 60 years being part of the study. Data was collected for 6 months using WOHQOL-BREF with four domains, Social domain, psychological domain, physical domain and environment domain by cluster sampling technique. Health seeking behavior was assessed using questionnaire. Sample size was kept at n=362. Face to face interviews were conducted while assuring participants that information will be kept confidential and receiving informed consent. Chi square was used for categorical data and descriptive analysis was done for numerical data. P value less than 0.05 was taken as significant. SPSS version 23 was used for data analysis.

RESULTS: Of total n=133(38%) had bones and joint disease, n=165(46%) had hypertension, n=80(22%) had obesity with n=56(16%) having diabetes. In our sample n=272(75%) had Multimorbidity. Most participants n=212 (58.6%) stated they visit doctor only when needed, n=64 (17.7%) narrated they visited 2-3 times per year and n=57(15.7%) said they visited more often. Compliance to doctor's prescription showed that most participants n=225 (62.2%) always do it, n= 19 (5.2%) said they never complete it and n=118 (32.6%) stated sometimes. Within WHO quality of life domains Environment domain had maximum score, then physical domain, psychological domain and least was among social domain. Approximately 50% rated their life quality as good/very good with only 15.5% rating it as poor with remaining in between.

CONCLUSION: Most participants were suffering from multimorbidty. Health seeking behavior was good in participants as majority showed compliance to medicines and visited doctors.

Keywords: Geriatric population, Quality of life, Health Seeking behavior, Compliance to medicines, Visits to doctor.

INTRODUCTION:

Elderly population is on a growing scale as seen throughout the world with enhanced life expectancy owing to better scientific advancements in healthcare and enriched living environment. (1) None the less, aging population remains a target of Multimorbidity and its synergistic effects on life quality, working and threat of death is higher compared to individual effect of a disease. (2). Multimorbidity interjects intense repercussion's on life quality and wellbeing.(3) Neglect or abuse may be an aftermath of Multimorbidity as it amplifies load on caretakers.(4) Based on literature quality of life is a vital part in medical, social and psychological researches.(5) With age there is escalation of chronic diseases leading to enhanced utilization of health services.(6) According to a study, population health is endangered due to unmet healthcare needs.(7) There has been a direct link between Multimorbidity and polypharmacy however it has been seen that noncompliance to medication enhances as number of prescribed medicine increases.(8) According to a study compliance in patients is seen when they have less barricades in healthcare system, good quality healthcare provider and home enrolment.(9)

However not much is known about noncompliance among patients with Multimorbidity.(10) Multimorbidity is a foreteller regarding healthcare seeking behavior, expenses, compliance, declined functional ability, quality of life and fatality hence it has become imperative for health outcomes and effectiveness research. (11) A study in India displayed that medication intake and healthcare utilization was augmented for age group greater than 60 years compared to younger ages. (12) In China numerous studies have been carried out regarding usage of healthcare services among geriatric population from numerous angles. Past researches in China have focused on usage of healthcare with healthcare insurance and medical expenses.(13) With regards to healthcare seeking and its factors there is lacuna in studies from Gulf countries.(14) Study in Myanmar showed that geriatric population expansion is also an emerging situation with weak cognizance of health related issues and inadequate healthcare services.(15) According to a study conducted in old homes Multimorbidity is a quagmire confronting healthcare currently as well as for the future. (4)

WHO states that geriatric population will get twice between 2015 and 2050 owing to more life expectancy. It is expected geriatric population will need round the clock health care because of their health issues and limited functional abilities. (16). Studies on quality of life have been ignored in developing nations and low income countries. (17) According to previous studies health condition of person is linked to utilization of healthcare (18) However less emphasis has been laid on healthcare seeking behavior. (13)Till date there is a mystifying connection in the process by which Multimorbidity relates to healthcare utilization (19) Previous studies have laid emphasis on introspection from each aspect. (20) Hence we conducted this study to identify multimorbid people in their health seeking behavior and quality of life.

METHODS:

Cross sectional study design was adopted for this research study. In this research data was collected from a town of city Karachi because it had a variety of population from multiple ethnicities and all socioeconomic status resides in this area. Cluster sampling technique was used for data collection.Our total sample was n=384 at 95% at 50% proportion calculated by at Openepi.com using sample size calculator. (21)However due to non-response and missing elements in data n=362 was achieved. Age group above 60 years was part of study with those refusing to consent, too ill to participate or having dementia, speech/language barriers being excluded. Participants were informed that their data will be kept confidential and informed consent was taken prior to study. Face to face interviews were conducted and questionnaire was used to record data. The questionnaires were translated to Urdu language to minimize bias and enhance understanding. WHO Quality of life-BREF with four domains: Environment domain, Social domain, Physical health domain and Psychological health domain was used. (22) Health seeking behavior was assessed by questions based on visits to healthcare provider, compliance in taking medicine. Numerical data was displayed as mean and standard deviation while Chi square was used for categorical data along with frequency and percentages. P value less than 0.05 was taken as significant. Data was analyzed on SPSS version 23.

RESULTS:

Our total sample was n=362. Out of total n=390 interviews, due to missing data and incomplete forms we omitted n=28 questionnaires. Mean of sample in terms of age was n=67.7+/-7.0. Our gender ratio was quite comparable with n= 184(51%) females and n=178 (49%) males. When seen by ethnicityn=57 (16%) were Gujrati, n=77 (21%) were of Sindhi origin, most n=173 (46%) were Urdu speaking and remainder belonged to other ethnic groups. Based on education mean of sample was 12.07±4.2 years. According to marital status n=21 (6%) were single, majority n=329 (91%) were married and n=12 (3%) were either divorced or separated. Most n=225 (62%) were living in joint families whereas remaining were residing in nuclear families. More than half of participants n= 203 (56%) were living with their spouses. Those living with their married daughters were n=75(21%) while n=53 (15%) were living with their sons. In our sample n= 117 (32%) had retired from their profession. Of total participants n=92 (25.4) were employed and n=100 (27.6%) claimed they received pensions. When economic conditions were assessed n= 150 (41.4%) were fully independent, n=140 (38.7%) participants were economically dependent, n=72 (19.9%) were partially dependent. About n=149 (41%) were dependent upon their children stated that they were dependent upon their children. When their decision making status was evaluated it was seen that n= 39 (11%) stated they are never involved in decision making, n=271 (75%) said always and n=52 (14%) said sometimes. When investigated about their diagnosed medical issues it was seen that diabetes is present in n=56 (16%), n=133 (38%)

participants had bone and joint disease, n=13 (4%) had cancers and hepatitis B&C, n=19 (5%) participants had mental illness, n=80(22%) had obesity whereas n=165 (46%) suffered from hypertension. When Univariate analysis was done it was seen that n=90 (25%) participants were those with single disease or no morbidity and n=272 (75%) participants had Multimorbidity.

*Figure1Percentage of different disorders in the study participants*
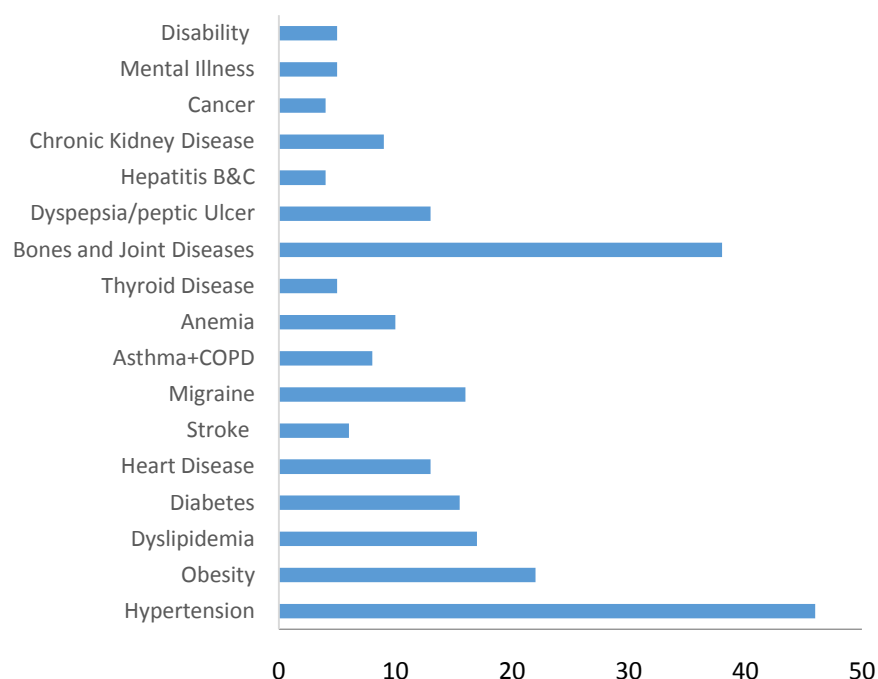
When participants were questioned as how they perceive their health on a scale ranging from poor to excellent, n=109 (30.2%) rated their health as good, n=102 (28.2%) rated their health as fair, n=95 (26.2%) rated their health as very good, n=34 (9.4%) rated their health as excellent and only n=22 (6%) rated their health as poor on the scale.Majority participants visited the doctor only when required, n=212 (58.6%), n=64 (17.7%) said they visited 2-3 times in a year whereas n=57 (15.7%) participants confided that they visit more often.

Figure2Number of Visits to a Doctor in %
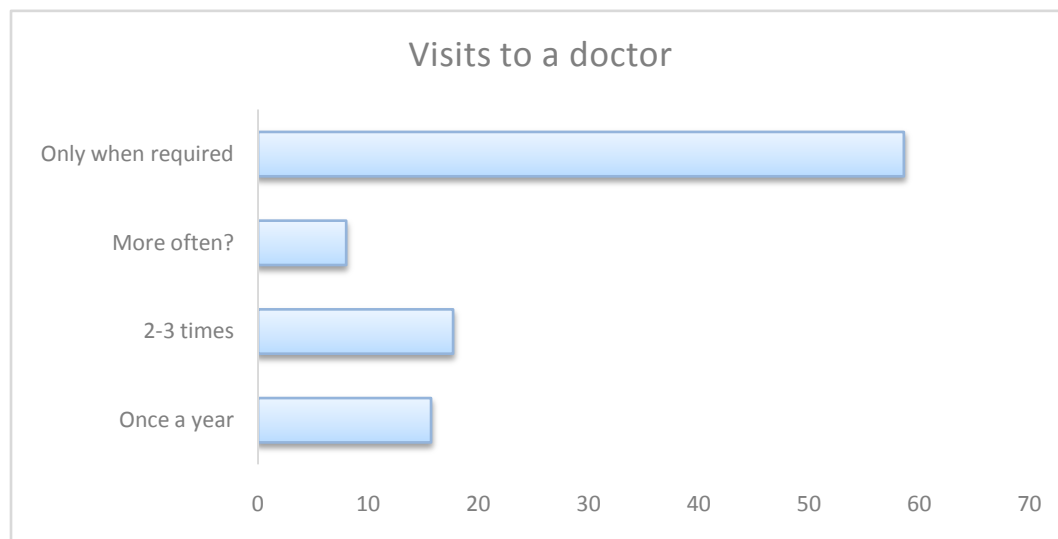
When asked regarding following the doctor's prescription most participants n=225 (62.2%) always follow the prescription and complete the course, however n=118 (32.6%) do it sometimes and only n= 19 (5.2%) stated they never complete the course of medicines.

Figure 3 Compliance by the study participants on Doctor Advice
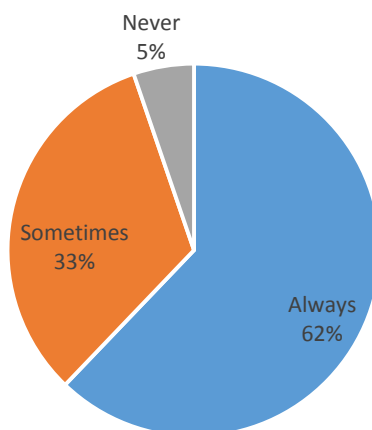
During course of illness n=124 (34%) stated that they take medicine by themselves when ill, n=139 (38%) said their spouse gives them medicine while n=99 (27%) said their children give them the medicines. In our sample n= 134(37%) were not taking any supplements. However n= 167 (46%) were taking multivitamins, n= 43 (12%) were having calcium supplements and n=18 (5%) were taking hormonal supplements.

When World Health Organization Quality of Life was administered on the participants, majority n=144 (40%) rated their life quality as good, n=30 (8.3%) as very good, n=57 (15.5%) rated their quality of life as poor, n=3 (0.8%%) rated it very poor and remaining n=128(35.4%) were in between.When inquired regarding their satisfaction with health most participants n=153 (42%) also claimed to be satisfied with their lives, n=65(18%) were dissatisfied and only n= 7(2%) were found to be very dissatisfied and n= 7(2%) were very satisfied. Remaining n=130(36%) were in between.

Table 1Univariate Analysis of the Four Domains of Quality of Life (WHOQOL)

Domains	WHO bref		WHO 100	
	Mean	Standard Deviation	Mean	Standard Deviation
Physical Health	23	2.6	57.7	9.6
Psychological	19.6	2.7	57.7	11.4
Social Relationships	10.5	1.7	63.2	14.5
Environment	27.4	6.1	62.1	19.0

When Quality of life questionnaire was assessed it was observed that among the mean scores of 4 domains Social relationships had the lowest mean score of 10.5+/-1.7. Psychological domain had mean score of 19.6±2.7. Physical health had more than this with 23±2.6. Highest score was under Environment domain with 27.4±6.1.

Table 2Satisfaction levels of the Four Domains of Quality of Life (WHOQOL)

Domains	Satisfied		Dissatisfied	
	n	%	n	%
Physical Health	180	49.7	182	50.3
Psychological	173	48	189	52.2
Social Relationships	216	59.6	146	40.3
Environment	198	54.7	164	45.3

The WHO quality of life questionnaire on the basis of the referenced cutoff was divided into satisfied and dissatisfied groups. In Environment domain most were found to be satisfied

(54.7% versus 45.3%). Similarly, in Social domain majority were satisfied (59.6% versus 40.3%). Psychological domain found more to be dissatisfied (52.2% versus 48%). However in the physical health domain almost equal numbers were found to be satisfied and dissatisfied (49.7% versus 50.3%).

Table 3Association of Health Seeking Behavior with Quality Of Life

Domains		Number of Visits to a Doctor								P value
		Once a Year		2-3 times a year		More Often		Only when Required		
		n	%	n	%	n	%	n	%	
Physical Health	Dissatisfied	14	25	46	72	15	52	107	50.5	0.000
	Satisfied	43	75	18	28	14	48	105	49.5	
Psychological	Dissatisfied	25	44	43	67	20	69	101	48	0.006
	Satisfied	32	56	21	33	9	31	111	52	
Social Relationships	Dissatisfied	22	38	43	67	12	41	69	32.5	0.000
	Satisfied	35	62	21	33	17	59	143	67.5	
Environment	Dissatisfied	11	19	22	34	14	48	117	55	0.000
	Satisfied	46	81	42	66	15	52	95	45	

Domains		Compliance in taking Medicines						P value
		Always		Sometimes		Never		
		n	%	n	%	n	%	
Physical Health	Dissatisfied	135	60	37	31	10	53	0.000
	Satisfied	90	40	81	69	9	47	
Psychological	Dissatisfied	135	60	38	32	16	84	0.000
	Satisfied	90	40	80	68	3	16	
Social Relationships	Dissatisfied	116	52	27	23	3	16	0.000
	Satisfied	109	48	91	77	16	84	
Environment	Dissatisfied	130	58	31	26	3	16	0.000
	Satisfied	95	42	87	74	16	84	

Health seeking behavior was assessed through number of visits to the doctor and compliance in taking medicines. When satisfaction level in Physical health domain was associated with number of visits, most satisfied participants were those who visited the doctor only once a year were found to be most satisfied (75% versus 25%, *P value 0.000*). Interestingly in the Environment domain satisfaction was found to be highest when participants visited the doctors only once (81% versus 19%, *P value 0.000*). The satisfaction level of psychological domain was

more evident when participants visit their doctor only when required (52% versus 48%) or once a year (56% versus 44%) *{P value 0.006}.* In social relationship domain, satisfaction level was evident in all categories except when visits to the doctor were 2-3 times a year (33%versus 67%, *P value 0.000*).

Compliance in taking prescribed drugs revealed some interesting findings, majority participants were found to be dissatisfied in the physical health domain *(P value 0.000).* In psychological domain Dissatisfaction again was more prominent in the categories of those who always follow the doctor advice and those who never follow the doctor advice as compare to those who sometimes follow the advice as this group was found to be more satisfied (68% versus 32%) *{P value 0.000}.* In social relationship and Environment domains highest level of satisfaction was observed in participants who never follow the command of the healthcare providers'. *(P value 0.000)*

DISCUSSION:

In our study 3/4th participants had Multimorbidity. This is way more than a study conducted in Bahrain by Public Health Directorate (2013-2020) that displayed it to be 20% in geriatric people. (23) In India Multimorbidity was 28.3% and 54.7% had unimorbidity which was higher than our study. (2) Saudia showed 35% prevalence (24) while in Belgium it was higher with 47% prevalence this year. (25)China had similar to our results with prevalence of 55% to 98% (26) In this study gender ratio was approximately equivalent with more than 90% married rest were single or divorced/separated. The gender ratio was similar to a study in Korea but only 68% were living with spouse remaining without them.(26) Another study in Bahrain showed more males as participants with merely 43.6% living with spouse and children (14) In our study during illness 38% stated their spouse gives them medicine,27% stated children and 34% by themselves. Research in Myanmar revealed that most older people when sick were cared by spouse, children and relatives (28) The majority of the older people in our study were looked after by their children, spouse and relatives whenever they were ill, similar to previous reports from Myanmar. It has been seen in developing countries that congenial care for geriatrics is given at homes in contrast to rich nations where children usually do not live together. (28)However low fertility, migration and urban population movement is now threatening this informal care by family members. (15)A study has shown that patients with chronic diseases have lower life quality. (25). In our study maximum participants had hypertension, then mental illness, obesity and diabetes. Study in Bahrain showed hypertension to be most common followed by elevated lipids, diabetes, then came rheumatic disorders with lowest prevalence of depression (14) Similar results were quoted from Bangladesh, India, China, Indonesia, Vietnam, Brazil, South Africa, Ghana, Mexico and Russia. (29) Low and Middle income countries have shown in studies that multimorbidty is linearly linked to age.(29)

Our study showed that Environment domain had highest score for quality of life then Physical health then psychological domain and social relationships had the lowest score. Previous study in India had reported low score on physical and mental health.(2) Systemic review in Iran disclosed that Social factors, socializations, cultural factors and psychological factors influence life quality. (30) In our study 40% stated their health status as good with only 15.5% considering it poor. This is in contrast to a study in India which showed 76.5% rated their health as poor, remaining 23.5% rated it good. (2) In Bahrain 39.4% regarded their health as good and only 9.2% as poor. (14) However 42% were satisfied and merely 2% dissatisfied in our study. This was similar to the study in India (4)

Research in India shows high health seeking behavior has been linked with multimorbidty (29). Same deductions were made in a study in Japan (31) Another study in Japan stated that among geriatric population with multimorbidty in geriatrics there is wide range of healthcare needs. (32) A study showed that greater than 50% patients showed health seeking behavior without gender difference. (14) In our study majority 58.6% visited the doctor only when required,17.7% said they visited 2-3 times in a year whereas 15.7% participants confided that they visit more often. Albanian study revealed that geriatric population visited healthcare facility once monthly (33) Another study in India showed that those with poor self-rated health had 19.6%% healthcare utilization compared to those with good self-rated health who had 9.32% utilization (2) A research showed that without any difference in age and gender medicine intake was higher in multimorbid patients. (12) Interestingly shown in a study in Bahrain that 28% attempted self-treatment before hospital visit more seen in females. (14) A cohort study showed that health seeking behavior is directly proportional to number of morbidities. (19)Also highlighted by a study that geriatric population seeking healthcare has augmented in India.(2) In our study 62.2% always follow the prescription remaining sometimes or never followed doctor's prescription. A systemic review narrated 42.6% non-adherence to medicines. (10)

Our study was saddled with few reservations. First we did not record the duration of morbidities and healthcare expenditure that affects life quality. Also not considered were the choice of health care provider. This was similar to a previous study in China(13). Cross sectional nature of study bars it from inferring causal associations. It was based on self-reports which may lead to over or under diagnosis. Our strengths are that to our knowledge very few studies have been conducted to assess multimorbidty, quality of life and relate it to health seeking behavior in our population. It directs attention towards age specific planning for multimorbidty. Findings from this study may help to understand geriatric dynamics in healthcare leading to efficient and effective health care for the elderly and to improve the healthcare utilization as recommended by previous studies (2) Health promotion programs serve as a prevention program to enhance the life quality of geriatric population (1)

CONCLUSION: Our findings show that 3/4th participants were suffering from Multimorbidity. Majority showed compliance to intake of medicines. Most participants also visited doctors regarding their health issues.

Ethical Consideration: The study was approved from the institute.

Conflict of Interest : None

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