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Research Article

A STUDY ON EFFECT OF POLYPHARMACY ON QUALITY OF LIFE IN ELDERLY PATIENTS

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A R T I C L E I N F O

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A B S T R A C T

Background Information: Polypharmacy is the use of 5 or more medications. This may affect the morbidity and mortality of the elderly patients, and it can also affect the quality of life of the patients who are with the comorbid conditions, for which they are using the multiple medications. Assessing the quality of life of the patient was done by using the WHOQOL-BRE questionnaire and Lawton IADL scale and the scoring was given according to the WHOQOL.

The comorbid conditions which we considered are hypertension, diabetes, cerebrovascular events (CVA), alcoholic liver disease (ALD), chronic obstructive pulmonary disease (COPD), pneumonia.

Methodology: A Prospective Observational study was conducted from November 2019 to April 2020 at Malla Reddy Hospital. A sample size of 315 patients were taken, all the necessary and relevant data were collected from the patient case notes, treatment charts, and laboratory reports. The questionnaires were filled by directly interviewing the patient. These data were recorded in a specially designed patient proforma/questionnaire's. Questions were asked to the patients during the initial visit, and scoring was given accordingly, then they were counselled about their disease condition and treatment. During the final visit to the patients, scoring was given accordingly. This data was entered into excel sheets for statistical analysis.

Results: In the study, the rate of improvement in the scores of patients is clearly seen form initial visit to final visit. Before follow up 72% of patients were effected and 28% of patients were unaffected and after follow up 71% of patients were effected among them some of the patients were moved from poor quality of life to moderate quality of life , some form moderate to good quality of life and some from good to excellent quality of life and 29% of patients were remained un-effected. We found that the Patients with the Hypertension and Multimorbidity conditions were more prevalent in this study.Patients with the multimorbidity conditions are at higher risk when compared to other diseases and the study shows that they are having poor quality of life.

Conclusion: Initially most of the patients fall under the category of poor quality of life to moderate quality of life but after the treatment and patient counselling the quality of life of the patients was improved. From this, we can conclude that though polypharmacy has its disadvantages regarding the quality of life of elderly people but it is evident that quality of life in elderly can be improved through proper treatment and patient counselling.

INTRODUCTION

Polypharmacy, defined by the WHO as "the administration of many drugs at the same time." These medications may likewise incorporate the OTC medications or some other herbal/dietary items. As this is common in older patients so as to treat the chronic concomitant conditions like Hypertension, Diabetes, Gastroesophageal related issues, and CVA. [1]

The use of many drugs may improve the condition of the patient, and it may also cause adverse effects, which can be associated with increased mortality and morbidity too, thus effecting their Quality of life. The factors, which contribute to Polypharmacy include occurrence of Multiple chronic diseases, Comorbid conditions, Concomitant use of different medications, multiple hospitalization, multiple prescribers for single patient,[1] self-medication is also one of the main causes of polypharmacyand many OTC drugs are available whose irrational use may also lead to Polypharmacy.[1]

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The occurrence of the concurrent multiple chronic diseases and comorbid conditions will increase with the age so, as the concomitant use of the multiple medications increases along with it. As the older patients may have multiple conditions, they consult different physicians of different departments which leads to multiple hospitalization which may leads to polypharmacy and due to the patients underreporting the signs and symptoms related to medications was also seenin the pharmacotherapy of the elderly patients which may effect the quality of life. [2]

Patients who are suffering from life threatening conditions are obliged to take the medications as the benefits out-weigh the risk but, these drugs may cause severe adverse drug reactions which ultimately effects their quality of life. Many of the medications were used to prevent the disease complications and decrease the prognosis of the disease.[4]

Among the older patient's drug-related problems are one of the most demanding public health-issue. Geriatrics are vulnerable to mortality and morbidity, polypharmacy can easily effectmortality and morbidity due to their age-related physiological conditions and pathological conditions. They are at higher risk and are more susceptible to adverse drug reactions.[2]Polypharmacy may also increase the length of the hospital stay if a patient develops any side effects during their treatment, frequent hospitalisation, and it may also increase the death rate among elderly.[3]

The medication related side effect leads to the prescription of one more drug which may lead to polypharmacy. As some drugs have severe side effects or adverse effects and to counter these side effects or adverse effects other drugs may be prescribed. Sometimes due to the misinterpretation of drug related effects, may cause the unnecessary use of medications.[4] Selecting the number of the medications to be prescribed may be effective and productive in the geriatric population with the multiple comorbid conditions.[5]

In the recent study on the epidemiology of polypharmacy in older adults in Sweden was found that prevalence of the polypharmacy (5+ drugs) was 44.0% and prevalence of excessive polypharmacy (+ 10 drugs) was 11.7%.[6]

In elderly population prioritising and managing care for people with multimorbidity is essential. People's priorities must be considered during the individual patient care while dealing with the risks and benefits of the therapy. It is important to have the communication between the health care professionals and the patients with the multimorbidity for the access of many different services like medicine management, medication adherence and medicine optimisation.[7]

WHO defines health as "A state of physical, mental, social well-being not merely the absence of the disease". The measurement of the health and the effects of the health care indicates about the severity of the disease, but also includes the measuring the improvement of quality of life related to health care. The questionnaire, and the scoring, that we obtained and used are from the WHOQOL-BREF[8], and the Lawton instrumental activities of daily living (IADL) scale.[9]

To determine the impact of the quality of life, there has been a lot of focus on both, physical and mental illness. According to Skevington, measuring the psychosocial issues than the biomedical measures has shown that, it plays integral part in ensuring the positive patient outcome, from the perspective of both the patient and the clinician, there has been an ongoing evaluation of this in elderly. Domains like social, psychological, environmental and physical values are explored while measuring the quality of life.[10]

Aim

- To assess the effect of Polypharmacy on Quality of life in elderly patients.
- To identify patients who are at the greater risk for the effects of polypharmacy.
- To describe positive and negative outcomes of polypharmacy among older individuals.
- To assess quality of life of patient.

METHODOLOGY

The study will be conducted in the department of General medicine for a period of 6months (Nov-2019 to April-2020) in Malla Reddy Hospitals. The patient will be selected for the study based on the inclusion and exclusion criteria. Prior approval from the Institutional Ethics Committee is to be obtained to undertake the present study. This study procedure will be explained to the subjects and a written consent will be obtained from them. Confidentiality of the data will be assured to the subjects. A total number of 315 elder patients (with various conditions like DM, HTN, and other comorbid conditions) will be included. Patients of 60 years and above were selected. Participants prescription, demographic details, health factors and access to health care are recorded on case record form. Questionnaire was asked to the patients and scoring was given to each patient according to WHOQOL scoring.

Statistics

The statistical analysis was done by using excel in the form of frequency graphs and percentages.

RESULTS AND DISCUSSION

Table no 1 Distribution of Patients With Age

Age of patients	Number of patients
60	2
65	170
70	100
75	25
80	15
85	3
	Total =315

From the above table, we can observe that there are 2 patients of age 60, 170 patients of age 65, 100 patients of age 70, 25 patients of age 75, 15 patients of age 80 and 3 patients of age 85.

Table no. 2 Distribution of Gender of Patients With Age (Average Age)

Gender	Average Age
Female	68.49
Male	70

From the above data, we can observe that the average age of female patients is 68.49 and a malepatients is 70.

Table no. 3 Distribution of Number of Patients Based on Gender

Gender	Number of patients
Male	170
Female	145

From the above table, we can observe that the number of female patients is 145 and male patients are 170 out of a total of 315 patients.

Table no 4 Distribution of Patients Based on Their Social Habits

Social Habits	Number of Patients	
	Male	Female
Alcohol	34	6
Alcohol and Chewing Tobacco	2	NILL
Alcohol & Smoking	137	NILL
Alcohol & Smoking& Chewing Tobacco	6	NILL
Chewing Tobacco	NILL	4
Smoking	14	NILL
None	8	104

From the above data, consumption of alcohol and smoking was more prevalent in Males whereas consumption of alcohol was more prevalent in Females.

Table no 5 Distribution of Number of Patients Based on Number of Medicines Intake (Total No. of patients 315)

No. of medicines intake per day	No of patients	Percentage
5-6	50	15.87%
7-8	180	57.14%
8-10	72	22.85%
10-12	10	3.17%
12-14	2	0.63%
14-16	NILL	NILL
16-18	1	0.31%

From the above data, we can observe that 50 patients take 5-6 medicines/day, 180 patients take 7-8 medicines/day, 72 patients take 8-10 medicines/day, 10 patients take 10-12 medicines/day, 2 patients take 12-14 medicines/day, only 1 patient had taken 16-18 medicines/day. Patients who takes 7-8 medications were more prevalent.

Table No. 6 Distribution of Patients Based on Diseases

Name of the Disease	Percentage of patients
Hypertension	28.6%
Type II DM	17.8%
CVA	11.7%
Alcohol liver disease	7.0%
COPD	7.3%
Pneumonia	3.5%
Comorbid conditions	24.1%

From the above table, we can observe the percentage of patients with various diseases like hypertension are 28.6%, Type II DM are 17.8%, CVA are 11.7%, Alcoholic liver disease are 7.0%, COPD are 7.3%, Pneumonia are 3.5% and comorbid are 24.1%. Hypertension was more, followed by T2 DM and least was pneumonia.

Table No 7 Distribution of Percenatge of Patients Based on Number of Diseases

No of diseases	Percentage of patients
1	28%
2	35%
3	29%
4	6%
more than 4	2%

From the above data, we can interpret that patients with 1,2,3,4 and > 4 conditions are 28%,35%,29%,6% and 2% respectively, patients with 2 and 3 conditions are more prevalent.

Table No.8 QOL Scoring and Categorization

QOL scoring	QOL in effected patients
25-50	Poor
50-75	Moderate
75-100	Good
100-125	Excellent

From the above table, we can interpret that patients whose score was 25-50 are having poor quality of life, 50-75 are having moderate quality of life, 75-100 are having good quality of life, 100-125 are having excellent quality of life.

Table No 9 Distribution of Diseases Based on QOL Scoring Before Follow UP

Diseases	Effected QOL	Average score of patients
Hypertension	Poor to Moderate	45.4 ± 5
Type II DM	Poor	32.6±5
CVA	Poor	27.8±5
Alcoholic Liver disease	Poor to Moderate	47.7±5
COPD	Moderate	72.5±5
Pneumonia	Moderate	86.4±5
Comorbid conditions	Poor	26.7±5

From the above data, we can interpret that the patients with pneumonia has higher quality of life while compared to above mentioned diseases and comorbid conditions has poor quality of life during the first visit of the patients i.e before follow up

Table No. 10 Distribution of Diseases Based on Qol Scoring After Follow UP

Diseases	Effected QOL	Average score of patients
Hypertension	Moderate	69.6±5
Type II DM	Moderate	64.8±5
CVA	Poor to Moderate	49.2±5
Alcoholic Liver disease	Moderate	61.8±5
COPD	Excellent	95.1±5
Pneumonia	Excellent	112±5
Comorbid conditions	Poor	42.8±5

From the above information, we can interpret that patients Quality of life was improved in every condition mentioned above whereas, patients with comorbid conditions and CVA still shows poor Quality of life due to decreased prognosis of the disease.

Table No 11 Distribution of Patients Based on Overall Quality of Life Before Follow UP

QOL(Before follow up)	
Effected	Not effected
227(72%)	88(28%)

From the above data, we can interpret that out of 315patients, 227patients quality of life was effected and 88 patients quality of life was not Effected.

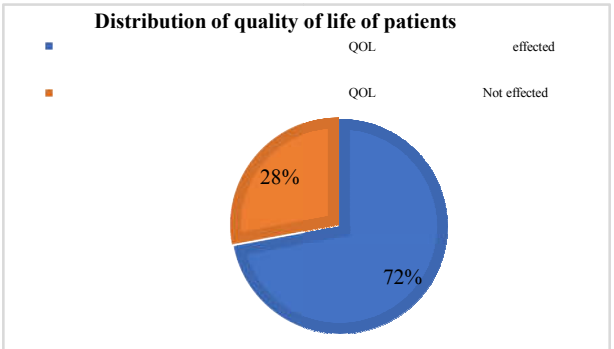


Table No 12 Distribution of Number of Patients Based on Qol Scoring Before Follow UP

QOL before follow up			
QOL Scoring	**QOL category**	**No of patients**	**percentage of patients**
25-50	Poor	110	48.40%
50-75	Moderate	82	36.10%
75-100	Good	35	15.40%
100-125	Excellent	NILL	NILL

From the above data, we can interpret that percentage of patients before follow up who are having poor quality of life is 48.40%, moderate quality of life is 36.10%, patients having good quality of life were 15.4% and none of them were having excellent quality of life.

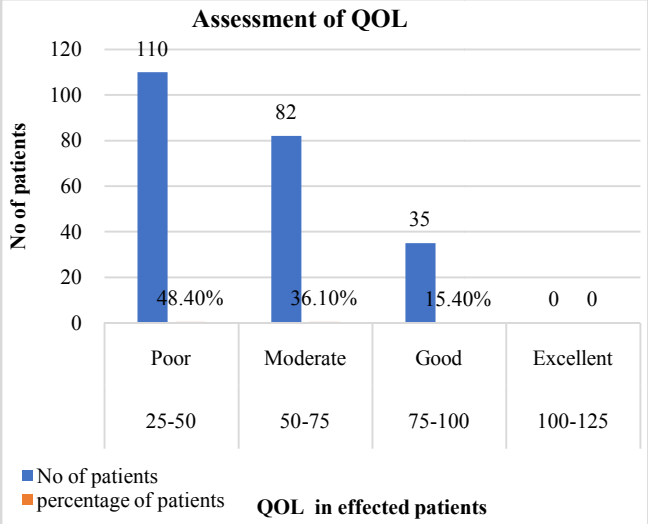


Table No. 13 Distribution of Number of Patients Based on QOL Scoring Aftr Follow Up

QOL (After follow up)	
Effected	**Not effected**
224	91

From the above data, we can interpret that out of 315 patients, 224 patients were effected and 91 patients were not effected.

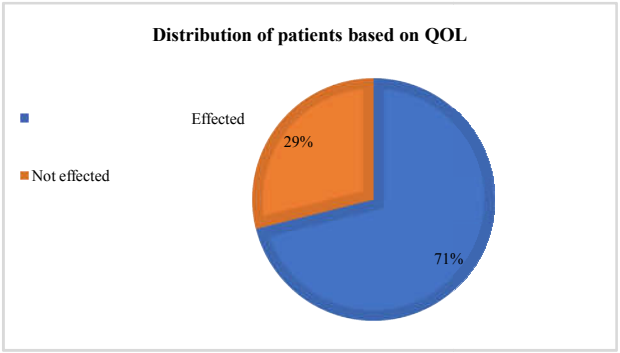
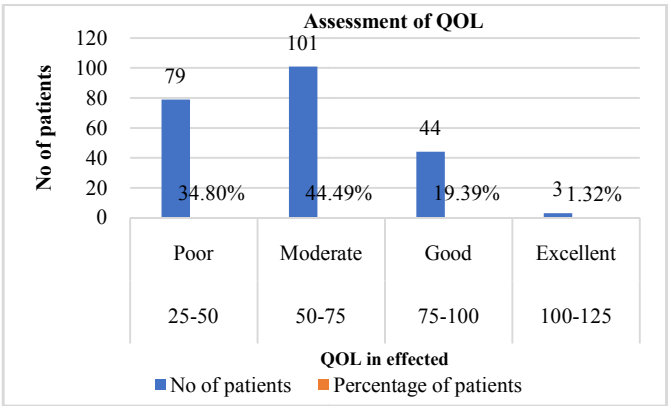


Table No 14 Distribution of Patients Based On Overall Qaulity of Life after Follow UP

QOL after follow up			
QOL scoring	**QOL category**	**No of patients**	**Percentage of patients**
25-50	Poor	79	34.80%
50-75	Moderate	101	44.49%
75-100	Good	44	19.39%
100-125	Excellent	3	1.32%

From the above data, we can interpret that percentage of patients after follow up having poor quality of life are 34.80%, moderate quality of life are 44.49%, good quality of life are 19.39% and excellent quality of life are 1.32%. By this we can observe that the quality of life of the patients was improved after the treatment and counselling ,and this was concluded based on QOL scoring categorization of the individual patients after follow up, where we can find improvement in the QOL scoring, ultimately leads to improvement in the quality of life of the patients.



CONCLUSION

- In the study, some of the patient's quality of life was improved highly in single and patients with two conditions, patients with multimorbidity were experiencing the poor to moderate quality of life due to less improvement.
- Initially most of the patients fall under the category of poor quality of life to moderate quality of life but after the treatment and patient counselling the quality of life of the patients was improved and most of the patients who were in the poor quality of life moved to moderate quality of life category, and most of the patients who were in the moderate quality of life were shifted to good quality of life and some of the patients even moved to the category of excellent quality of life.
- From this, we can conclude that though polypharmacy has its disadvantages regarding the quality of life of elderly people but it is evident that quality of life in elderly can be improved through proper treatment and patient counselling.

References

1. Smith D, Kautz D. Protect older adults from polypharmacy hazards. Nursing. 2018;48(2):56-59.
2. Mortazavi SS, Shati M, Keshtkar A, Malakouti SK, Bazargan M, Assari S. Defining polypharmacy in the elderly: a systematic review protocol. BMJ open. 2016 Mar 1;6(3):62-71.
3. Zabihi, A., Hosseini, S., JafarianAmiri, S. and Bijani, A. (2018). Polypharmacy among the elderly. *Journal of Mid-life Health*, 9(2), p.97.
4. Schenker Y, Park S, Jeong K, Pruskowski J, Kavalieratos D, Resick J *et al*. Associations Between Polypharmacy, Symptom Burden, and Quality of Life in Patients with Advanced, Life-Limiting Illness. *Journal of General Internal Medicine*. 2019;34(4):559-566.
5. Fulton M, Riley Allen E. Polypharmacy in the elderly: A literature review. *Journal of the American Academy of Nurse Practitioners*. 2005;17(4):123-132.
6. morin l. Access NCBI through the World Wide Web (WWW). Molecular Biotechnology. 1995;3(1):75-75.

7. Access NCBI through the World Wide Web (WWW). Molecular Biotechnology. 2016;3(1):75-75.
8. Bech V. The WHO Quality of Life (WHOQOL) Questionnaire: Danish validation study. Nordic Journal of Psychiatry. 2001;55(4):229-235.
9. McGrory S, Shenkin S, Austin E, Starr J. Lawton IADL scale in dementia: can item response theory make it more informative?. Age and Ageing. 2013;43(4):491-495.
10. Sutherland H, Till J. Quality of life assessments and levels of decision making: differentiating objectives. Quality of Life Research. 1993;2(4):297-303.

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