

HOME MEDICATION REVIEW- ITS STATUS AND AWARENESS AMONG GERIATRIC POPULATION OF DEHRADUN

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ABSTRACT

A Home Medication Review (HMR) is a collaborative service involving the general practitioner, pharmacist and the patient. The purpose of HMR is to maximize the patient's benefit from their medication regimen and to minimize or prevent medication-related problems using a team approach. HMR service is considered to be potentially useful to elderly population as a regular medication review is recommended for those over 60 and on multiple drug therapy. With old age, there are changes in both pharmacokinetics and pharmacodynamics. So the elderly becomes more prone to variety of diseases. They are therefore, prescribed multiple medicines which results in frequent cases of adverse drug reactions. This occurs because of the inappropriate prescribing practice. This study was therefore, conducted to evaluate the status and awareness of Home Medication Review services among the geriatric population. A well structured questionnaire was prepared and face to face interview was conducted. Study conducted on elderly patients revealed that inappropriate drug prescriptions for elderly are common in general practice and the subjects were also found to be unaware of the HMR service. However, a number of people were interested to take this facility if it was suggested to them by their general practitioner or physician.

Keywords: Home medication Review, General Practitioner, Pharmacist, Patient

INTRODUCTION

HMR (Home Medication review): HMR services were introduced by the Australian Federal Government in an attempt to reduce unnecessary drug-induced hospital admissions.¹ The HMR service is provided jointly by doctors and pharmacists for people who are prescribed medications; it is aimed at patient's living at home in the community. The purpose of HMR is to maximize the patient's benefit from their medication regimen and to minimize or prevent medication-related problems using a team approach.² A Home Medication Review (HMR) is a collaborative service involving the general practitioner, pharmacist and the patient. The need for a HMR is identified by a member of the health care team or the patient or carer. HMRs are available to any patient who requires a comprehensive review of all their medications at home, by an accredited pharmacist based on a referral from their usual general practitioner. The general practitioner assesses the patient's clinical need for a HMR in consultation and initiates a service asking the patient to nominate their preferred community pharmacy (preferred community pharmacy means that the patient identifies the pharmacy they would like to take their referral). While this is different to most other referral processes where it is the general practitioner who identifies an appropriate health professional, the involvement of the patient's choice of community pharmacy is a vital component in the HMR service model for reasons including the access to pharmacy dispensing information and follow up by the consumer's preferred pharmacy. This means that the referral must be to a community pharmacy, not an individual pharmacist. The HMR assists the patient in managing their medicines at home. A HMR complements the general practitioners medicines review. It is available yearly to patients living at home in the community or more frequently if there is a significant change in condition. The goal is to maximize an individual's benefit from their medication regimen. It requires a team approach involving the patient's usual general practitioner and the patient's preferred community pharmacy. The patient is the central focus.³

Ageing is a process of gradual and spontaneous change resulting in maturation through childhood, puberty and young adulthood and then decline through middle and late age. The regeneration capacity of cells and other processes due to growth and maturation is lost over time, ultimately leading to an incompatibility with life.

The branch of medicine concerned with care and treatment of elderly is called geriatric. Although there is no certain age, 60 years and above is usually accepted as the beginning of old age.

With advanced age there is an increase in multiple disease states, with a consequent increase in the number of medicines taken. The elderly suffers from a variety of problems like hypertension, diabetes mellitus, cataract, depression, osteoporosis, osteoarthritis, urinary incontinence, dementia, constipation, etc. and their changes demands a different set of medication regimen, dosage and dosage forms.

HMR service is therefore, considered to be potentially useful to elderly population as a regular medication review is recommended for those over 60 and on multiple drug therapy. It helps recommend patients about the important changes in their medicines that are implemented by their doctors and are acceptable to them, reducing the number and cost of medicines without significant increase in the use of services or mortality.

HMR in elderly patients:

Statistics reveals that globally, there is an estimated 605 million older people worldwide. India, a sub-continent that carries 15 per cent of the world's population, is gradually undergoing a demographic change as a result of many factors including specific development programs. With decline in fertility and mortality rates accompanied by an improvement in child survival and increased life expectancy, a significant feature of demographic change is the progressive increase in the number of elderly persons. In 1951, the sixty plus population was around 21 million. Three decades later in 1981, it was a little over 43 million, a further decade later in 1991, this had increased to 54.7 million and it was projected to be nearly 76 million (medium projections) in 2001.⁴ In urban areas, 64% elderly women and 46% elderly men are fully dependent for food, clothing and healthcare on others. About 10% do not have anyone to take care of them. The numbers of elderly, ill and in need of care are over 27 million. The population of older people requiring support from adults of working age will increase from 10.5% in 1955 and 12.3% in 1995 to 17.2% in 2025.^{4,5}

The challenge in this 21st century is to delay the onset of disability and ensure optimal quality of life for older people.

Home medication review of the elderly is a step in this direction. As people get older, their use of medicines tends to increase. In England, 21% of the population is over 60 years old, yet they receive 56% of prescriptions dispensed.^{6,7} Elderly people appear to be a group particularly at risk for medical errors. A medical error is defined as the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim. Errors do not always result in medical injury. Errors that result in medical injury to the patient are sometimes called preventable adverse events. An adverse event is defined as an injury caused by medical management rather than by the underlying disease or condition of the patient. The National Service Framework (NSF, London) for older people recommends medication review to reduce medicine-related problems encountered by the elderly.⁸

Elderly patients are particularly vulnerable and most at risk of suffering adverse drug reactions, which are often caused by inappropriate prescribing practice and also because of the commonly encountered polypharmacy, the prescribing of multiple medications in older people. They take multiple medicines with an increased risk of adverse drug events. Their dependency and frequent cognitive impairment undermine their capacity to report symptoms. They therefore need regular review and adjustment of treatment. A pharmacist led medication review is found having the capacity to identify and resolve pharmaceutical care issues, use of health and social services and health-related quality of life. However some of the previous studies have shown that only a minority of patients living at home have their medicines reviewed by their general practitioners (GP).^{9,10}

Polypharmacy is common in older population because they tend to have more illness for which medications are prescribed. It causes significant morbidity and mortality in the aged and is a major cause of hospital admission. The incidence of ADRs and drug-drug interactions increases exponentially with age and the number of drugs taken.^{11,12,13}

Medication review has been identified as an important tool for the management of polypharmacy in older people.¹⁴ A comprehensive medication review integrates a number of specific actions, included obtaining an accurate medication history, examination of the purpose and actual use of medications, shared GP-patient confirmation, reinforcement of expected outcomes and follow up as required.¹² HMRs offer a service to consumers to assist them to manage their medications safely. It includes the number of medications taken daily and weekly, whether multiple doses are taken, and recent change in the medical condition or medications of the respondent. It is thus, considered to be beneficial for our home-dwelling elderly population who finds it difficult to visit their doctors on time to time basis. In a HMR service, the pharmacist visit the patient's home (but venue is ultimately the patient's choice) and monitor their medication(s) and disease(s).

The drug therapies in the elderly are mainly aimed to avoid unnecessary medications, improve the quality of life and not just to prolong life, choose the right drug and dosage form, avoid ADRs, regular supervision and review of treatment.

OBJECTIVES

The main objectives of the present study were:

1. To ascertain the status and level of awareness of HMR services in Dehradun.
2. To study the demographic pattern in geriatrics.
3. To find the common disease pattern in geriatrics.
4. To study the alternative drug use in geriatrics.
5. To find the incidence of polypharmacy & adverse drug reactions (ADRs) in geriatrics.

METHODOLOGY

A well structured questionnaire was prepared and divided into three sections. The first section included the general information

of the subjects. Second section consisted of food habits of the subjects while the last section comprised of information about the disease & medication of the subjects. Awareness and status of Home Medication Review services was also evaluated through the survey.

A total of 100 subjects (60 years & older) participated in the study. The subjects were informed about the study. A face to face interview was conducted on random subjects from different parts of Dehradun city.

Inclusion criteria

- Subjects above 60 years of age
- Subjects of either sex

Exclusion criteria

- Terminally ill patients were excluded from the study

RESULTS AND DISCUSSION

The gender split of subjects was 48 males and 52 females. The survey recorded the demographic, lifestyle and medication pattern of the subjects.

The study revealed that there were 48% males and 52% females forming the study sample (Table 1, figure 1). Of the 48% male subjects, 42% were married as compared to the 33% married geriatric female subjects out of a total female population size of 52%. Surprisingly, 18% of the female subjects were economically dependent inspite of the fact that they were leading in the percentage of economic independence (34%) than the males (32%).

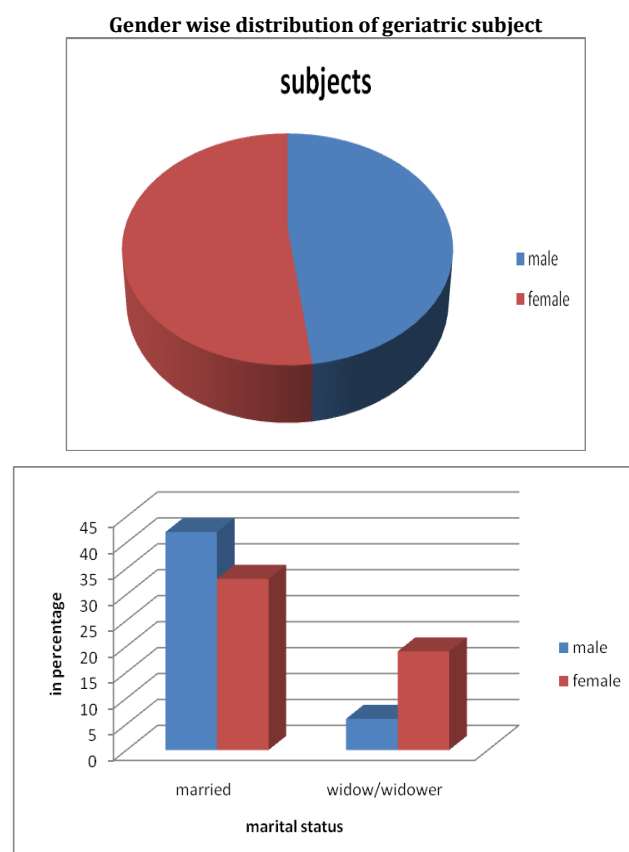


Figure 1 : Marital status in geriatrics

Females were found to be having more healthy food habits with higher fruit (36%), leafy vegetable (30%) consumption and less of fried/junk food (5%) intake in their diet than the males (Table 2, figure 2). However, they were also the ones who preferred taking more of tea/coffee (49%) than compared to the male population. 7% of males had the habit of smoking,

19% of them were alcoholics and 6% of them had both the habits.

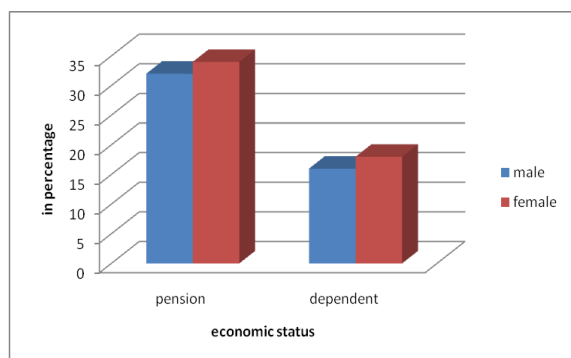


Figure 2: Economic status in geriatrics

The most prevailing diseases found in the elderly were hypertension, joint and back pain, arthritis, diabetes and spondylitis (Table 3, figure 3). The women were found to be more at risk of developing arthritis (9%), diabetes (7%), joint and back pain (11%) than men probably because in our societal set up women are the neglected lot. Because of the continuous physical work they do, as their age advances they tend to have more problems of back pain and joint pain. Also they take less care of themselves, does not find it important to visit their physician on time or take any medication for their diseased condition. However, occurrence of diabetes may be attributed to their higher intake of tea and coffee. Males were found to have more incidences of hypertension (10%) and spondylitis (5%). This may be attributed to their stressful lifestyle during younger days and higher intake of fried/junk food coupled with less consumption of fruits and leafy vegetables. Smoking and alcoholism can further contribute to this.

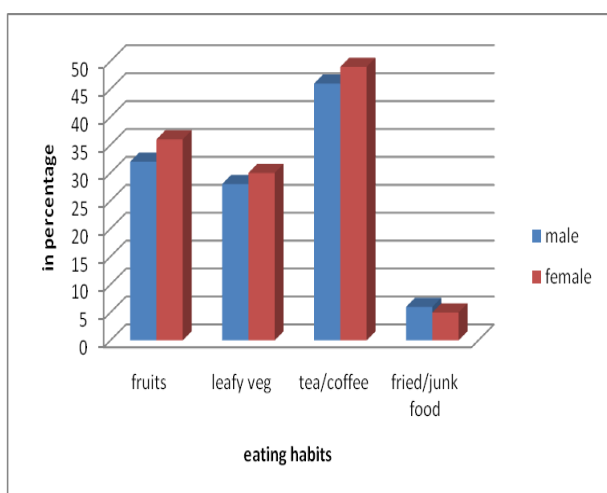


Figure 3: Eating habits of geriatrics

In case of alternative therapies (Table 4, figure 4), females preferred more of dietary restriction and alteration (38%) and home remedies (48%) for the control of a disease or deficiency whereas male population gave more preference to exercising, yoga, walk (26%) and physiotherapy (3%). In drug therapy patterns, the female population was found to be more on multiple drug therapy (12%) than the male population (6%). This is because of their ignorance of health, regular checkups, monitoring of disease and medications and also, because of their less knowledge about the diseases and medications. Males were however, found to be leading in mono drug therapy regimens (14%) than the females (9%) which is because of their more knowledge about the disease and medications. The multiple drug therapy regimens in females have contributed to more incidences of adverse drug and drug-food reactions (9%) in them than their male counterparts who were found to be

having only 5% adverse drug and drug-food reactions occurrence. The most commonly used drugs were analgesics (26% in males and 13% in females), multivitamins (20% in males and 17% in females), antihypertensive (10% in males and 9% in females), immunosuppressant (5% in males and 9% in females) and oral hypoglycemic (5% in males and 7% in females).

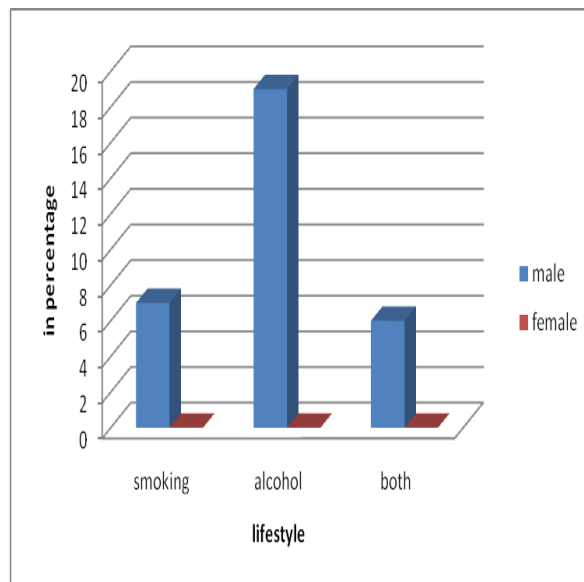


Figure 4: Lifestyle patterns of geriatrics

The subjects were found to be less health conscious as only 13% of males & 15% of females visit their physician for regular health checkups, monitoring of disease & medications & about 28% of males & females visit clinics only when suffering from a disease or deficiency (Table 5, figure 5). This appears to be one of the major causes of increased polypharmacy incidences in elderly patients which thereby increase the risk of adverse effects in them.

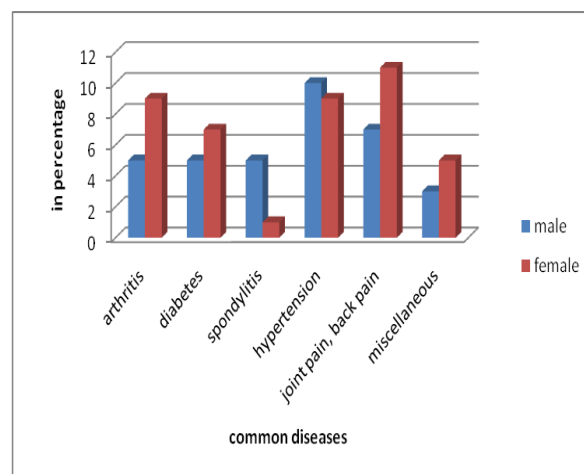


Figure 5: Common diseases pattern in geriatrics

None of the subjects were found to be aware of the concept of Home Medication Review services and its implication (Table 6, figure 6). However, it was found that 48% of males & 52% of females were keen to take this facility if it was suggested to them by their general practitioner or physician. This may be attributed to the sorry state of clinical pharmacy/community pharmacy services in India and the perceived role of a pharmacist in the health care set up. However, there does exist a silver line.

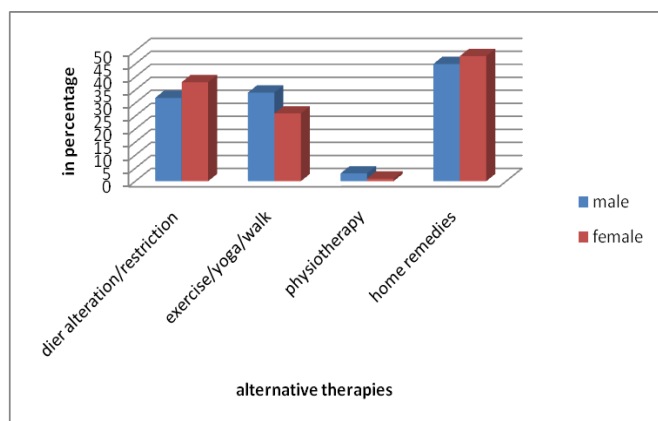


Figure 6: Alternative therapies used by geriatric subjects

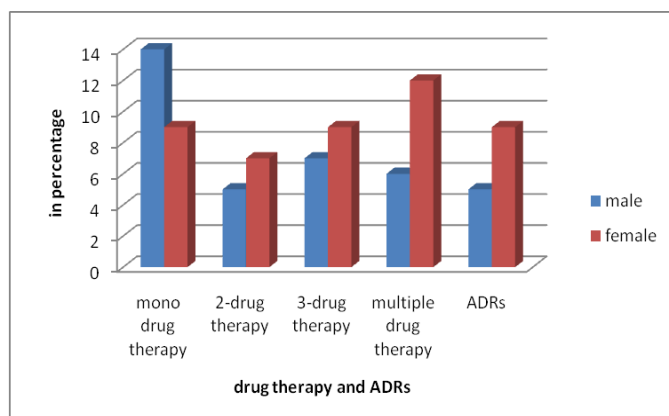


Figure 7: Drug therapy regimens in geriatric subjects

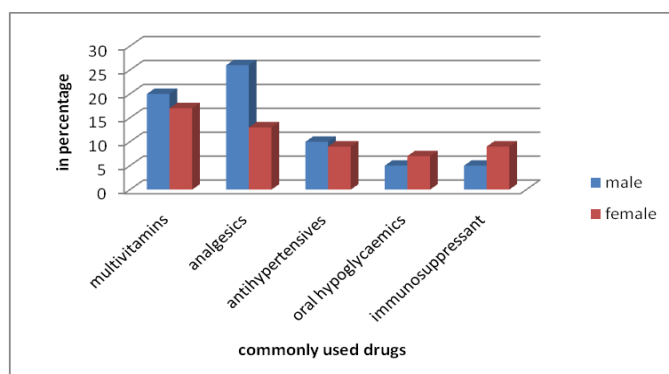


Figure 8: Commonly used drugs by geriatric subjects

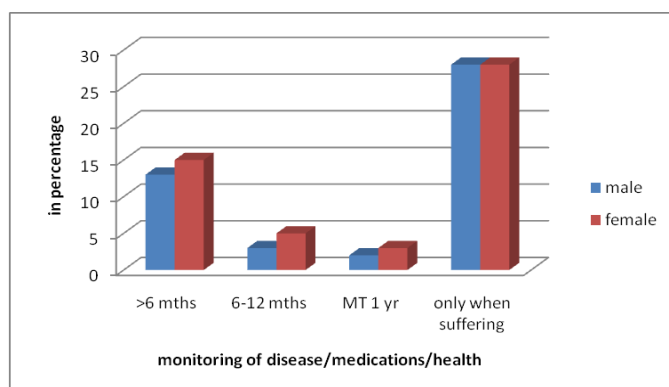


Figure 9: Monitoring of disease, medication, and health conditions in geriatric subjects

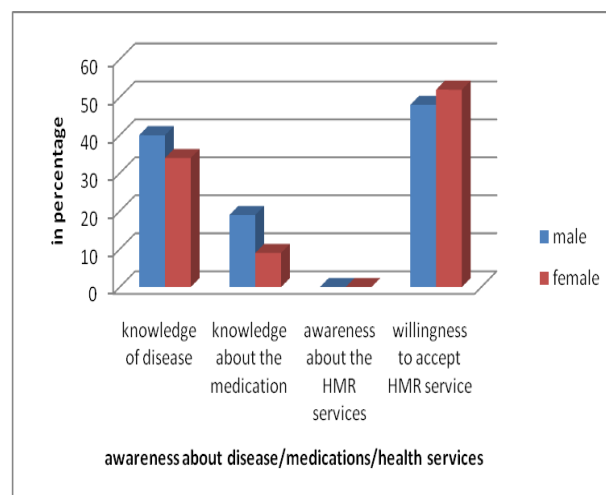


Figure 10: Awareness about disease, medication and health services in geriatric population

CONCLUSION

Our study clearly showed that the subjects were largely unaware of the HMR service and yet the majority would be very accepting of the program. This can be attributed to the sorry state of clinical pharmacy/community pharmacy services in India and the perceived role of a pharmacist in the health care set up.

The survey also gathered demographic and medication-usage data with the intention of correlating this information with awareness and acceptance of HMR. The females were found to be having more healthy eating habits and lifestyle patterns than the males. The most common diseases found prevailing in geriatrics were arthritis, joint and back pain, diabetes, spondylitis and hypertension. The most commonly used drugs were analgesics, multivitamins, antihypertensive, immunosuppressant and oral hypoglycemic. Polypharmacy was seen most in case of women's and hence, more incidences of ADRs and drug-food interaction were found amongst them. This is because of their ignorance of health, regular checkups, monitoring of disease and medications and also, because of their less knowledge about the diseases and medications. The mostly used alternative therapies were the home remedies, diet alteration and restriction, exercising, yoga, walk and physiotherapy. The subjects were also found to be less health conscious.

The study has shown that the elderly patients are most at risk of developing adverse drug reactions. HMR services can therefore be a boon to them. So people should be exposed to this concept so as to increase awareness levels and apply it for their health upliftment.

Further studies can be carried out on a larger subject population so as to give an overview of the health related issues & to adopt suitable measures to uplift the health of the masses.

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