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HOME MEDICATION REVIEW IN GERIATRIC PATIENTS AT TIRUPATI-A CROSS SECTIONAL STUDY

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ABSTRACT

Home medication review – a collaborative service involving the general practitioner, pharmacist and the patient. Home medication review services were first introduced by Australian federal government in an attempt to decrease unnecessary drug induced hospital admissions. The main objective of the study is to find the common disease patterns and to assess the common usage of medications. A cross sectional study was conducted from August 2017 to January 2018 at various old age homes (Navajeevan old age home, missionaries of charity and community) and community homes at Tirupati. Overall 150 geriatric patients were included in the study, of which most of them are unaware of Home Medication Review. The most commonly used drugs by elderly were vitamin supplements (21.88%) followed by Anti diabetics (18.98%) and Anti hypertensive's (16.95%). The most existing disease found in the elderly were hypertension with diabetes (28%), hypertension (14%), diabetes (14%) followed by stroke (8.6%).In this study no one is aware of Home medication review and they are keen to accept it if suggested by their physician. This can be overcome by providing Home medication services to the elderly population. Home medication review greatly reduces the load of tertiary care services for the elderly, which in India are sadly lacking.

KEYWORDS: Home medication review, geriatric, awareness, clinical pharmacist, general practitioner.

INTRODUCTION

Home medication review is a joint service involving a general practitioner, pharmacist and patient. HMR was first introduced by Australian government in order to reduce unnecessary drug induced hospital admissions.[1] Through HMR Indian pharmacist can play major role in improving health care of the community.[2]

Patient outcomes can be improved by clinical pharmacists as primary health care professionals, through Home based pharmacy programmers.[3] The HMR process involves patient identification, GP assessment, HMR interview [demographics, social habits, medical history, surgical history, medication usage] identifying medication related problems and generating HMR report.[4] The complete HMR report is sent to the general practitioner by the pharmacist, and discusses medication management strategies, findings that may seriously impact the patient's health as a matter of urgency.[5]

HMR is a government subsided medication review service. Main aim of HMR is to reduce medication use and improve health outcomes of patients living in the community. There is no charge to patient; both GP and pharmacist are reimbursed by common wealth government for providing HMR in developed countries. HMR is potentially useful as regular medication review is suggested for geriatric population.[6]

It help patients change their medication, reducing errors, poly pharmacy and adverse effects due to multiple drug administration.[7] Use of medication tends to increase as people gets older.[8] Drug related problems like sub optimal prescribing, medication errors, and non adherence are believed to increase in elderly population.[2]

HMR is mostly preferable in elderly population, as the older population is gradually increasing it estimates about 605 millions worldwide.[9] where 15% of population is estimated in India. The geriatric population those are found to be fully dependent on food, clothing and health care on other was found to be 64% [elderly women] and 43% [elderly men] in urban areas.[1]

Because of age related changes like pharmacokinetics and pharmacodynamic drug therapy in geriatric patients can be very difficult.[10] The higher rate of ADRS in geriatric population may be due to lack of clinical trials in this population. Polypharmacy is a well known risk factor for adverse events but use of many drugs is required because of more co morbidities.[7]

Hence HMR is a main path for the pharmacist for conducting effective consultation with geriatric patients in general practice and analyze the usage of drugs, also helps maximize the patients benefit from the medication regimen and to diminish or prevent medication related problems using a team approach.[7]

This review results in important changes in patient's drugs and saves more than the cost of intervention without affecting the workload of general practitioner.[6] The increasing work load of GP, it has been planned that pharmacist should review patients.[7] It is important to evaluate the medicines in geriatrics because of medication related problems. By using home medication review process it can be done effectively.[11]

MATERIALS AND METHODS

Study Design: This was a Cross sectional study.

Study Place: Various old age homes (Navajeevan old age home and missionaries of charity) And community homes at Tirupati.

Study Duration: This cross-sectional study was conducted for period of 6 months (August to January).

Sample size: the sample size was 150

Study Criteria:

Inclusion criteria

Patient of either gender above 60 years of age were included.

Exclusion Criteria

1. Terminally ill patients were excluded.
2. Patients who are not willing to participate in the study.
3. Psychiatry patients who were not responded.
4. Patients who are unable to give written informed consent.

We conducted a door to door survey and collected the information at Navajeevan old age home, missionaries of charity and community homes. After informing about the purpose of the study, patient informed consent was obtained by direct patient interview.

A specially designed proforma was used for collecting data which includes patient demographics, past medical history, family and surgical history, co-morbidities, diagnosis and present medications prescribed for each patient and a questionnaire was prepared, and

used to collect the information regarding economic status, food habits, social habits, alternative therapies, over the counter medications, awareness of home medication review.

RESULTS AND DISCUSSION

A total of 150 subjects were included in the study, among them 60(40%) were males and 90(60%) were females as shown in [Table1]. The most prevalent age group observed was 60-69 years with 73(48.6%) patients followed by 70-79 years with 60(40%) patients, 80-89 years with 15(10%) patients and the less prevalent age group was 90-99 years with only 2(1.4%) patients were tabulated in [Table2]. We observed patients with social habits both alcoholics and smokers were 24(58.5%) patients followed by alcoholics 13(31.7%) patients and smokers 4(9.8%) patients were tabulated in[Table3]. Our study shows that economically 95(63.3%) dependent and 55 (36.3%) are pension receiving were tabulated in [Table4]. We observed patients with different food habits like mixed diet and vegetarians were 122(81.3%) and 28(18.7%) respectively as shown in [Table5]. Our study results states that patients with both hypertension and diabetes were 42(28%) and asthma, congenital heart disease were 1(0.7%) as shown in [Table6]. We observed patients using vitamins and minerals (21.88%), Ant diabetics (18.98%) Antihypertensive (16.95) with higher frequency were tabulated in [Table7]. We observed meditation was most used alternative therapy by females 13(30.23%) and males 8(18.60%) followed by physiotherapy by males 7(16.27%), females 3(6.97%) were tabulated in [Table8]. Over the counter drugs were mostly used by 63(42%) females followed by 48(32%) males as shown in [Table9]. Among 150 subjects no one is aware of HMR and they are willing to accept HMR if it is recommended by their physician as shown in [Table10]. A total of 150 patients were participated in this study. Out of 150 prescriptions total number of drugs observed was 690. Average number of drugs per prescription was 4.6. Demographic results revealed that 60-69 year age group (48.6%) patients were more which is similar to Lourd Jafrin et al 2013 study. In our study results female patients (60%) were higher than male patients (40%) this can be explained due to the fact that female patients are more concerned to know about drugs, their indications and any drug therapy problems from pharmacists which are similar to Pandey Awanish et al 2009 study results where female predominance is more (51%).

Coming to social habits among 60 male patients 58.5% were having both habits of smoking and alcohol consumption which is opposed to the study results of Preeti Kothiyal et al 2012 where study results viewed that only alcoholics were (70%).

In the present study economic dependent patients were more (63.3%) than the patients who are economic independent (36.7%). The female patients were more economic dependent (46.8%) than the male patients (16.6%) this may be due to continuous physical work they do, as their age advances they tend to have more health problems than male patients. In case of alternative therapies female patients preferred more of meditation (30.25%) and ayurveda (16.27%) than male patients where as male population gave more preference to physiotherapy(16.2%) and yoga(4.6%) which is similar to study results of Preeti Kothiyal et al 2012 where the study results viewed that male patients preferred more yoga and physiotherapy.

In our study we found that over the counter medication administration is more by the female patients (43%) than males (32%) this may be due to lack of time, high consultation fees, quick relief and also due to lack of knowledge regarding adverse drug reactions, drug interactions which is similar to the study conducted by Pandey Awanish et al 2009.

The most prevailing disease found in the elderly were hypertension with diabetes, hypertension, diabetes followed by stroke. Females were found to have more incidence of diabetes (8.6%) than males (5.3%) this may be attributed to their higher intake of tea and coffee which is supported by results of Preeti Kothiyal et al 2012. Males were found to be more at risk of developing stroke (8.6%) than women probably because of their social habits. The women were found to be more at risk of developing hypertension with diabetes (16.6%) and hypertension (8.6%) than men probably because in our societal set up women are neglected a lot. Also they take less care of themselves, does not find it important to visit their physician on time.

The most commonly used drugs by elderly were Vitamin supplements (21.88%) followed by Anti diabetics (18.98%) and Anti hypertensive's (16.95%) which is similar to the study results of Yogesh Joshi et al 2011 where their results constitute more anti hypertensive's (30.92%) and anti diabetics (21.93%) and the same study opposes the usage of vitamin supplements taken as self medication (4%). Majority of the older adults take daily vitamins and other supplements but only a fraction actually needed by them. They can improve their diet to get needed nutrients. But it is not always possible especially for older adults who may have obstacles such as reduced appetite. The majorly observed vitamin supplements in elderly were B complex (45.7%), Calcium (31.2%) followed by Vitamin C (12%). Amlodipine (47.86) and Enalapril (22.2%) were majorly observed Anti Hypertensive.

Metformin (51.5) and Glimipride (26%) were majorly observed Anti Diabetics.

In our study we found that there were no awareness regarding Home medication review services and its implication. However, it was found that 60% of females and 40% of males were interested to take this facility if it was suggested to them by their general practitioner. In a growing population of elderly patients, there is an increasing need for primary care providers to efficiently and effectively assess countless medications for fall risk, major drug interactions, duplicate therapy, and other adverse polypharmacy events.

The HMR has emerged as a vital tool of pharmacist to provide pharmaceutical care to the patient. It increases rational use of medicines and also improves patient health care out comes. HMR is not at been implemented in India, but effort can be done bring up HMR in India. It can be done when pharmaceutical industry appoints pharmacists as HMR specialist or government of India can implement rules or guidelines for developing HMR in India.

Table 1: Gender Wise Distribution.

S. No	Gender	No. of Patients	Percentage (%)
1	Males	60	40
2	Females	90	60
3	Total	150	100

Table 2: Age Wise Distribution.

S. No	Age (in YRS)	No. of Patients	Percentage (%)
1	60-69	73	48.6
2	70-79	60	40
3	80-89	15	10
4	90-99	2	1.4
5	Total	150	100

Table 3: Social Habits.

S. No	Social Habits	No. of Patients	Percentage (%)
1	Alcoholics and smokers	24	58.5
2	Alcoholics	13	31.7
3	Smokers	4	9.8
4	Total	41	100

Table 4: Economic Status.

S. No	Economic Status	No. of Patients	Percentage (%)
1	Pension	55	36.7
2	Dependent	95	63.3
3	Total	150	100

Table 5: Food Habits.

S. No	Food Habits	No. of Patients	Percentage (%)
1	Vegetarians	28	18.7
2	Mixed diet	122	81.3
3	Total	150	100

Table 6: Disease Patern.

S. No	Diseases	No. of Patients	Percentage (%)
1	Hypertension and diabetes	42	28
2	Hypertension with co-morbidities	26	17
3	Diabetes	21	14
4	Hypertension	21	14
5	Stroke	13	8.6
6	Psychosis	10	6.8
7	Diabetes with co-morbidities	05	3.4
8	Chronic kidney disease	5	3.4
9	COPD	3	2
10	Acute kidney injury	2	1.4
11	Asthma	1	0.7
12	Congenital heart disease	1	0.7
13	Total	150	100

Table 7: Drug Category.

S. No	Drug Category	Total no of Drugs	Percentage
1	Vitamin supplements	151	21.88
2	Anti Diabetics	131	18.98
3	Anti Hypertensive	117	16.95
4	Proton pump inhibitors	60	8.69
5	Anti platelets	51	7.39
6	Anti psychotics	44	6.37
7	Anti Hyperlipidemics	39	5.65
8	Others	29	4.20
9	Diuretics	25	3.62
10	Bronchodilators	24	3.40
11	Antibiotics	10	1.44
12	H 2 receptor blockers	6	0.86
13	Glucocorticoids	3	0.43
14	Total	690	100

Table 8: Alternative Therapy Used By The Patients.

S. No	Alternative Therapy	Males	Females
1.	Meditation	8(18.6%)	13(30.23%)
2.	Physiotherapy	7(16.27%)	3(6.97%)
3.	Ayurveda	2(4.65%)	7(16.27%)
4.	Yoga	2(4.65%)	1(2.32%)
5.	Homeopathy	1(2.32%)	0
6.	Total	20(45.45%)	24(54.55%)

Table 9: Over the Counter Drugs.

S. No	Over The Counter Drugs	Males	Females
1.	Yes	48(32%)	63(42%)
2.	No	12(8%)	27(18%)
3.	Total	60(40%)	90(60%)

Table 10: Home Medication Review – Awareness.

S. no	Home Medication Review	Yes	No
1	Awareness	0	150
2	Acceptance	150	0
3	**Total**	**150**	**150**

CONCLUSION

Our study concludes that patients were unaware of the Home Medication Review services and yet the majority would be very willing to accept the program. The study also suggests that elderly patient education through Home Medication Review can significantly get better patient knowledge. HMR can also lessen medication related problems in elderly. HMR services can therefore be an advantage to them. So people should be showing interest to this concept so as to increase awareness levels and apply it for their health upliftment. HMR greatly reduces the load of tertiary care services for the elderly, which in India are sadly lacking. “We cannot heal the old age, but let us protect it, promote it and prolong it”

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