



Research Article

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Gender difference in medication adherence among hypertensive patients in Odisha

Mrs Sarika ML¹

¹ Tutor, SUM Nursing College, Siksha O Anusandhan Deemed to be University, Bhubaneswar, Odisha, India

Abstract

Introduction: Around 1.13 billion population and among them one in four men and one in five women are affected with this worldwide. In India, 20.6% of males and 20.9% of females were having hypertension. Orissa showed that 32% of men and 42% of women are affected with hypertension. **Methodology:** This descriptive comparative study focused on the gender based difference on the medication adherence among the hypertensive patients. A Self-structured questionnaire was used to collect the socio demographic profile and the Morisky Medication Adherence Scale used to collect the adherence to the patients. The sample size of this study was 93 females and 118 males selected from simple random sampling technique **Results:** Among the participants majority of the participants from the both group were 40-60 years of age. The most of the male participants had a medium level of medication adherence (83%) and females had a low medication adherence level (34%) when comparing between the two genders. There is no significant difference (0.479) between the male and female medication adherence score. The study results showed that the female participants education and exercise status with the medication adherence had a significant association. **Conclusion:** The present study revealed that there is no gender based difference on the adherence of medication among the patients with high blood pressure. When considering the regular medication practice the males are better than the females

Keywords: Gender, Hypertension, Adherence, Medication.

INTRODUCTION

Increased blood pressure is one of the reason for the occurrence of the non- communicable diseases in the world. It was calculated as around 1.13 billion population and among them one in four men and one in five women are affected with this world wide especially in the developing countries. Based on this statistical figure WHO (World Health Organization) started a HEARTS (Healthy-lifestyle counselling, Evidence-based treatment protocols, Access to essential medicines and technology, Team-based care, and Systems for monitoring) technical package among 15 countries including India [1].

Considering the global hypertension status in India, 20.6% of males and 20.9% of females were having hypertension. In India the urban population (25%) have more prevalence than rural (10%) [2]. The heart related conditions contributing a 31% of the global mortality [3]. In the state Orissa showed that 32% of men and 42% of women are affected with hypertension [4]. There is only few articles are there to show the hypertensive medication adherence level of patients and no study showing the gender difference on the medication adherence.

The management of the high blood pressure is very crucial in India as well as in the Orissa state. When considering the management aspect along with the life style changes the proper medication habit also very essential. A tailored patient approach including patient education and awareness programme for the medication habit may help to reduce the further related complications. Gender based difference among the hypertensive patients on the medication adherence may help the health workers to plan a tailored approach for the improvement of their health [5].

METHODOLOGY

This was a descriptive comparative study. The study focused on the gender based difference on the medication adherence among the hypertensive patients. The sample size of this study was 93 females and 118 males selected from simple random sampling technique from the IMS SUM Hospital Bhubaneswar. A Self-structured questionnaire was used to collect the socio demographic profile and the Morisky Medication Adherence used to collect the adherence to the patients. The medication adherence questionnaire is a rating scale scored as Low adherence with less than or equal to 6 out of 8, Medium adherence between 6 to 8 and a High adherence at 8. The personal profile of the patient include age, gender, income, body mass index, occupation and exercise pattern. The statistical analysis was done by SPSS version 20. The descriptive statistics was analyzed by mean standard deviation and frequency distribution. The gender difference was assessed by independent t test, and the association between the

*Corresponding author:

Mrs Sarika ML

Tutor, SUM Nursing College,
Siksha O Anusandhan Deemed
to be University, Bhubaneswar,
Odisha, India

Email: sarikaml[at]soa.ac.in

selected socio-demographic variables and adherence on medication among the high blood pressure patients by chi square test.

RESULTS

The present study had 93 females and 118 males. Among the participants majority of the participants from the both group were from the age group of 40-60 years. The table no 1 shows the detailed socio demographic profile.

Table 1: Gender based Socio demographic variables of the hypertensive patients among selected hospital, Khurdha.

Socio demographic variables			Frequency (N)	Percentage (%)
Gender	Category			
Female	Age	20 years-40 years	20	21.5
		40 years -60 years	45	48.4
		60 years -80 years	28	30.1
Male	Age	20 years-40 years	16	13.6
		40 years -60 years	48	40.7
		60 years -80 years	54	45.8
Female	Education status	Primary	11	11.8
		Matriculation	10	10.8
		Higher secondary	31	33.3
		Graduation	40	43.0
		Post Certificate	1	1.1
Male	Education status	Primary	52	44.1
		Matriculation	19	16.1
		Higher secondary	28	23.7
		Graduation	16	13.6
		Post Graduation	1	.8
Female	Marital status	Married	87	93.5
		Unmarried	6	6.5
Male	Marital status	Married	112	94.9
		Unmarried	6	5.1
Female	Income per month	Below 25000 Rupees Per Month	76	81.7
		25000 Rupees-50000 Rupees	15	16.1
		>50000 Rupees	2	2.2
Male	Income per month	Below 25000 Rupees Per Month	78	66.1
		25000 Rupees-50000 Rupees	28	23.7
		>50000 Rupees	12	10.2
Female	BMI	Under weight	52	55.9
		Normal BMI	36	38.7
		Over weight	5	5.4
Male	BMI	Under weight	70	59.3
		Normal BMI	39	33.1
		Over weight	9	7.6
Female	Exercise	Yes	62	66.7
		No	31	33.3
Male	Exercise	Yes	64	54.2
		No	54	45.8

Gender based Level of adherence to medication among high blood pressure patients

The level of adherence among the hypertensive patients were collected by Morisky Medication Adherence Scale-8. This scale had total 8 questions. After the question wise analysis table 2 shows the medication adherence.

Table 2: Level of adherence on medication based on gender among the high blood pressure patients.

Gender	Level of medication adherence	Frequency (N)	Percent (%)
Female	Medium adherence on medication	59	63.4
	Low adherence on medication	34	36.6
Male	Medium adherence on medication	83	70.3
	Low adherence on medication	35	29.7

The table 2 showed that the most of the male participants had a medium level of medication adherence (83%) when comparing between the two genders.

Gender difference on fraction of adherence to medications among the participants

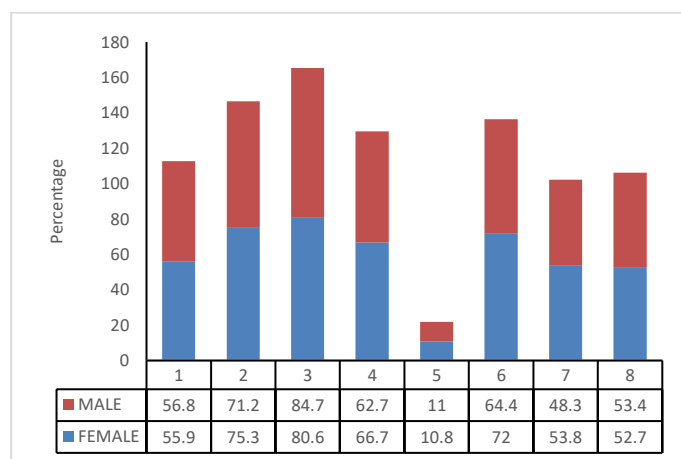


Figure 1: Gender difference on fraction of adherence to medications among the participants

The fig 1 showed that the gender difference in each medication adherence questions. In which the question number 5 had the least no of correct answer.

Gender difference on adherence to medication among the participants

The gender difference on medication adherence among the hypertensive patients is described in the table 3.

Table 3: Gender difference on medication adherence among hypertensive patients

Source	Mean difference	Independent t test t score	Significance
Medication adherence	0.169	0.710	0.479

The table 3 showed that there is no significant difference between the male and female medication adherence score.

Association between the selected socio-demographic variables and adherence on medication among the high blood pressure patients in selected hospital, Khurdha.

The study results showed that the female participants education and exercise status with the medication adherence had a significant association (P= 0.02 and 0.03 respectively).

DISCUSSION

The present study showed that among the total samples 93 females and 118 males. Among the participants majority of the participants from the both group were 40-60 years of age. The most of the male participants had a medium level of medication adherence (83%) and females had a low medication adherence level (34%) when comparing between the two genders. There is no significant variation between the male and female medication adherence score. The study results showed that the female participants education and exercise status with the medication adherence had a significant association (P= 0.02 and 0.03 respectively).

Li WW *et al* conducted a study among the older population showed that blood pressure control was very low among the participants and the adherence is more in the females than males (75%) [6]. Another study showed that the male patients had a low control (41.3%) over the blood pressure that that of females [7]. A supporting study by Rahman m *et al* showed that there is no gender difference in the blood pressure reducing tablet usage [8]. Another study showed that the average use of unique medication was there for females when compared to the males [9]. Williams LG *et al* conducted a study to find out the difference in the medication adherence according to the gender and race showed that there is a low medication adherence among the white and black women (22.9% and 40.7%) than that of male white and blacks (26.3% and 37.3%) [10]. Holt E *et al* give a result that there is no gender difference among the male and females on the low medication adherence [11]. Another study on the gender difference for the predicting medication adherence showed that the predictor of non-adherence in the women was decreased benefit knowledge on the medication for hypertension and in males was the long stay in the country [12].

Gender difference on non-adherence among patients with anti-viral therapy showed that there is 1.5 times more nonadherence was there for females as compared with males [13]. Another supporting study also showed that the females had a poor medication adherence on the analgesics and to the follow up care among the cancer patients [14]. A similar results was given by Granger *et al* in 2009 as there is a less adherence was seen among female patients when compared to the males [15]. Also another study among the hypertensive patients showed that there is a less adherence on medication among the female patients than males [16]. But among the kidney transplant recipients patients there is no gender difference on medication adherence [17].

The study result is showing there is no significant gender based difference in the medication adherence level. But the frequency distribution among the participant medication adherence level shows a decreased adherence to medication among the females. Therefore a gender based education can reduce such difference through which can alleviate hypertension related complications.

CONCLUSION

Adhere to the prescribed medications is very essential to control the diseases. In the present study revealed that there is no gender based difference on the adherence to medication among the participants. When considering the regular medication practice the males are better than the females. The similar findings are getting from the different supporting studies. Therefore a tailored educational programme is very essential among the female patients those who are taking medication on regular bases.

Conflict of interest: No conflict of interest.

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