Frequency of Aspirin Misuse among Hypertensive Patients in Babylon Province

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Abstract

Background: Hypertension endangering a risk of cardiovascular events and BP reduction will reduce such complications. the role of aspirin in hypertension is debated, however it is advised in primary prevention in case of patient with high risk factors assessed by one of the cardiovascular risk calculator, a state in which the benefit of aspirin outweigh the risk of complications.

Objectives: Estimate the prevalence of aspirin misuse in hypertensive patients ,which population at risk and estimate the possible source of this misuse habit.

Patients and Methods: A cross sectional study that has been conducted in babil city major hospitals for the period from the 20th of January to 2nnd of May. our study sample included 353 patients all cases were between 35 to 75 years old who attend to internal medicine outpatient clinic , emergency departments and inpatients of the above hospitals . All patient had hypertension being treated with antihypertensive agents and they did not experience any vascular events like CVA, IHD and PVD**.**

Results: 30.59% of patient do not use aspirin and 64.31 % of patients use aspirin prescribed by doctors. Most of aspirin use was according to doctor advice(92.7%). 5.1 a use aspirin by advice from others. Aspirin use was more with increased age group (p value 0.003) and in females(p value is 0.04). No significant differences between educational level, economic status, residency and occupation with the use of aspirin. Regarding aspirin intake by their doctors and score <10 %: women were more than men ,age 40 – 60 years. Mostly were urban, higher education of 50% had positive history of CVD. Patient who need aspirin but they didn't use aspirin, were 66 patients mostly male live in urban area higher education , smoker , most of them had no family history of cardiovascular diseases.

Conclusion: Aspirin use requires coordinated interaction between patient and physician with encouraging the importance patient education about aspirin use, side effects and CVD risk and proper evaluation of patients risk factors and stratification using simplified charts accessible in health centers.

Key words: *Aspirin, primary prevention ,hypertension*

Introduction

The CVD risk associated with hypertension depend on multiple factors including age, gender, in addition to BW ,physical activity, cigarrete smoking, family history of hypertension , high cholesterol level, DM and preexisting vascular disease(1). Assessment of the risk of future CVD is an important step in patients requiring primary protection from any vascular events(2) . However, to determine the role of aspirin's in prevention of CVD, both primarily and secondarily the benefits should be balanced against the complications(3).The net benefit of aspirin in patients with known risk factors is clearly evident(4) . For primary protection ,guidelines vary about whether, and to which groups, aspirin is to be given(5) in that context, physicians should evaluate the risks and benefits of aspirin therapy for those patients free of risk factors (6)

Primary cardiovascular (CV) prevention defined as the use of pharmacological and/or nonpharmacological measures as prophylaxis of atherosclerosis to prevents

MCEs in in the absence of any history or clinical signs of underlying disease. The main outcomes to be measured are MI, stroke, and death from CVD. In addition to other outcomes including hospital admission , intervention of coronary disease, incident angina, all-cause mortality are sometimes added as ancillary end points these are applied to apparently healthy persons[7].

For the calculation of an individual probability to develop CVD all factors that contribute to the risk must be taken into account, including previous CVD events[8]. Many risk calculators are currently available that help in the detection of population at risk of developing CHDs[9].

Patients and Method

A cross sectional descriptive study was conducted in Babylon city hospitals including al hila teaching hospital, marjan medical city and imam al sadiq teaching hospital. For the period from the 20th of January to 2nnd of May. This study has been done on patients diagnosed by their doctor having high blood pressure and take medication for it.

The data was collected using a preformed questionnaire by which the patient was interviewed after giving appropriate verbal consent .Each patient was interviewed for about 15 minutes

The questionnaire include the following Parts : Patient sosciodemographic characters (age, gender, residency, educational level, economic status, occupation and marital status,the parameters related to 10 years cardiovascular risk score, the protocol of study was approved by ethical committee of Babylon university, college of medicine. Appropriate verbal consent was taken from the patients before the interview. Confidentiality of patients data was approved by replacing names by numbers. To accomplish the study official agreement was taken from Babylon health directorate.

Results

Table (1) shows the sociodemogrphic distribution of the study sample and the association with the habit of taking aspirin. The association between the age group and the use of aspirin was significant in which p value was 0.003. In which aspirin use was more with increased age group, also the association between gender and use of aspirin was significant when aspirin use was more in females p value is 0.04.

Table (1): The association between sociodeogrphic characteristics of the patients and aspirin taking.

Characteristic	Group	Use Aspirin	Not users	P value
Age	up to 40 years	4 (80.0%)	1 (20.0%)	0.003*
	41-60 years	144 (63.2%)	84 (36.8%)	
	more than 60 years	97 (80.8%)	23 (19.2%)	
Gender	male	159 (66.0%)	82 (34.0%)	0.04*
	female	86 (76.8%)	26 (23.2%)	
Residency	urban	206 (69.1%)	92 (30.9%)	0.792
	rural	39 (70.9%)	16 (29.1%)	
Education	no or primary education	74 (68.5%)	34 (31.5%)	0.810
	medium or high education	171 (69.8%)	74 (30.2%)	
Occupation	employed	98 (65.3%)	52 (34.7%)	0.157
	worker	66 (68.0%)	31 (32.0%)	
	no job	81 (76.4%)	25 (23.6%)	
Economic status	good	192 (66.9%)	95 (33.1%)	0.051
	fair	46 (78.0%)	13 (22.0%)	
	not enough	7 (100.0%)	0 (.0%)	

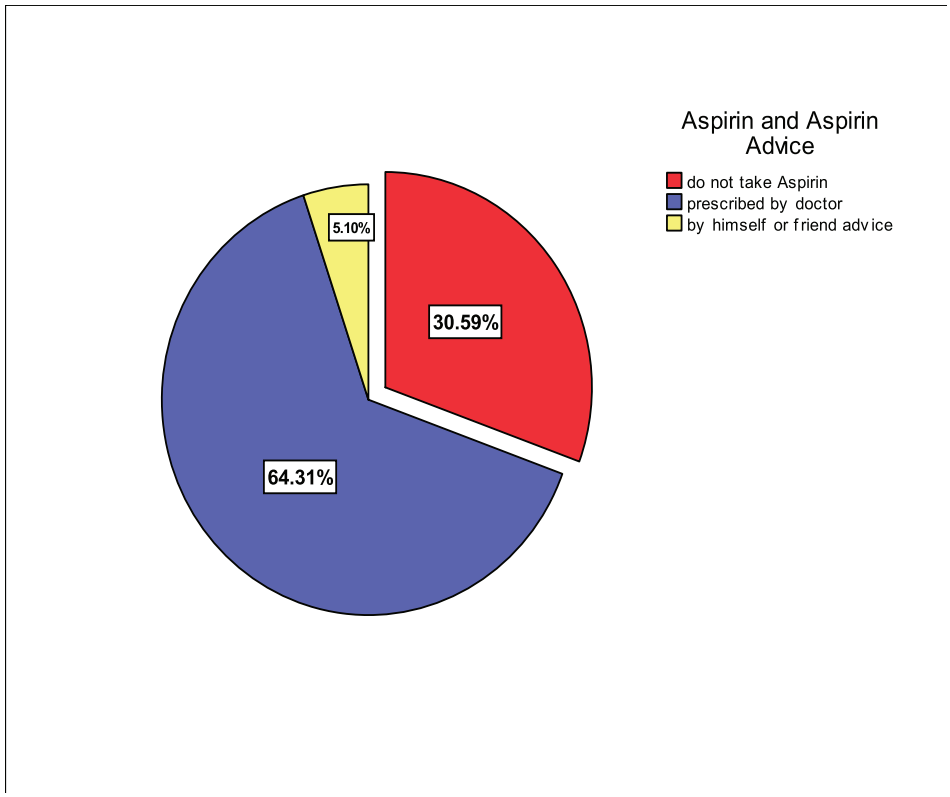

Figure (1): Distribution of Aspirin prescription in total sample

Table(2) Sociodemographic distribution of aspirin misuse by doctor prescription.

Characteristic		Group	frequency	percent	total
Age		41-60 years	24	63.2	38
		more than 60 years	14	36.8	
Gender		male	18	47.4	
		female	20	52.6	
Residency		urban	21	55.3	
		rural	17	44.7	
Education group		no or primary education	17	44.7	
		high education	21	55.3	
Occupation		employed	9	23.7	
		worker	14	36.8	
		no job	15	39.5	
Marital status		married	29	76.3	
		single	9	23.7	
Family history of hypertension or other CVD		19	50.0	50.0	
		19	50.0	50.0	
Diabetic	yes	8	21.1	21.1	
	no	30	78.9	78.9	
smoker	yes	5	13.2	13.2	
	no	33	86.8	86.8	

Table(3)Sociodemographic distribution of aspirin misuse by patients.

Characteristic		Group	frequency	percent	total
Age		Up to 40 years	4	44.4	9
		41-60 years	5	55.6	
Gender		male	5	55.6	
		female	4	44.4	
Residency		urban	9	100.0	
Educational level		high education	9	100.0	
Occupation		employed	9	100.0	
Marital status		married	7	77.8	
		single	2	22.2	
Family history of hypertension or other CVD		yes	9	100.0	
Diabetic	yes	7	77.8		
	no	2	22.2		
smoker	yes	2	22.2		
	no	7	77.8		

Table(4)Sociodemographic distribution of non-user

Characteristic		Group	frequency	percent	total
Age		Up to 40 years	1	1.5	66
		41-60 years	46	69.7	
		More than 60 years	19	28.8	
Gender		male	51	77.3	
		female	15	22.7	
Residency		urban	56	84.8	
		rural	10	15.2	
Educational level		high education	45	68.2	
		no or primary education	21	31.8	
Occupation		employed	30	45.5	
		worker	19	28.8	
		No job	17	25.8	
Marital status		married	56	84.8	
		single	10	15.2	
Family history of hypertension or other CVD		yes	28	42.4	
		no	38	57.6	
Diabetic	yes	32	48.5		
	no	34	51.5		
smoker	yes	46	69.7		
	no	20	30.3		

Discussion

Hypertension causes cardiovascular and renal. Thus decreasing blood pressure reducing morbidity and mortality. The effect of aspirin on control of BP is still a matter of debate[10]. Regarding the use of aspirin in healthy or apparently healthy people as primary prevention , there are no direct proofs of its efficacy, but in low-risk populations it may be of no benefit or may be risky[7]. In 2016, the (USPSTF) recommendations about aspirin use in primary CVD prevention in has been updated . (11).They adopted a calculator derived (ACC/AHA) for assessment of 10-year risk for first hard atherosclerotic CVD event (non-fatal MI,CHD, death, and fatal or nonfatal stroke)[12].

The study dealt with patients sociodemograhpic characteristics and its association with the habit of aspirin use. The age and the use of aspirin was significantly associated, in which aspirin use was more with increasing age , in those whose ages more than 60 years (120 patients) 97 of them taking aspirin p value 0.003. In a study conducted in Canada that prospectively enrolled 3015 patients without any previous CVS diseases for aspirin use as primary protection , when compared with their counterparts, the study found that , peoples receiving aspirin were older their ages in years was 61.6±8.4 vs. 55.5±8.1 with ($P<0.0001$)[13]

A significant association was also found between gender and use of aspirin in which aspirin use was more in females patients with p value is 0.04. A similar results was found by a study of mendy et al in USA on the aspirin use in primary protection in patients without prior CVS diseases, they found that aspirin use was more in female(45.9%) than in male(39.1%)[14] .This may because of female in our communities look for and afraid more about their health status. The study found that there was no significant differences between educational level, economic status, residency and occupation with the use of aspirin. P value > 0.05.

The study evaluate the relationship of the effect of the score value of the patients and the indication of aspirin use according to score. From the total number of the patients taking aspirin ,19.2 % of them regarded as a misuse of aspirin , which include 17.6 % whose score is below 10 and their age is more than 40 years, and 1.6 % include patients with age below 40 years that is age not assessed by the score. 80.8 % of patients taking aspirin according to score. These findings were approximately similar to a study done by Vanwormer and his associates was done to find

the relationship between; specific sociodemographic variables, and aspirin use among a representative sample of Wisconsin adults without CVD, and found that the percentage of regular aspirin intake in those without indication to take it was 18% (102 patients from the **563** patients) [15].

This study evaluated the distribution of patient who take aspirin prescribed by their doctors and their risk score was less than 10 %. Women were more than men and age between 40 – 60 years most of them were urban with medium to higher education half, of them had positive family history of cardiovascular diseases. In a study done by Vanwormer and his associates, they concluded that Aspirin intake was less by patients at high CVD risk which may have a cardiac protection effect from regular use of aspirin and excessive use in patients at low CVD risk. (15). These findings may be due to our patients themselves not complying with their following physician instruction or visiting not a specialist medical physicians with limited knowledge about the risk assessment. So to make any decision for aspirin prescription should fellow an individual clinical judgment that balance the benefits of cardio protection and bleeding risk. Patients with a higher CVD risk, have a greater benefit from aspirin. This final judgment to start aspirin therapy continuously should be made by health care personnel's , especially Primary Care Physicians (PCPs) in resource-poor areas, and they must have a knowledge about their role in assessing the benefit and risk of bleeding. [16]

The study show the distribution of patient who take aspirin. which included 5 patients their risk score was less than 10 %, and 4 patient had not included in the score whose age below 40 years. Male were predominant live in urban area, all of them were highly educated employed, also most of them had history their family of CVD, this is may be due to educated people be more aware about cardiovascular diseases. In the study of roth et al, performed in an urban county African –Americans and Hispanic adults where the quality of health care delivery should be high , they found that aspirin intake

was insufficient with high risk patients for CVD and routinely used by many patients at low CVD risk [17].

This study shows the distribution of patient who need aspirin but they didn't use aspirin , they were 66 patients mostly male live in urban area.

higher education , smoker , most of them had no family history of cardiovascular diseases. In a study done by Im et al which was conducted for assessment of the 10-year (CVD) risk and to set for the application of the current requirement on aspirin use for primary protection in Korean participants, and according to 2016 recommendation of (USPSTF), aspirin in their study was indicated in 266 participants (23.6%), but only 44 participants of them (3.9%) were on regular intake of aspirin . Among these who participates in their study, aspirin was prescribed in proper way in 36% of the participants, suggesting that only 6% of the participants were taking aspirin appropriately and 3.3% of them were taking aspirin inappropriately [18]

Ethical Clearance: The Research Ethical Committee at scientific research by ethical approval of both environmental and health and higher education and scientific research ministries in Iraq

Conflict of Interest: The authors declare that they have no conflict of interest.

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