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Community Medicine

PATTERN OF MEDICATION ADHERENCE AMONG ELDERLY SUFFERING FROM CHRONIC DISEASES: A CLINIC BASED STUDY IN RURAL WEST BENGAL

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ABSTRACT

BACKGROUND -Noncompliance to treatment remains a major hindrance to chronic disease control among elderly making them vulnerable to complications and poor quality of life.

OBJECTIVES- This study was conducted to assess the treatment compliance and its covariates among the rural elderly.

METHODS-This clinic based cross-sectional study was conducted among 129 patients aged 60 years and above suffering from chronic diseases attending Nasibpur Primary Health Centre at Singur, West Bengal during August-September 2017.Data were obtained with a pre-designed, pre-tested, structured schedule containing questions regarding socio-demographic characteristics, disease profile Medication adherence was measured taking last 7days recall. Descriptive statistics and logistic regression taking medication non-adherence as dependent variable were performed to analyze the data by using SPSS 16 version.

RESULTS- The mean (standard deviation) age of the study subjects was 65.2 (± 5.6) years. Majority of them suffered from hypertension (57.4%), diabetes (27.1%) and both (15.5). About 46.5% elderly had not taken medicines regularly as per prescribed regimen (reasons cited: 30.9% complained about inadequate medicine supply, 7.8% about the distance of hospital from their house for not procuring medicines, and 7.8% forgot to take medicines). Lower level of education [AOR=3.3(1.4,7.4)], economic dependency [AOR=4.2(1.8,9.8)] and poor perceived health status [AOR=2.3(1.1,5.2)] were significantly associated with medication non-adherence when adjusted for other variables (age, gender, living arrangement, socio-economic status and frequency of health centre visit)

CONCLUSION- Financial security, knowledge about benefits of compliance to therapy through health education and family support will improve health and quality of life of elderly people and can enhance their productive longevity.

KEYWORDS : medication adherence, elderly, chronic disease

INTRODUCTION

Medication non-adherence remains a major hindrance to chronic disease control among elderly making them vulnerable to complications and poor quality of life. According to International Society for Pharmacoeconomics and Outcome Research, Medication compliance (also adherence) is defined as the "extent to which a patient acts in accordance with the prescribed interval and dose of a dosing regimen." In general only 50% of general population has been estimated to adhere to their medications, and this may range from 47 to 100% in elderly[1], multiple co-morbidities among elderly and polypharmacy, increase the risk of non-adherence to medications compared to the younger population.[2] Poor compliance among older persons accounts for adverse outcomes, wastage of medicine with increased cost of healthcare, and substantial worsening of the disease with increased disability or death.[3] with this background this study was conducted to find out the extent of medication adherence among rural elderly and factors associated with it.

METHOD

This was a cross-sectional, clinic based descriptive study on 129 elderly patients ≥60 years of age (study population) conducted from July 2017 to August 2017 in the areas under the jurisdiction of Nasibpur Primary Health Centre, Singur, West Bengal, India, the rural field practice area of All India Institute of Hygiene and Public Health, Kolkata.

Inclusion criteria: Elderly patients having >=60 years of age.

Exclusion criteria: Who not given informed written consent.

SAMPLE SIZE:

To estimate the proportion of non-adherence, the sample size was calculated based on an expected prevalence of 52.5% with 5% of precision, a 95% confidence interval, and a design effect of 2, which corresponded to a total of 766 participants. It was estimated that 15% of that population was of older adults, i.e., 129 individuals who reported being ≥ 60 years old.[4]

Sampling procedure- Systematic random sampling

STUDY TOOLS

Data was collected by interviewing each respondent after getting written consent with the help of structured pre-designed pre-tested schedule which had questions regarding socio-demographic characteristics, disease profile and medication adherence behaviour. The schedule was designed keeping in mind the objectives of the study. To ascertain reliability, objectivity, simplicity and to remove any ambiguity, necessary modifications were done by a group of experts of the institute where necessary corrections were made to enhance the face validity and content validity. The schedule was then translated to Bengali. Also utmost care was taken to make the language as simple as possible so that the respondents, even if illiterate, could understand the questions easily. Pretesting of the schedule was done by administering the questions to a small number of representative sample. Necessary modifications were made following their response. Ethical clearance was obtained from the Institutional Ethics Committee.

OUTCOME VARIABLE

Medication adherence SPSS version 16.0 (IBM, USA) was used for statistical analysis. Descriptive statistics, univariate and multivariable logistic regression analysis were performed to identify those factors associated with medication non-adherence, with a confidence interval of 95%, P value < 0.05.

RESULTS

Among the 129 participants, 46.5% elderly had not taken medicines regularly as per prescribed regimen (reasons cited: 30.9% complained about inadequate medicine supply, 7.8% about the distance of hospital from their house for not procuring medicines, and 7.8% forgot to take medicines).

The mean age of the participants was 65.2 ±5.6 years. 55.8% were

females, 65.1% were currently married, 80.6% reside in joint family, 55% were illiterate. Most of the study population belonged to class IV (46.4%) according to modified BG Prasad Scale 2016, mean PCI was Rs- 1174, and 56.6% of participants were economically dependent upon others. 46.5% had perceived good health. Majority (72.8%) of them had hypertension and 30.2% had diabetes. 71.4% participants suffered from more than one illness.

Table 1: Distribution Of Study Population According To Morbidity Pattern [n=129]

Disease#	No(%)
Hypertension	94(72.8)
Diabetes mellitus	39(30.2)
Arthritis	45(34.8)
Cough and cold	23(17.8)
Fever	28(21.7)
Body ache	20(15.5)
Thyroid disfunction	1(0.8)
Asthma	4(3.1)
Minor cut injury	9(7)
Acid Peptic Disorder	7(5.4)
Aphthous ulcer mouth	4(3.1)
Skin allergy	3(2.3)
Vertigo	2(1.6)
UTI	2(1.6)
Earache	3(2.3)
Loose motion	2(1.6)
Toothache	1(0.8)

Multiple responses

Table 2: Factors Associated With Medication Adherence For Chronic Diseases Among Study Participants [n=129]

Co-variates	Total number	Irregular medication No.(%)	OR(CI)	AOR(CI)
Age (year)				
>=70	25	14(56)	1.6(0.6,3.8)	-
60-69	104	46(44.2)	1	
Gender				
Female	72	41(56.9)	1.6(0.6,3.8)	-
Male	57	19(33.3)	1	
Education				
Illiterate	71	44(62)	**3.7(1.7,7.7)***	**3.5(1.4,7.4)***
Literate	58	16(27.6)	**1**	
Living with				
Other living options	45	24(53.3)	1.7(0.8,3.6)	-
Spouse and children	84	36(42.9)	1	
Socioeconomic status				
Class IV &V	110	56(50.9)	**3.8(1.2,12.4)***	1.5(0.4,5.9)
Class II & III	19	4(21.1)	**1**	
Economical dependency				
Dependent	73	43(58.9)	**5.1(2.3,11)***	**4.2(1.8,9.8)***
Not dependent	56	17(30.4)	**1**	
Visit health centre				
Monthly or less	59	33(55.9)	1.7(0.8,3.5)	-
2 times in a month	70	27(38.6)	1	
Perceived health				
Not good	69	41(59.4)	**2.7(1.3,5.6)***	**2.3(1.1,5.2)***
good	60	19(31.7)	**1**	

For the multivariable model, the Hosmer–Lemeshow was non-significant, Nagelkerke R2=0.312 *significant at the level of <0.05

DISCUSSION

The level of adherence observed in this study was 53.5%. Almost similar observation found by Shruti R et all, Bangalore, 2013.5 Lower level of education [AOR=3.5(1.4,7.4)], economic dependency [AOR=4.2(1.8,9.8)] and poor perceived health status [AOR=2.3(1,5.2)] were significantly associated with medication non-adherence when adjusted with other variables in multivariable regression analysis. Other studies have also shown a positive correlation between educational status and compliance level.4,5,6 In this study about 46.5% elderly had not taken medicines regularly as per prescribed regimen , reasons cited: 30.9% complained about inadequate medicine supply, 7.8% about the distance of hospital from their house for not procuring medicines, and 7.8% forgot to take medicines similar observation also found by Roy et al, Maharashtra, India.7 Compliance of treatment in elderly with both hypertension and diabetes in relation to the genders was found to be nonsignificant, similar finding also observed by Singh P et all, Himachal Pradesh, India. 8

CONCLUSION

To conclude 53.5% elderly patients had regular medication adherence and higher education, economic independency and good perceived health status were significant predictors. Financial security, knowledge about benefits of compliance to therapy through health education and family support will be able to improve health of elderly people and can enhance their productive longevity. Importance of medication adherence should be an integral part of disease control programme through high quality BCC at individual and mass level. The community must assist the aged to fight the triple evils of poverty, loneliness and ill-health.Future research should be conducted with the help of community based studies to increase generalizability

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