

Libyan International Medical University
Faculty of Pharmacy



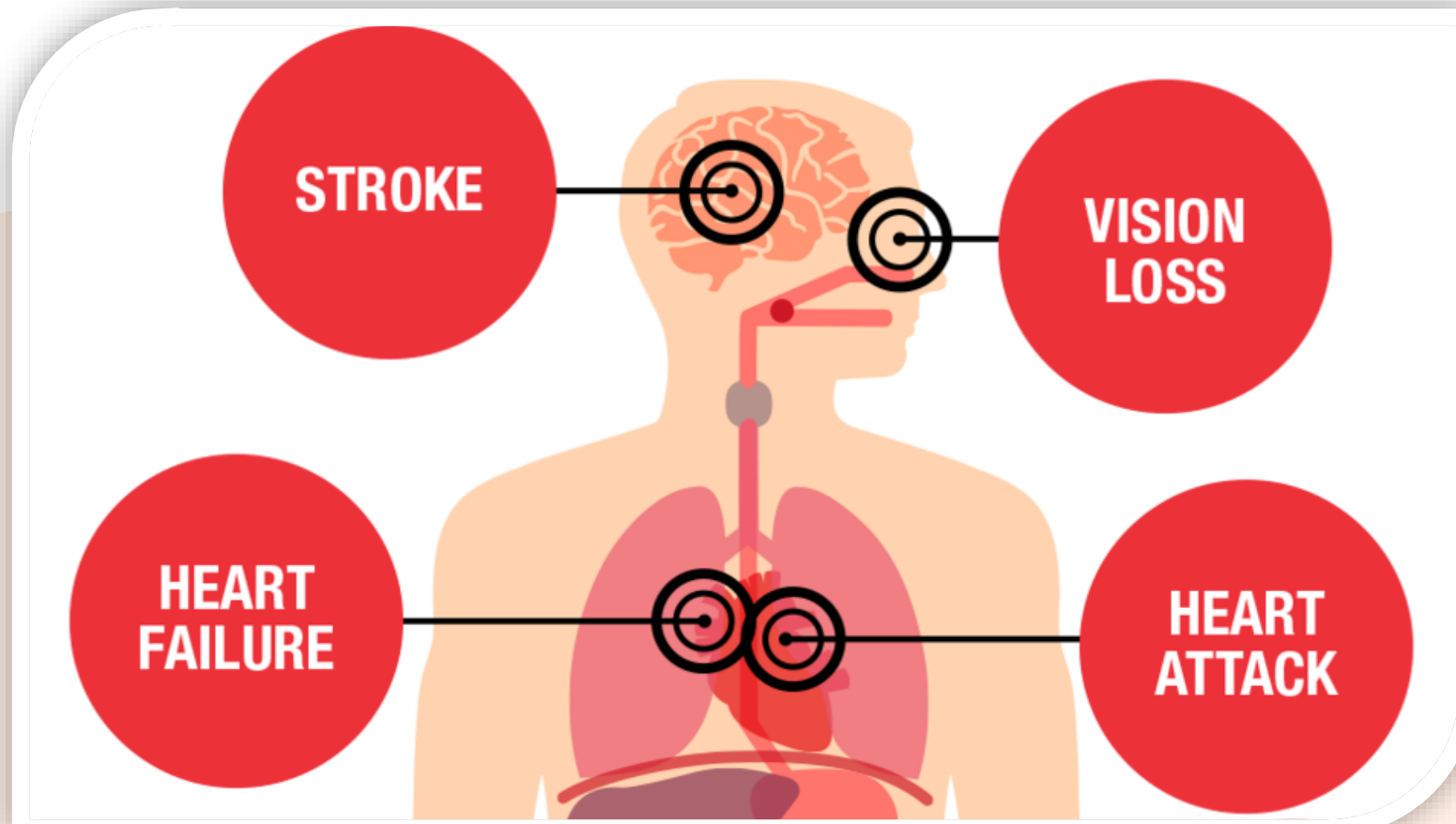
Effect of angiotensin
converting enzyme inhibitors
on health-related quality of
life in Libyan patients with
hypertension



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Introduction

Hypertension or elevated blood pressure (BP) is a common cardiovascular condition and is considered as a major public health issue that significantly increases the risk of health problems such as coronary heart disease, stroke and heart failure.



Goals

The overall goal of BP management is to reduce the risk of cardiovascular diseases and target organ damage such as myocardial infarction, heart failure, stroke and kidney disease associated morbidity and mortality.

Different treatment strategies that should be used to achieve those goals

- pharmaceutical
- Non-pharmaceutical





2. Materials and methods

A **quantitative** type of research was conducted in Benghazi Medical Center (BMC) from November, 2019 to March, 2020. With the approval of BMC administration, and then the patients were asked for verbal consent to participate in the study.

Subject sampling and study design: the target sample of the study was with 152 patients due to COVID-19 pandemic. Questionnaires were filled using face to face interview technique mainly from patients who visited BMC cardiology clinic to follow up their diseases.





Inclusion criteria: Libyan hypertensive patient, aged 40 years and over and taking anti-hypertension medications.

Exclusion criteria: the excluded participants were hypertensive patients who do not take medications, people who are below 40 years old.

The research instrument: the research used 36-Item Short Survey. Some questions were added for more comprehension after conducting different literature reviews. In addition, the questionnaire was printed in both languages: Arabic and English.



3. Results

The study included 163 hypertensive patients, 11 of whom were excluded due to lack of time or trust. 152 were included with 93% response rate. The mean age was 65.38 ± 9.7 years, with 56.5% female and 43.4% male.



56.5%



43.4%

The distribution of medicines used was 40% ACEIs, 20% ARBs, 30% other classes of antihypertensive, and 10% combination therapy for hypertension control.

Daily salt intake used by hypertensive patients was 55% moderate, 35% minimal, and 10% excessive.

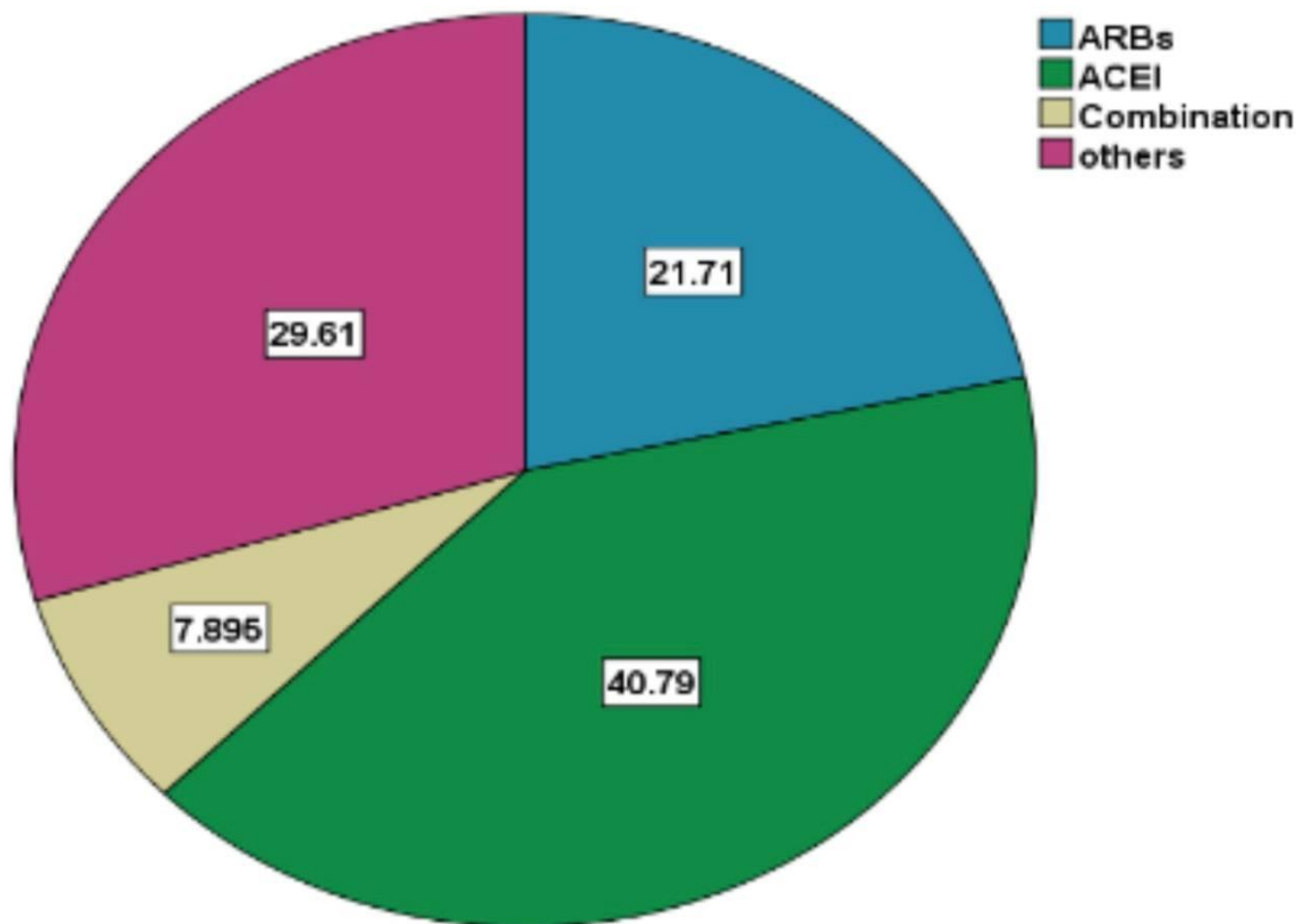


Figure 1: Percent of each medicine used by Libyan patients with hypertension

Health evaluation was scaled as excellent, very good, good, fair, or poor. ACEIs and ARBs were the most positive effect whereas a combination therapy showed a lower effect.

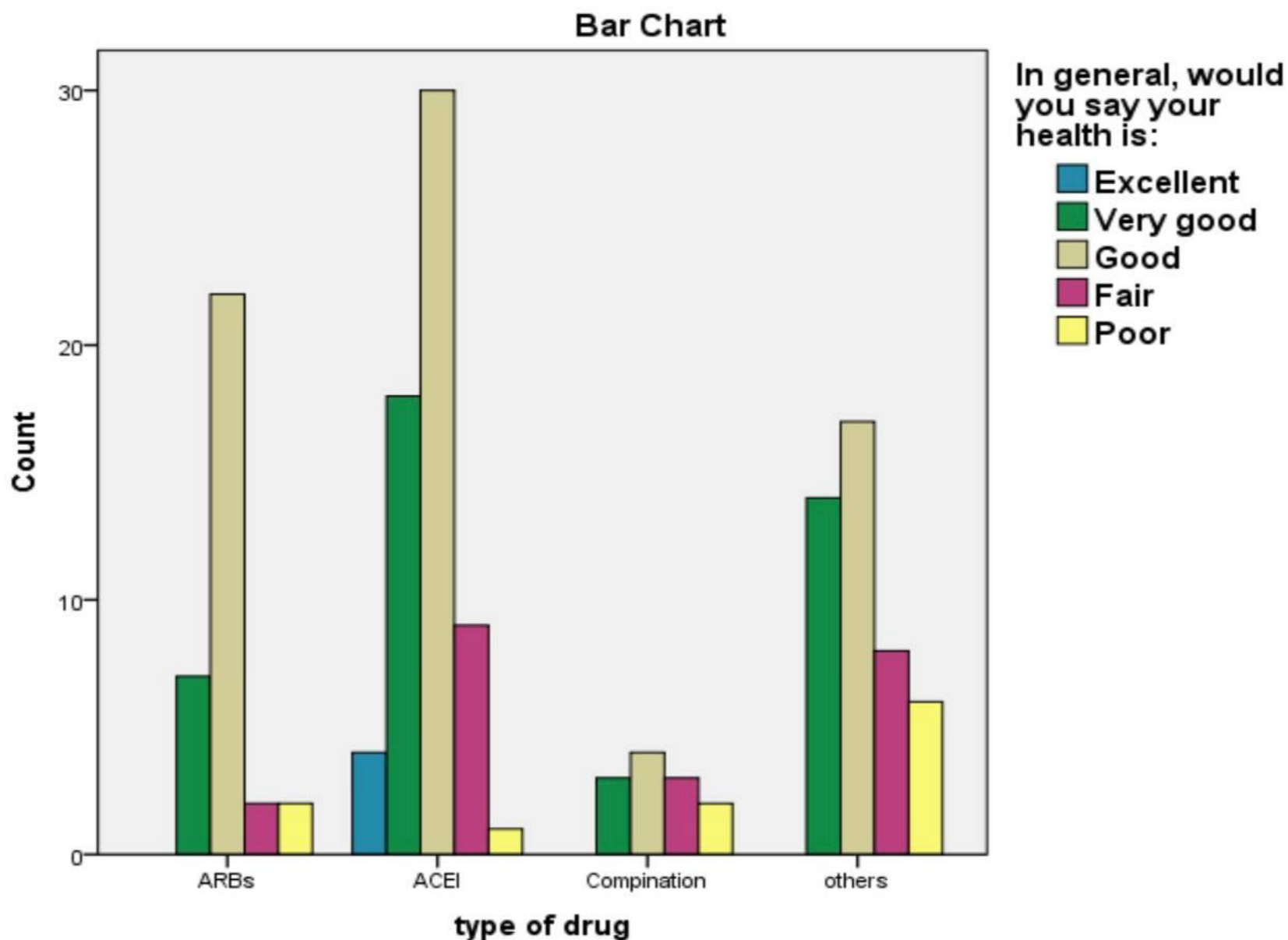


Figure 2: Health evaluation by Libyan patients using antihypertensive medications

Out of 22% patients use ARBs, only 0.7% of the patients have a limitation. Patients on ACEIs (41%), about 10% have limitations of activities (bending, kneeling or stopping). However, both medications (ARBs and ACEIs) have a limited little (less than 5%).

Overall, the patients with anti-hypertensive medications have about 10% of limited a little but about 65% have no limited activity at all. About 20% of the patients on anti-hypertensive have limited activity.

Class of medication		limitations of activities: bending, kneeling or stooping			Total	
		not limited at all	yes, limited	Limited a little		
1	ARBs	the total of % within type of drug and % within limitations of activities bending, kneeling or stooping	17.8%	0.7%	03.3%	21.7%
2	ACEIs		27.0%	9.9%	03.9%	40.8%
3	Combination		06.6%	0.7%	00.7%	07.9%
4	Others		15.8%	10.5%	03.3%	29.6%
	Total		67.0%	21.8%	11.2%	100%

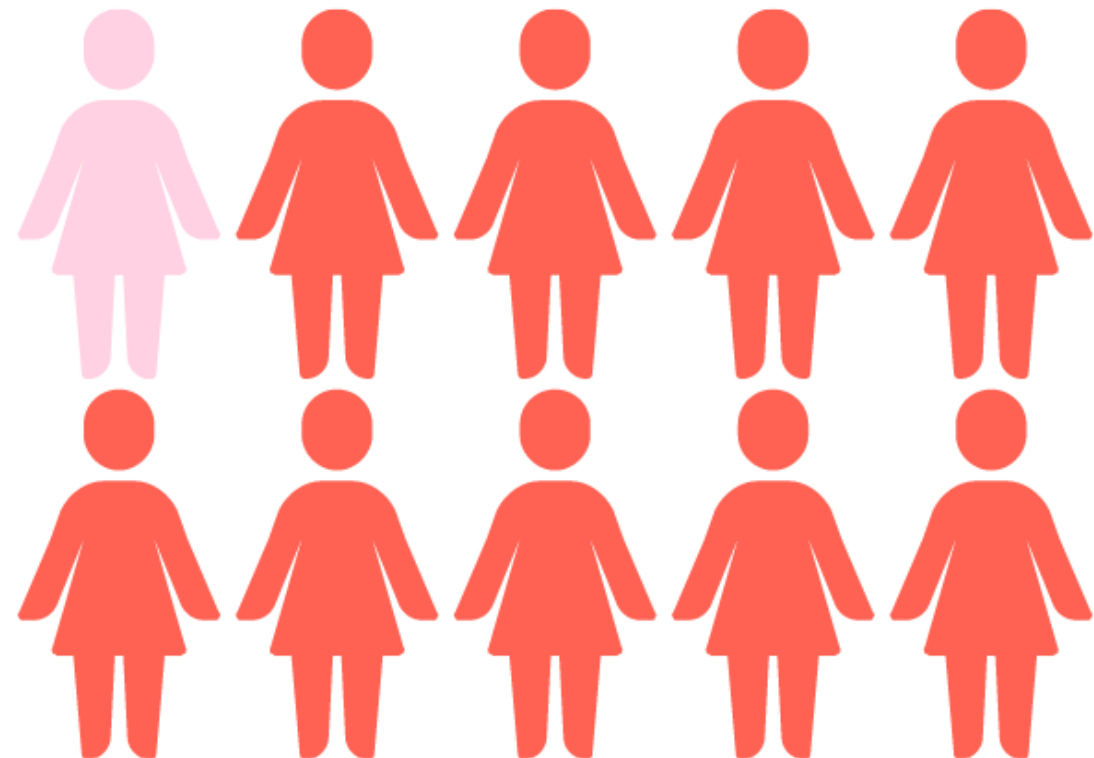
Table 1: Limitations of activities: bending, kneeling or stooping



4. Discussion



In this study, there is a slight difference between female and male ratio, **10%** of female more than male patients. Similarly, previous studies conducted in Nigeria where 55% was females and 44% was males , another study in China where females are 63% and males are 47%. This is may be due to dramatic changes in hypertension incidence post-menopause.



The findings of medication distribution across the sample is not identical due to personal preference of the physicians, ACEIs is more effective than the other classes of medication in decreasing BP.



ACEIs have a more favorable effect on QoL of hypertensive patients than other medications.

The effect of salt intake on the QoL was moderate in most cases taking ACEIs while less patients using ARBs were moderate in their salt consumption. The reason can be referred to the local food restricted amount of it.

ACEIs and ARBs have similar limitations on improvement in the physical activity. Most of the patients taking the two medications had no or slight limitations on walking.



Patients with comorbidities or poor adherence to anti-hypertensive medications limit physical activity.

China showed controlling hypertension can lead to enhanced mobility and physical activity, while captopril can also improve QoL in mild hypertensive patients.



These results are in contrast to a study performed in Sweden, which showed that QoL is not affected by the treatments.

The primary and most affecting limitation of the current study is COVID-19 pandemic that prevented a larger data collection.

Data was collected from the same area which may affect medication class prescribed since most of the patients were treated in the same clinic.

Therefore, it is difficult to generalize the current findings due to lack of enough data.

Last, recall bias could have affected self- reports of QoL.



Conclusion

ACEIs have a greater effect than ARBs on the limitation of the physical activity in Libyan patients with hypertension, while the ARBs more influence on the limitations of activities than ACEIs. However, the effect of both medications is almost the same and have positive impact on the HRQoL.



Reference

Habib H.A., Alshami H.A., Boamoud E.S., Tashani H.A. & Shalgami S.G. (2021) Effect of angiotensin converting enzyme inhibitors on health related quality of life in Libyan patients with hypertension. *Mediterranean Journal of Pharmacy and Pharmaceutical Sciences* 1(03): pp. 08-11. Available at: <https://doi.org/10.5281/zenodo.5534584>



Thank you for your attention