Interest of cardiac rehabilitation in heart failure patients, study carried out on 217 patients including 17 with LVEF ≤ 40%: Experience of the Mohammed Military Training Hospital V of Rabat

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Summary
Cardiac rehabilitation is indicated in patients with heart failure without any decompensation and contraindication [2]. It has several components carried out by multidisciplinary teams to fight against the deleterious consequences of heart failure [1]. We carried out a retrospective study in the cardiac rehabilitation department of the Mohammed V Military Training Hospital in Rabat from April 2019 to July 2020 on 217 patients including 17 with LVEF ≤ 40%, the average age is 60.5 years, male predominance (70.5% with a sex ratio of 2.4). The FDRCX are: Overweight (88.2%) average BMI at 29.09 kg/m², dyslipidemia (41.17%), smoking and diabetes (35.29%). 53% of patients admitted for Ischemic heart disease 23.52% for CMD.

11.76% of patients have LVEF ≤ 20%, 58.82% LVEF between 20 and 40%, 29.41% LVEF ≥ 40%. Average Resting FC is 58.41 bpm. All have benefited from cardiac rehabilitation with stress test on bike, at rest, the PAS and pad max are 162.5 mmHg and 83 mmHg, the average PAS and PAD of 121.25 and 69.08 mmHg.

Our before after rehabilitation study showed several significant improvements in all categories of variables and were compared to studies in the literature demonstrating a similarity in outcomes of the different parameters studied.

Keywords: Heart failure, cardiac rehabilitation, LVEF ≤ 40%

Introduction
Heart failure is a common pathology, responsible for significant morbidity and mortality. Cardiac rehabilitation is a set of activities necessary to favorably influence the evolutionary process of the disease [1], it is indicated in all patients with heart failure without any decompensation and contraindication [2].

Materials and Methods
This is a retrospective study collected in the cardiac rehabilitation department of the Mohammed V Military Training Hospital in Rabat over a period from April 2019 to July 2020 involving 217 patients including 17 in VG dysfunction with LVEF ≤ 40%.

The statistical analysis was performed using Windows Excel. The average age of LVEF heart failure patients ≤ 40% is 60.5 years with extremes ranging from 42 years to 77 years, with a clear predominance masculine (70.5% of patients are men with a sex ratio of 2.4). The main cardiovascular risk factors encountered are: Overweight (88.2%) with an average BMI of 29.09 kg/m², dyslipidemia (41.17%), smoking and diabetes in third place (35.29%). Clinically, 53% of patients were admitted for Ischemic Heart Disease (n=9), 23.52% for dilated Cardiomyopathy.

11.76% of patients have LVEF ≤ 20%, 58.82% have LVEF between 20 and 40% (of which 40% dyslipidemia, 40% are smokers, 30% diabetic and 20% are diabetics) hypertensive), 29.41% have LVEF > or equal to 40% (of these, 40% diabetic, 20% hypertensive, 20% dyslipidemia and 20% smoking). The average resting heart rate is 58.41 bpm. 17.6% of patients have a heart rate ≥ 80 bpm.

All patients received cardiac rehabilitation with a cycling stress test. At rest, the PAS and PAD max are 162.5 mmHg and 83 mmHg respectively, the average PAS and PAD of 121.25 and 69.08 mmHg. The Fc max is 120 bpm. In order to study the impact of short-term rehabilitation, a before-and-after study was carried out.

Results and Discussion
The pre-rehabilitation study showed several significant improvements in all categories of variables.
First, metabolic balance improved with a decrease in LDL cholesterol, total cholesterol (p=0.02; p=0.01 respectively) and BMI (p=0.014). These changes appear to be due more to the
The majority of patients reported improved quality of life (89%), dyspnea (75%), thymic status (66%), and knowledge of CI (95%) after rehabilitation. These results appear to be widely accepted in the literature [6-9].

Our medical team noticed a marked improvement in the dyspnea (84%), knowledge of the disease (90%) and quality of life (100%) of our patients after rehabilitation. It is interesting to note that the assessment made by the attending physician of his patient corresponds well to the patient's feelings; the attending physician remains the closest intervenor with the patient and it is he who keeps probably the most accurate vision of the regular evolution of the evolution of this disease.

Motivation is a variable whose importance in continuing exercise has been recognized in several studies [10,11]. Enduring and motivated patients after rehabilitation are more observant to physical exercises at a distance from rehabilitation, in our study the motivation seems to be related to regular follow-up, group work and activities related to pleasure. These relationships have been observed several times [10,12].

It would seem, in fact, that patients who are not motivated and have little enduring at the end of a rehabilitation period would need enhanced follow-up, combined with group work. Tracking will ideally be direct tracking by connected devices, measuring physical activity. Indeed, their abundance and ease of use add to a price that is becoming accessible today [13,14].

In addition, patients will be advised to engage in physical activity that they enjoy. That said, after a personalized assessment, it will be necessary to favor intramura1 physical activities, moderate, without competitive spirit [15]. Thus, the patient can find a favorite physical activity, which he will pursue.

Conclusion
After our study, we note the presence of a short-term and remote clinical and paraclinical benefit of rehabilitation. Participants in our study pursued physical exercises, significantly, at a distance from readaptation. Endurance at the end of rehabilitation and patient motivation seem to be the only variables related to continued physical activity. Thus, to conclude cardiac rehabilitation is indicated and proves its effectiveness in all patients with heart failure without any decompensation and contraindication [2].

Declaration of links of interest
The authors declare that they have no links of interest.

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