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ETOPPIA2 : Quels bénéfices pour les soignants et patients ? Vers une amélioration des pratiques

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Table des matières

Introduction

Les maladies cardio-vasculaires, dont les troubles coronariens, sont la principale cause de mortalité dans le monde et ce depuis les 15 dernières années. Selon l'Organisation Mondiale de la Santé (*OMS*) en 2016, sur les 56.9 millions de décès dans le monde, 15.2 millions seraient imputables aux maladies cardio-vasculaires, à savoir 26.8% de la mortalité mondiale. En France (2015), les maladies cardio-vasculaires constituent la deuxième cause de mortalité et la troisième cause de mortalité prématurée. L'ensemble de ces pathologies, en France et dans le monde, les données épidémiologiques et physiopathologiques, nous rappellent toute l'importance de la prise en charge des facteurs de risque associés à ces maladies.

Actuellement, l'Education Thérapeutique du Patient (*ETP*) est un élément majeur et primordial en cardiologie, dans sa partie préventive des recommandations. Le plus souvent les programmes sont mis en place après un évènement coronarien aigu dans les services hospitaliers de cardiologie. La conjoncture actuelle hospitalière oblige à des durées d'hospitalisation de plus en plus courte après un Infarctus du Myocarde (*IDM*), l'angioplastie permettant aussi un soulagement plus rapide, avec de nouveaux traitements, de nouvelles informations très condensées, un suivi médical poussé et le plus souvent un nouveau mode de vie à adopter le plus rapidement possible.

Sensibilisé à l'ETP depuis le début des études de Pharmacie et à « cette acquisition ou maintient des compétences du patient dont il a besoin pour gérer au mieux sa vie avec une maladie chronique », j'ai pu me rendre compte très vite dans ma pratique quotidienne officinale de l'enjeu majeur qu'un tel programme représente pour le patient et en terme de santé publique appliquée à l'officine.

L'article réalisé au cours de ce travail de thèse a pour objectifs d'évaluer le programme ETOPPIA2 (*Education Therapeutique à l'Officine des Patients en Post-Infarctus en Anjou 2*) en le comparant par la suite avec la première version du programme de 2013 autour de 3 axes : l'activité globale du programme (population sélectionnée, activités éducatives, partage des informations etc.), le processus du programme (enchaînement des étapes et façons de procéder), l'atteinte des objectifs du programme (écart entre ce qu'il est prévu d'atteindre et les changements observés chez les patients). Afin de récupérer l'ensemble des données qualitatives et quantitatives, des questionnaires ont été mis en place.

Cette évaluation du programme, qui s'inscrit dans une démarche d'amélioration des pratiques, permettra par la suite d'optimiser ETOPPIA, en identifiant les forces et les faiblesses, les difficultés de mise en œuvre du programme et de proposer des pistes de perfectionnement pour le développement de l'utilisation de ce projet à une plus grande échelle que celle actuelle dans le Maine-et-Loire, la Sarthe et la Mayenne.

Title

Annual evaluation of a therapeutic education program for post-heart-attack patients in Anjou (France) : ETOPPIA2

Keywords

Therapeutic patient education, program, evaluation, ETOPPIA, coronary disease, pharmacist, interprofessional project, improvements

Abstract

Background : Cardiovascular diseases, including coronary disorders, have been the main cause of death worldwide for the last 15 years. Currently, therapeutic education is a major and primordial element of cardiology in the preventive part of the recommendations. In 2018, a second step of the ETOPPIA program was launched to support coronary patients through an interprofessional approach. The aim of the present study was to evaluate the ETOPPIA2 program and compare it with the previous version, along the following three axes: the overall activity of the program, the process of the program and the achievement of the program's objectives. This evaluation, which is part of an approach for improving practices, will ultimately enable the optimisation of ETOPPIA by identifying its strengths and weaknesses and the difficulties in its implementation as well as by proposing solutions for improving the program.

Methods : To collect all the qualitative and quantitative data, questionnaires were placed at key points at each stage of the ETOPPIA program (educational diagnosis, educational sessions and end of the program) for the pharmacists and patients included between April 2019 and January 2021. ETOPPIA2 was studied to compare it with ETOPPIA1.

Results : In total, 64 patients were included by 20 different community pharmacies, where 168 educational sessions were conducted around 8 themes. The overall patient satisfaction was 84%. The program helped to reduce cardiovascular risk factors such as stress, high blood pressure, diabetes, cholesterol, smoking, and overweight by enabling patients to change their sporting and dietary habits. An improvement in knowledge about the disease/treatments and skills was demonstrated under favourable interview conditions and educational postures. Compared with ETOPPIA1, the overall participation (sessions and patients) was lower but the benefits obtained were relatively similar, with a clear improvement in the set-up and number of sessions offered. Moreover, a clear difference was found between the benefits obtained by patients and those obtained by pharmacists.

Conclusion : This experimental program proved to be positive and promising in a pharmacy sector where no TPE program exists for post-heart-attack outside of hospitals. It enabled patients to acquire knowledge and develop new behaviours perceived as beneficial in a relationship of trust with pharmacists. ETOPPIA2 provides pharmacists with the opportunity to actively participate in patient care and to implement the concept of clinical pharmacy in their daily practice. Nevertheless, difficulties remain in patient follow-up, data collection and the standardisation of practices, in both implementation and evaluation. Resolving theme would facilitate the development of this type of program on a larger scale.

Introduction

Cardiovascular diseases (*CVDs*) are the second leading cause of death and the third leading cause of premature death in France [1]. In 2015, the number of deaths of Cardiovascular (*CV*) origin was estimated at approximately 144 626, including 14 652 (10.1%) for heart attack and 31 218 for stroke (21.6%). In 2015, CVDs were the leading cause of death in women (77 628 deaths, including 3 times as many strokes as deaths from heart disease), whereas in men it was the second cause (66 998 deaths) after tumours [2]. In 2012 in France, people treated for CVDs still numbered 3.5 million [3]. Over the last four decades, a drop in morbidity/mortality has been observed in France for CVDs [3], which according to the French Ministry of Solidarity and Health (*MSH*) should not be overlooked.

Coronary artery disease is a medical problem that affects the arteries that supply blood to the heart (coronary arteries) [4]. The correction of risk factors is essential and involves the control of dyslipidaemia, smoking cessation, control of hypertension, control of diabetes, loss of excess weight by maintaining adapted and regular physical activity, alcohol abstinence and stress limitation [5]. The drug treatment combines an arterial vasodilator crisis treatment with a chronic treatment to maintain a balance between myocardial oxygen needs and supply [6].

With knowledge of the importance of the drugs prescribed, many patients have difficulties (e.g. adverse effects, use, motivation, knowledge ...), which lead to a compliance rate far from 100% that tends to decrease over time. It is estimated that a compliance level above 80% is essential for ensuring long-term effectiveness [7]. Several socioeconomic and clinical factors have been found to affect adherence in the long term, which justifies the intervention of Therapeutic Patient Education (*TPE*). For example, one study demonstrated that approximately 33% of patients stop their treatment completely or partially following a heart attack within a month of hospitalisation [8]. Moreover, only 50% of patients are estimated to exhibit good adherence to treatment 30 months after a heart attack [9].

Many studies have investigated TPE in the context of cardiac disorders [10-16]. Such studies have demonstrated TPE's effectiveness at increasing the knowledge and skills of patients, which is necessary for good compliance [12, 17-20]. Thus, according to the American Society of Cardiology (*ASC*), TPE is an integral part of recommendations for the management of patients at high CV risk, in terms of lifestyle changes, physical activity resumption and psychosocial risk factors [21]. Lifestyle modifications tend to be complicated to change [22]. Thus, CVDs remain a major public health battle to be fought against all social/medical/economic repercussions. This fight requires enhanced knowledge of these diseases, earlier and more effective management of the risk factors and determinants, collective action through national programs, individual action for identifying people at risk, improved management of emergencies and improved treatment in terms of compliance.

The sample studied differs slightly from that studied on a European scale in the cross-sectional ESC-EORP survey (EUROASPIRE V) of 2016-2017 [19]. This indicates in France and Europe, the tendency of the majority of coronary patients to have an unhealthy lifestyle in terms of nutrition, smoking, stress and a sedentary lifestyle: out of

8261 coronary patients included, 55% were active smokers, 38% were obese, only 66% were physically active, 42% had high blood pressure, 29% were diabetic and 71% had high cholesterol. The objectives of the scholarly recommendations are not met (blood cholesterol, glucose, and blood pressure) with a very negative impact on the aforementioned main risk factors. The conclusion drawn by this study was 'the more general implementation of modern preventive cardiology programs delivered by interdisciplinary teams of health professionals addressing all aspects of lifestyle and risk factor management'. These are the objectives we set ourselves when establishing ETOPPIA for patients.

In France and throughout the world, epidemiological and pathophysiological data on CVDs, remind us of the value of setting up a TPE project for the patients concerned to manage the risk factors associated with these diseases [13]. TPE has two important goals [23]: for the patient to acquire and maintain self-care skills and to mobilise or acquire adaptation skills through an educational approach, in which the patient becomes an actor in his/her own health [16].
Much literature exists on the experiences of TPE consultations in the CV field, but they are less commonly described once these programs leave the hospital setting [24-25]. This lack of follow-up of coronary patients after hospitalisation is a major problem ; thus, a need exists to adapt protocols to the practice of non-hospital pharmacists and to improve the follow-up of patients in their daily lives.

Thus, the ETOPPIA program was proposed by 13 community pharmacies from Anjou (49, France). ETOPPIA1 *(Education Thérapeutique à l'Officine des Patients en Post-Infarctus en Anjou)* was implemented between September 2013 and March 2015. It responded to several necessities: the need to develop therapeutic education programs outside of the hospital and to adapt them to officinal practice ; to build a multidisciplinary project with pharmacists in particular and to increase the follow-up of post-heart-attack patients after their hospitalisation. The recruitment of patients for inclusion was based on several criteria: age <80 years, heart attack between 1 and 6 years previously or with a treatment including beta-blockers, antiplatelet drugs, lipid-lowering drugs and hypotensive agents.
The educational sessions were divided into 7 themes. In total, 16 pharmacists in Maine-et-Loire, France, participated in this program for 74 patients across 293 sessions, including 209 educational sessions (Table1).

This previous step made it possible to establish a first promising program for the follow-up of post-heart-attack patients far from the hospital. Several improvements and changes were mentioned by the participants to make it more universal, more easily usable, more complete and with more adapted tools in line with the practice of pharmacists, thus optimising the program as much as possible [26].

In ETOPPIA2, the inclusion criteria were extended to anyone suffering from coronary heart disease without delay in regard to the disease, with no age limit and located in 3 French departments : Anjou (49), Mayenne (53) and Sarthe (72). Since 2018, ETOPPIA2 has been part of an interprofessional health network coordinated by the Union Régionale des Professionnels de Santé *(URPS)* Pharmaciens Pays-de-la-Loire, the Agence Régionale de Santé *(ARS)*, the Centre Hospitalo-Universitaire *(CHU)* d'Angers, the Regional Order of Pharmacists and the Faculty of Health of the University of Angers.

According to the same principles, ETOPPIA2 is divided into several stages (Figure 1) :
- Inclusion by the pharmacist at the pharmacy or by the general physician for any patient suffering from coronary artery disease whose health professional considers that TPE would be beneficial.

- Educational diagnosis in a confidential space where the patient's needs and expectations, knowledge and lifestyle habits as well as the definition of educational objectives are determined. For each objective, the skills and knowledge required to achieve it are specified. A session guide was thus developed to provide a structure and some tools for the debriefing.

- Individual or group sessions on 8 possible themes with the pharmacist or any other health professionals involved: 'Understanding my disease', 'Understanding my treatment', 'Managing my treatment', 'Understanding and managing my emergency treatment', 'Introducing appropriate physical activity', 'Finding dietary guidelines for healthy eating', 'Supporting me in stopping smoking', 'Controlling my stress and anxiety'.
Individual or group sessions are possible, with other patients or families. Each session is individualised and interactive, according to the patient's knowledge and skills, with a session leader and various tools as support. These include videos, photos, games, cards and drawings.

- Evaluation : There are several types of evaluations, qualitative and quantitative and in different formats (online or by phone). These evaluations were necessary tools for evaluating the program and comparing it with ETOPPIA1.

All of the multiprofessionnal participants in this program followed a 40-hours teaching course on TPE. They are mainly pharmacists, but there are also physiotherapists, nutritionists, dieticians, general physicians and nurses. It includes almost all of the participants from ETOPPIA1 along with additional new health professionals.

To our knowledge, there is no other TPE program for the follow-up of coronary patients outside of the hospital in France, which limits the possible comparisons.

It is hoped that this program will enable the patients concerned to improve their health and quality of life, encourage their involvement in the therapeutic process by placing them at the heart of the care system, and make them informed, involved and competent actors in their own health.

The aims of this work were (i) to highlight the strengths and weaknesses of the ETOPPIA2 program to improve it in terms of practices, content, organisation, information sharing and coordination and also (ii) to compare it with previous ETOPPIA1. This work is therefore based on qualitative and quantitative analyses, with a view to continuous improvement. Finally, benefits for the patient as well as the health care professional are sought. For the health care professionnal, these benefits would be obtained through his/her involvement in the patient's follow-up, whether it be medicinal, social or dietary, and also in his/her role as health professional. The benefits for the patient are quite different, focusing on quality of life, self-management and the prevention of recurrence.

Methods

According to the French Haute Autorité de Santé (*HAS*) [27], the final objective of the evaluation [28] of a TPE program is to assess 3 distinct points :

- the overall activity of the program, that is questioning with regard to the objectives of the program (e.g. patients included, involvement of professionals, educational sessions and sharing and transmission of information) ;
- the program's processes, that is questioning the ways in which the different stages are linked and proceed ;
- the achievement of the program's objectives, that is questioning the potential difference between what was expected and the changes observed in patients and professionals.

Although these three points were the overall objectives sought in this study, the methodology chosen was to evaluate each phase of the program, namely educational diagnosis, educational sessions and end of the program. Questionnaires were used in order to obtain interesting conclusions and perspectives while studying the program as a whole. These 3 moments cover all of the necessary elements at different times. These questionnaires were distributed to all pharmacists by an online survey communicated with a URL link. These forms were sent to the pharmacists in the first months of the program and then used as the sessions progressed. The final evaluation of the patients/helpers will take the form of a phone call at the end of the program.

The analysis of these questionnaires at these three key moments allowed us to identify the three points indicated by the HAS. Thus, the examination of ETOPPIA2 could be conducted and a comparison with ETOPPIA1 could be made.

The general program design containing all the different steps for the patient and the different assessments done at different times is available in the figure 1 below.

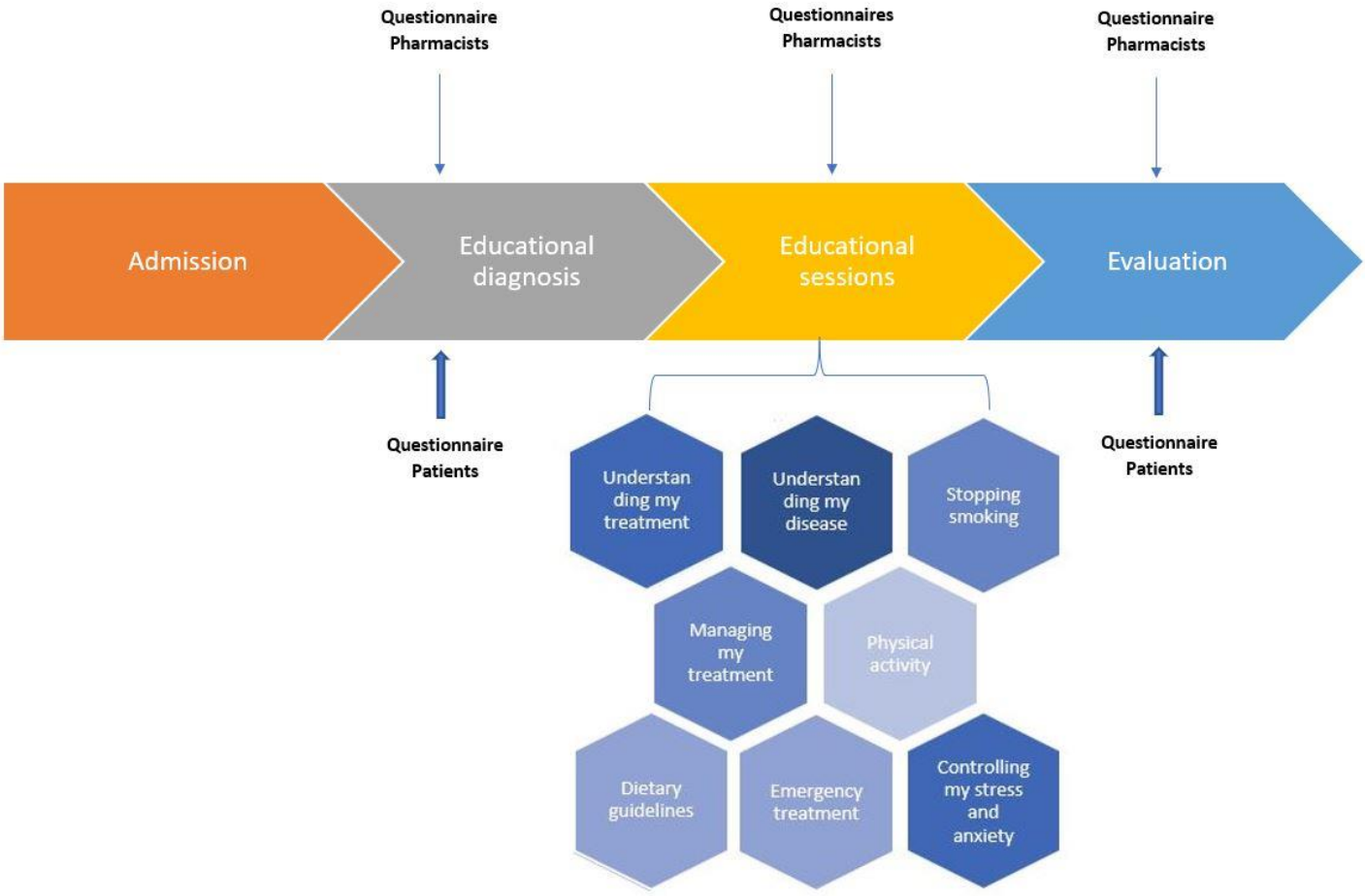

Figure 1 : General program design

1. Evaluations of educational diagnosis

The educational diagnosis has been evaluated by patients and by pharmacists with specific questionnaires.

The questionnaire for patients (Annexe 1) was to be completed at the end of the educational diagnosis to obtain direct feedback on the session and be able to adapt the next ones. The questionnaire consisted of the following 3 parts:

- An anonymous identification of the patient and identification of the pharmacist : this part was a guarantee of quality in the follow-up and identification of the participants ;
- A single-choice questionnaire part : this part contained 14 questions graded according to a 4 point Likert scale ('Not at all/Not too much/Quite/Utterly') with the objectives of evaluating the interview, the reception, free expression, active listening, free questioning, duration, contribution, proposed schedule, and overall satisfaction ;
- An open question section : this allowed the patient to address other points (e.g. favourable aspects and difficulties) which would not have been raised by the single-choice questionnaire.

The questionnaire for pharmacists (Annexe 2) was to be completed at the end of the educational diagnosis of the patient. It aimed to facilitate the pharmacist's self-evaluation during the session and to assist him/her in understanding the points of evolution/progression to be made. It also helped the pharmacist to be aware of his/her own flexibility as well as that of the patient. The questionnaire was divided into the following 4 parts:

- An anonymous identification of the patient and identification of the pharmacist : this part was a guarantee of quality in the follow-up and identification of the participants. The duration was also noted ;
- A single-choice questionnaire : it contained 15 questions graded according to a 4-point Likert scale ('Not at all/Not too much/Quite/Utterly'). It evaluated confidentiality, the relationship of trust, the questionnaire in its application, patient questioning, discovery of the patient, difficulty, patient adherence and overall satisfaction ;
- Two single-choice questions : these rated the length of the interview according to a 5-point Likert scale with other criteria ('Too short/Short/Adapted/Long/Too long') ;
- One part in the form of open-ended questions : this allowed the pharmacist to develop some potential difficulties of conducting the educational diagnosis as well as identified the points of evolution/progression.

2. Evaluation of educational sessions by pharmacists

As this ETOPPIA program is composed of 8 possible educational sessions, it was necessary to be able to evaluate each session's achievements with a specific questionnaire (Annexe 3). Thus, the same patient could be the subject of several educational session summaries. The survey comprised the following :

- An anonymous identification of the patient and session and an identification of the pharmacist : the duration of the session was noted. It was also specified whether it was an individual or collective session ;
- An open summary of the session : this was used as a report on the process, skills acquired or developed, objectives set, difficulties encountered and points for improvement. This summary could be used in subsequent sessions to take note of what had been undertaken and achieved ;
- A single-choice questionnaire part : the items were rated according to a 5-point Likert scale ('Too Short/Short/Adequate/Long/Too Long') regarding the adequacy between the duration and objectives of the session, as well as between the duration and all professional obligations.

3. Global evaluations of the program

The program was evaluated by patients and by pharmacists at the end of education.

The questionnaire for patients (Annexe 4) was to be completed at the end of the program after all of the necessary sessions had been achieved, to obtain an overall opinion on the program. The questionnaire was completed during a personal phone interview to highlight the qualitative data and the dialogue as well as to avoid biases in the interpretation of the writing.

The questionnaire comprised the following parts :

- A part identifying the patient in an anonymised way ;
- Several open-ended questions concerning the group sessions, motives for participating in ETOPPIA2, positive and negative points, main benefits, possibilities for improving and continuing the program and a free summary ;
- A single-choice questionnaire part similar to that of the pharmacist' questionnaire rated on a scale of 1 - 10 to quantify the adherence, active participation, benefits for knowledge, educational tools, adaptability to the patient's life and the relationship of trust and confidentiality with the pharmacist, finishing with a final evaluation of the whole program ;
- A single-choice questionnaire part that informed about the most beneficial session or behaviour acquired through the program ;
- A qualitative part in a before/after form concerning tobacco, weight, physical activity, stress, diet, blood pressure, diabetes, cholesterol, knowledge of the disease and treatments, occurrence of heart attack and alcohol consumption.

The questionnaire for pharmacists (Annexe 5) was to be completed at the end of the program after all sessions had been achieved for all patients to obtain an overall opinion on the program and its benefits, to improve the practices.

It comprised the following parts :

- A pharmacist identification section ;
- Several open questions concerning the reasons for participating in ETOPPIA2, achievement of objectives at the beginning of the program, inclusion criteria, impact of ETOPPIA2 for patients, positive and negative points, main benefits, possibilities for improvement and continuation of the program, in an interprofessional context and a free summary ;
- A single-choice questionnaire section similar to that of the patient questionnaire, rated on a scale of 1 - 10, allowing for a quantitative evaluation of adherence, active participation, benefits in terms of knowledge, educational tools, adaptability to the patient's reality and the relationship of trust and confidentiality with the patient finishing with a final evaluation of the global program ;
- A single-choice questionnaire part rated on a scale of 1 - 10 which allowed the quantitative evaluation of the organisation, recruitment, coordination between all parties involved, interprofessionality, formation, execution and the number of available sessions ;
- A single-choice questionnaire part informing about the most beneficial session or behaviour acquired by the program ;
- A single-choice questionnaire part according to a 4-point Likert scale ('Insufficient/Not sufficient/Correct/ Sufficient') regarding the time spent on the program and its correlation with remuneration.

Results

In total, 64 patients (retired or active) were included and retained in the cohort between April 2019 and January 2021 (Table 1). Their mean age was 66 years in 2020 (min. 40 years and max. 90 years). There were 42 men and 22 women, who had all completed a total of 168 sessions, including 64 educational diagnoses.

Furthermore, 46 professionnals agreed to participate in the program, who were all qualified in TPE. Most of them were pharmacists, followed by general practitioners, nurses, dieticians, physiotherapists and nutritionists. They were spread over the following 20 different structures: the Maison de Santé Pluriprofessionnelle (*MSP*) 'Santé Val de Loire', the MSP 'Cantenay Epinard', the MSP 'Bécon les Granits', Pharmacy of Doué la Fontaine, Pharmacy of Brissac, the MSP 'Brulon', Pharmacy Nicolleau Dilé (Chemillé), Pharmacy of the Esplanade (Avrillé), Pharmacy of Justices (Angers), Pharmacy Flotté (Noyen sur Sarthe), Pharmacy de l'Aubance (Brissac), Pharmacy Bisi (La Ferté Bernard), Pharmacy de la Futaie (Montaudin), Pharmacy Vandangeon (Martigné Briant), Pharmacy du Louet (Murs Erigné), Pharmacy Paris (Craon), Pharmacy de la Pyramide (Trélazé), Pharmacy Alloneau (Angers), Pharmacy of Juvigne and Pharmacy Isaure (Le Mans). 12 of them participated in the implementation of the ETOPPIA1 program and were now continuing with this second version. They were in contact with approximately 60 other medical and paramedical professionals, who were partners but not participants in the majority of cases. The characteristics of the ETOPPIA2 and ETOPPIA1 populations are compared in Table 1.

Table 1 : Characteristics of the ETOPPIA1 and ETOPPIA2 populations

	ETOPPIA2	**ETOPPIA1**
Patients, n	64	74
Male gender, n(%)	42 (65.6)	62 (84.0)
Age, years, mean (min-max)	66 (40-90)	64 (39-82)
Sessions, n	168	293
Number of sessions/patient, mean (min-max)	2.6 (1-7)	4.0 (1-11)
Number of sessions/pharmacist, mean (min-max)	8.4 (1-41)	18.3 (3-44)
Number of sessions/patient/pharmacist, mean (min-max)	3.23 (1-7)	4.58 (1-11)
Number of group session, n	7	0
Number of sessions, n :		
- Educational diagnosis	64	74
- Understanding my disease	21	0
- Understanding my treatment	27	49
- Managing my treatment	4	24
- **Understanding /managing my emergency treatment**	16	33
- Introducing appropriate physical activity	9	32
- **Finding dietary guidelines for healthy eating**	16	58
- Supporting me in stopping smoking	5	10
- **Controlling my stress and anxiety**	6	3

Time per session, minutes, mean (min-max) :		
- Educational diagnosis	51 (35-90)	58 (30-120)
- Understanding my disease	48 (15-120)	/
- Understanding my treatment	40 (20-70)	42 (10-80)
- Managing my treatment	40 (30-45)	30 (10-60)
- **Understanding /managing my emergency treatment**	18 (5-35)	27 (10-60)
- Introducing appropriate physical activity	38 (15-60)	41 (10-115)
- **Finding dietary guidelines for healthy eating**	62 (30-90)	72 (15-135)
- Supporting me in stopping smoking	46 (30-60)	87 (40-195)
- **Controlling my stress and anxiety**	55 (30-90)	55 (40-85)
Total time/patient, minutes, mean (min-max)	/	175 (40-360)
Total time/pharmacist, minutes, mean (min-max)	/	840 (105-2680)
Changes mentioned by the patient in the "end of program" questionnaire, % :		
- Reduction of stress and anxiety	80	51
- Changes in dietary habits	80	72
- Reduction in blood pressure	25	13
- Diabetes stabilisation	10	13
- Cholesterol reduction	10	21
- **Better knowledge of the disease and treatments**	100	/
- No cardiac recurrences	100	36
- Reduction of alcohol consumption	60	/
- **Reduction of the number of cigarettes per day**	2 patients/5	3 patients/10
- **Weight loss**	10	/
- **Regular physical activity**	91	81

1. Evaluations of educational diagnosis

According to the educational diagnosis (Figure 2A), more than 90% of the patients reported considering that they 'completely' agreed that the interview took place in favourable conditions ; in a climate of trust ; taking the disease, treatment, and environment into consideration ; with good listening skills of the pharmacist ; and being a real actor in the exchange. More than 80% of the patients reported 'completely' agreeing with the adapted duration of the session and feeling free to express themselves, with the projects/motivations, fears and difficulties, expectations and needs taken into consideration. The time required to complete the other sessions seemed to be a constraint for more than 42% of the patients. Finally, 93% of the patients were 'completely' satisfied while 7% were 'partially' satisfied.

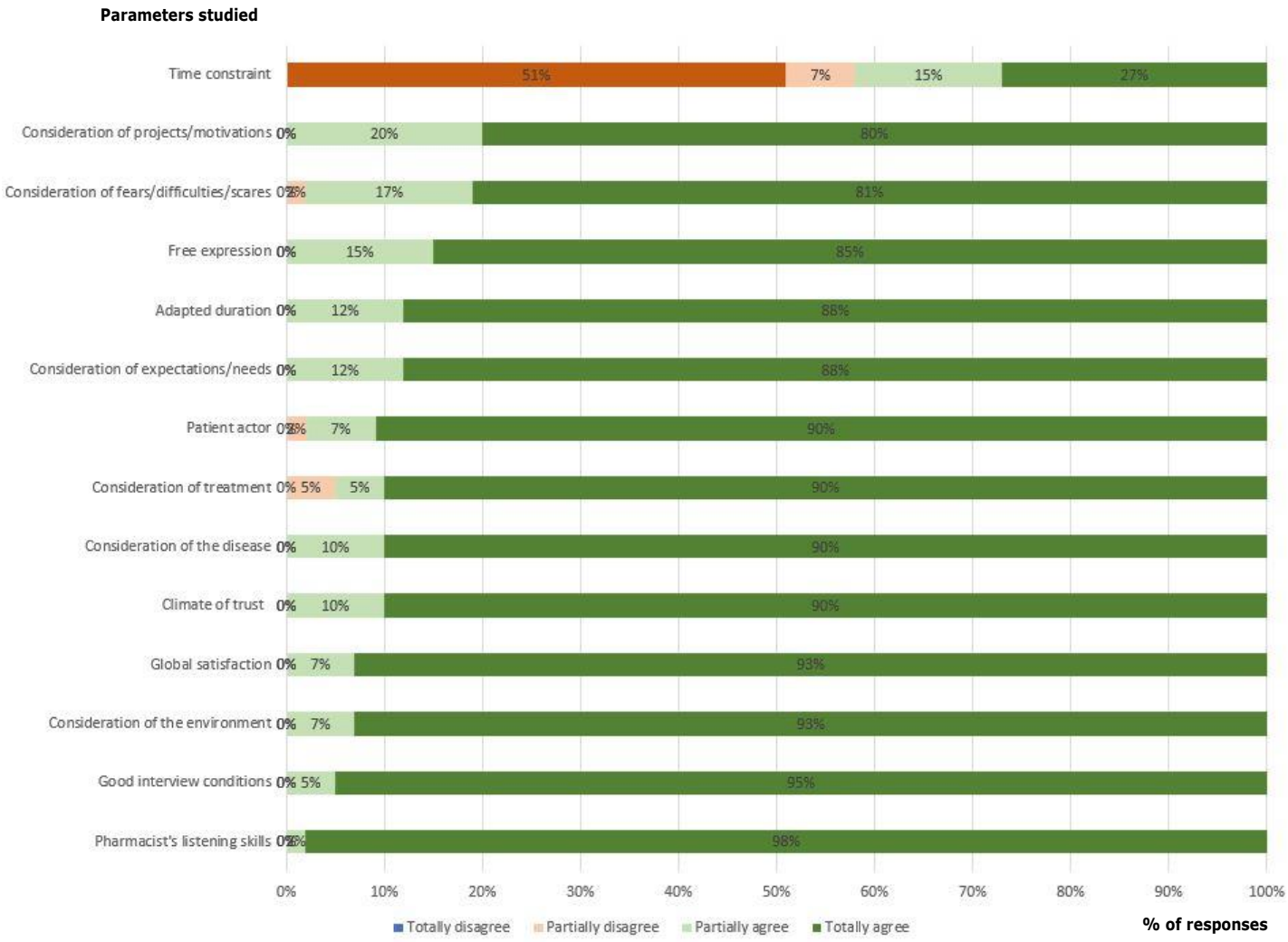

Figure 2 A : Evaluation of the educational diagnosis by the patients (n=64)

The results of the evaluation of the educational diagnosis by the pharmacists were more heterogeneous (Figure 2B). 95% 'completely' agreed that the diagnosis was conducted in favourable conditions. More than half of the pharmacists 'completely' took information on the patient's projects, motivations, fears, difficulties, needs and expectations into consideration. Many pharmacists (more than 60%) had 'completely' taken information on the patient's treatments, disease and socio-cultural-educational environment into account. Moreover, more than 70% 'completely' agreed that the session took place with a relationship of trust, enhanced by the creation of a therapeutic alliance and supported by an adapted questionnaire. Nevertheless, 10% of the participants reported having difficulties in conducting the session. With regard to the process, 40% of the pharmacists did not necessarily follow the questionnaire in a linear mode, as opposed to 22% who did. Furthermore, 68% did not necessarily rephrase what the patient said. Finally, 94% reported encouraging the patient.

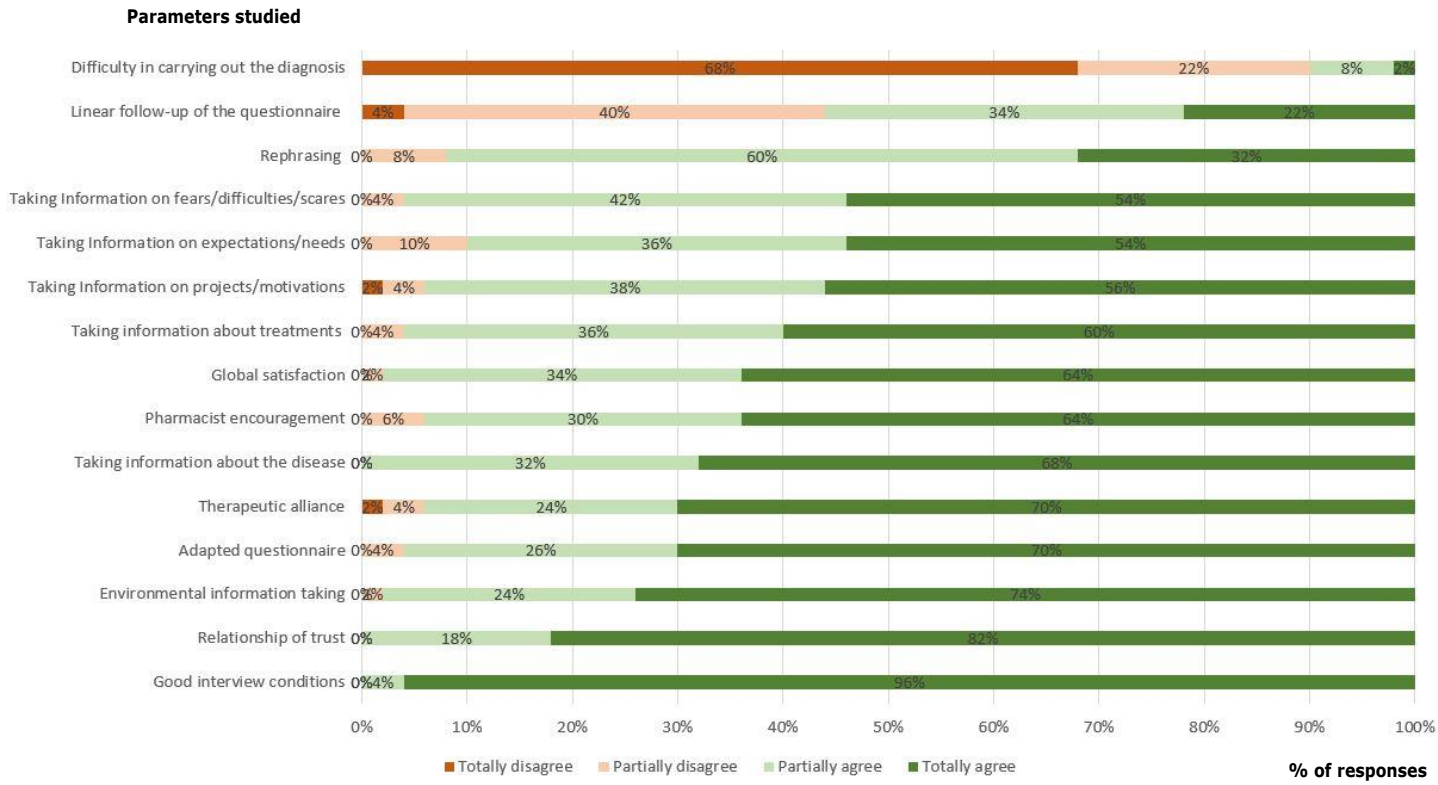

Figure 2 B : Evaluation of the educational diagnosis by the pharmacists (n=64)

One part of the questionnaire consisted of free-form questions, in which patients and pharmacists were invited to express themselves on their representations of the educational diagnosis around the following two axes : points that could prove to be difficulties of evolution/progress and points that could be boosters and the evolution paths envisaged.

The patients provided 41 free remarks regarding their perceptions/representations of the educational diagnosis. These were grouped into two categories, namely difficulties and positive points, and classified by frequency of occurrence from bottom to top (Figure 2C). On the one hand, the most common remarks concerned a lack of listening, loneliness and new hygienic and dietary rules to be followed, ahead of organisational and family difficulties. On the other hand, the pharmacist's educational skills, motivation and ambitions were the main elements mentioned as contributing to the success of this TPE program.

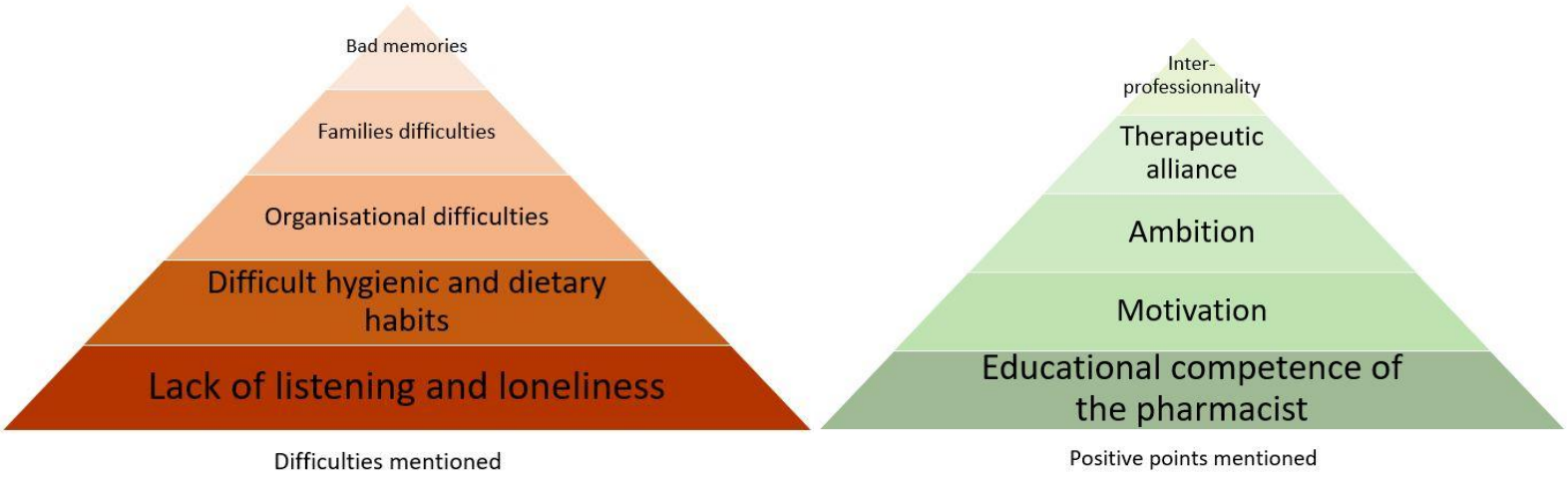

Figure 2 C : Representations of the patients about the educational diagnosis (n=64)

Similarly, 50 free remarks were made by pharmacists regarding their perceptions of the educational diagnosis, which were classified in two categories, namely difficulties and points of evolution. This enabled the next sessions to be more effectively managed and apprehended, separated from the positive points, and classified by frequency of occurrence from bottom to top (Figure 2D). On the one hand, the active participation of the patient, the relationship of trust and the involvement of the patient and his/her family were the main positive points mentioned. On the other hand, the management of comprehension biases, active listening, help in managing time and the selection of relevant sessions were the most commonly mentioned points in terms of progress/attention as well as the points that contribute to the success of this TPE program.

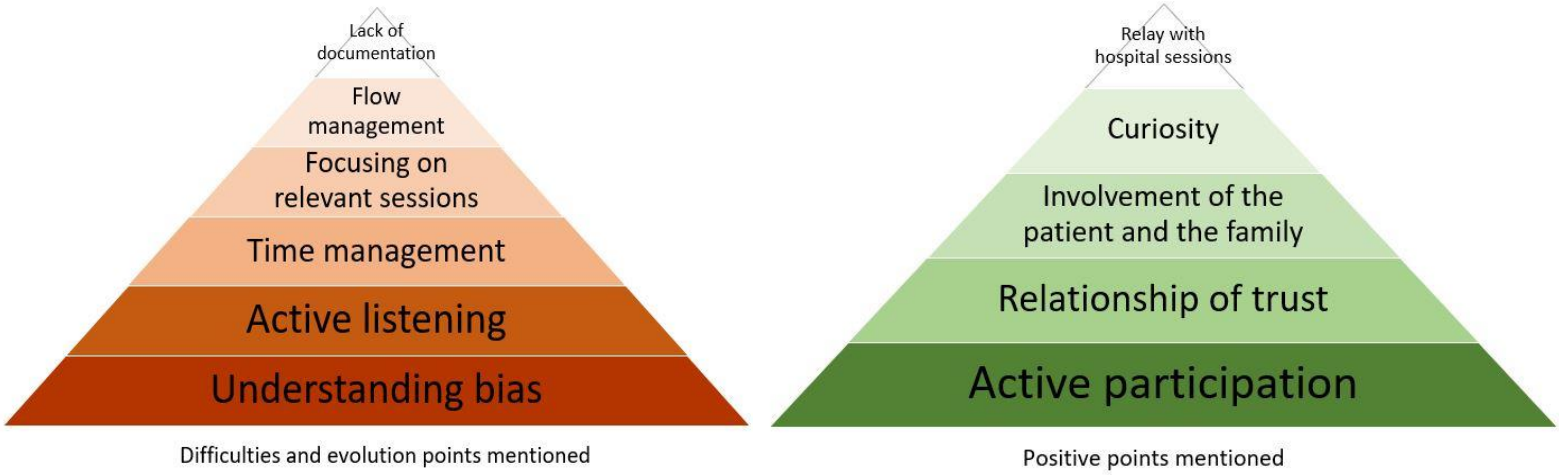

Figure 2 D : Representations of the pharmacists about the educational diagnosis (n=64)

Moreover, the pharmacists were asked for their perceptions of the duration of the educational diagnosis conducted, based on two points, namely the duration in relation to the requirements of the diagnosis and that in relation to their own professional obligations (Figure 2E). Among the 62% found that the duration 'adapted' to all other professional obligations, whereas 38% found it 'too long'. However, 78% of the pharmacists found it to be 'adapted' to the requirements of the diagnosis, while 14% found it 'too long' and 8% 'too short'.

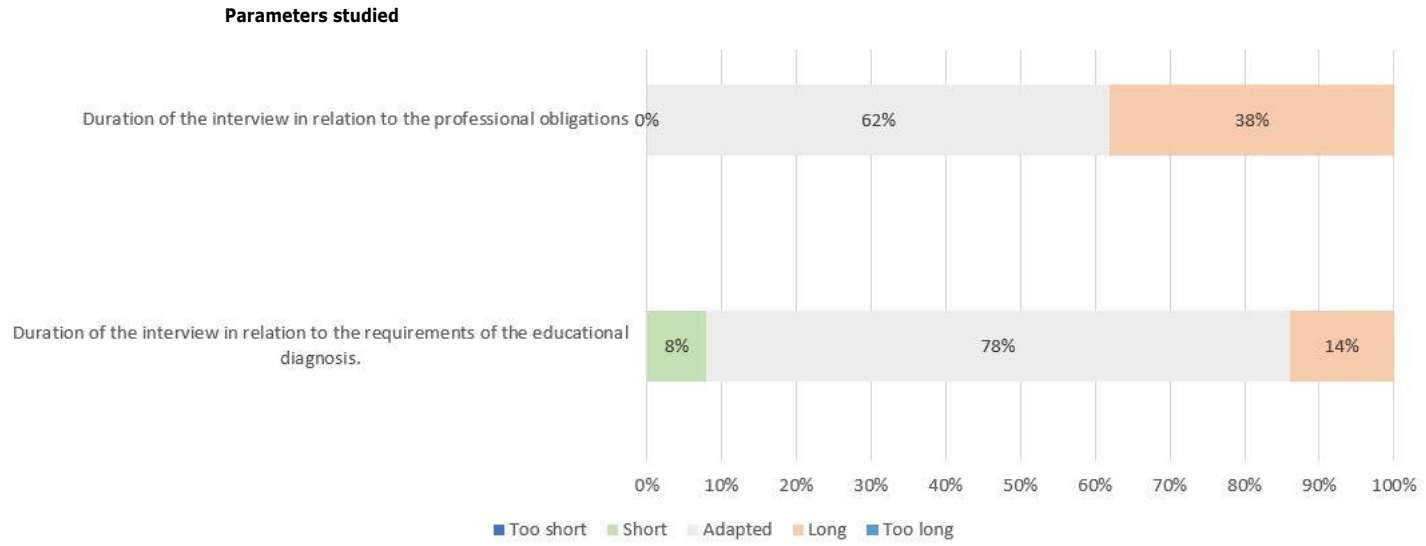

Figure 2 E : Evaluation of duration of the educational diagnosis by the pharmacists (n=64)

2. Evaluation of educational sessions

A large part of the questionnaires concerned the summary of the session conducted. This is not detailed here, but it served as feedback for the pharmacists on the completed session and as a reminder for the next sessions. Most often, it detailed the process (e.g. tools used), the patient's daily life (e.g. difficulties, assistance, questions, and habits, depending on the type of session), the skills acquired or developed, the objective set and achieve, and sometimes even various reminders about previous sessions.

To understand the opinion of the pharmacists who conducted the sessions regarding the time spent, they were asked to express themselves on the duration of the session in relation to its objectives as well as in relation to their own professional obligations (Figure 3A). The findings indicated that 90% of the pharmacists found that it 'adapted' to the objectives, 5% found it 'long' or 'too long' and 5% found it 'short' or 'too short'. However, 12% found it 'long' in relation to their professional obligations, 85% found that it 'adapted', and 3% found it 'short' or 'too short'.

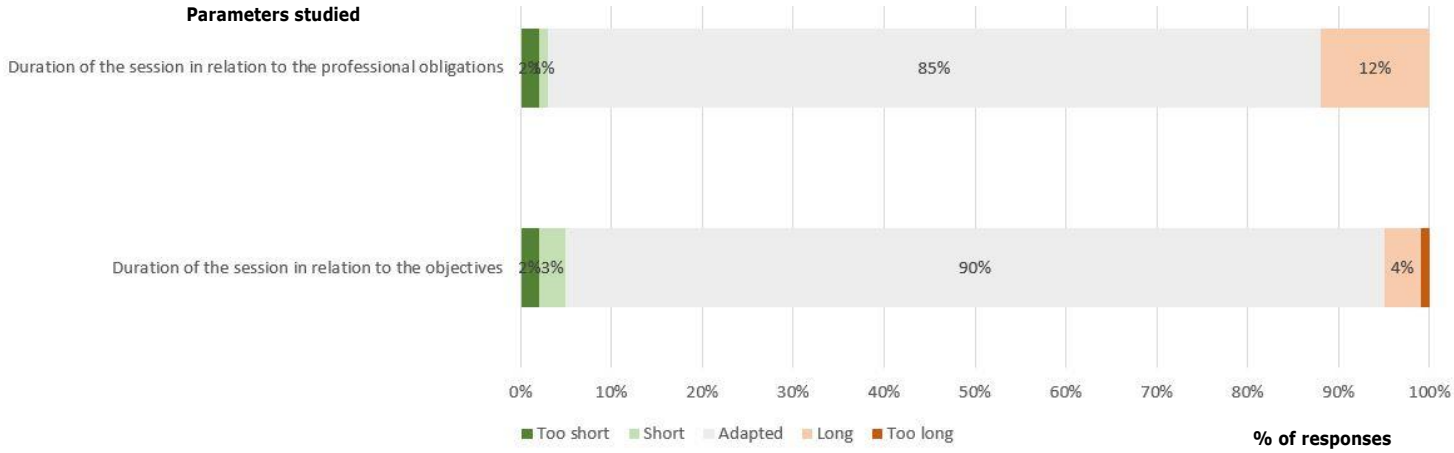

Figure 3 A : Evaluation of the educational sessions by the pharmacists (n=104)

The last part of the questionnaire was an open-ended question, where the pharmacists could freely express their views on the session. They were able to offer their opinion on the representations they had, concerning the difficulties and points of evolution, from a personal point of view and with the patient. A total of 104 responses were classified according to their frequency of occurrence and by session, allowing for an improved comparison and analysis (Figure 3B).

The colour code corresponds to the different elements that were mentioned in different sessions, which could be found in other sessions.

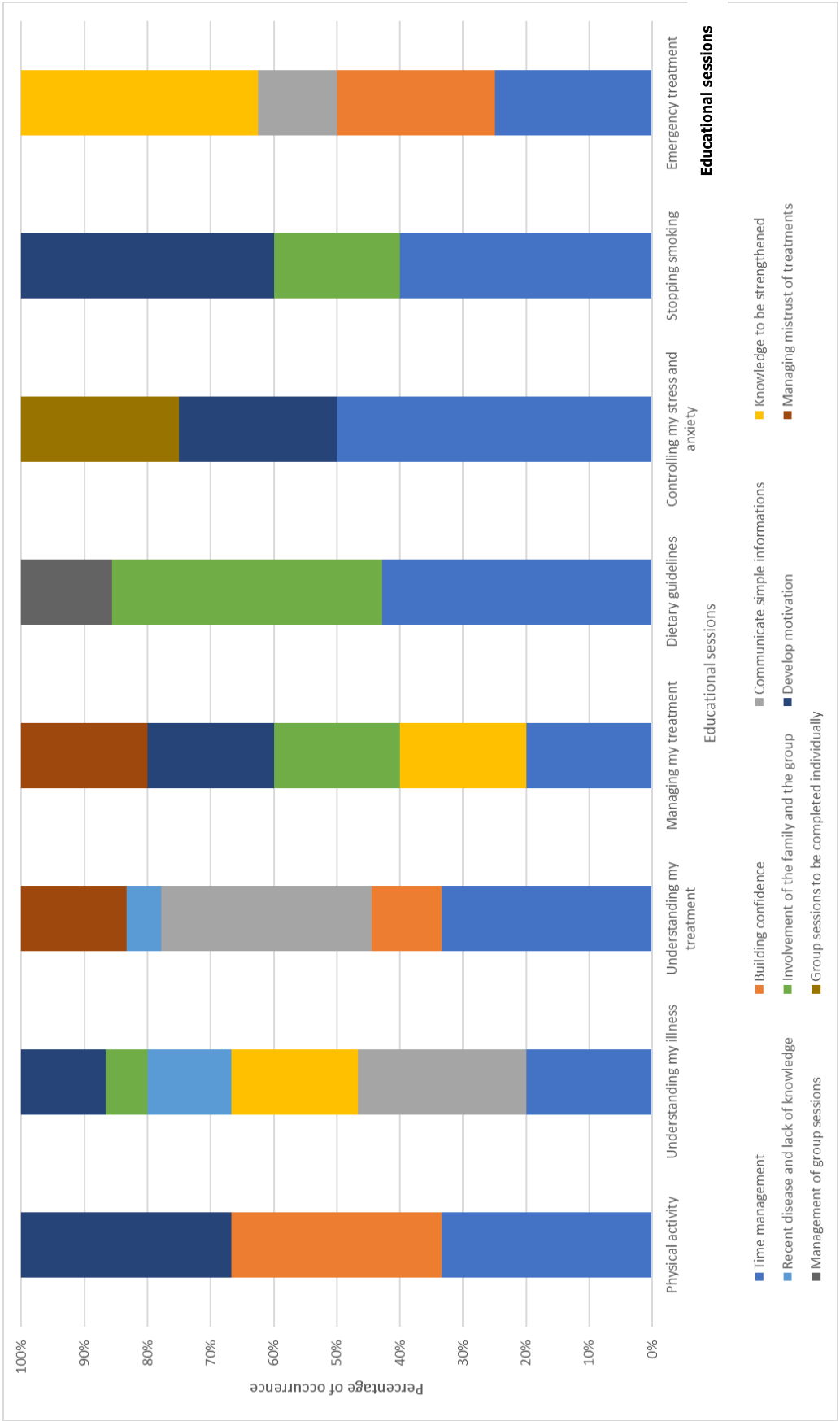

Figure 3 B : Representation of the pharmacists about educational sessions (n=104)

3. Global evaluations of the program

The patients were asked to rate various parameters on the program in its entirety on a scale from 1 to 10 (Table 2).

Table 2 : Parameters evaluated by the patients (n=42) at the end of the program

Parameters	Mean (*x*/10)
Membership	8.2/10
Active Participation	8.2/10
Improving knowledge	8.2/10
Educational tools linked to the needs	8.0/10
Link between education and reality	7.6/10
Relationship of trust with the pharmacist	9.7/10
Confidentiality	9.8/10
Global satisfaction	8.4/10

The positive/negative points of the program as well as the main benefits mentioned by the patient were classified by frequency of occurrence from bottom to top (Figure 4A). The acquisition of new skills, particularly in nutrition and motivation, was the main point mentioned, followed by the updating of knowledge, the relationship of trust with the pharmacist and, finally, the interprofessional work for those who had had sessions with other professionals. The impact of COVID-19 on the program was the most commonly mentioned element (the sessions were held in the middle of the pandemic), followed by the time spent between sessions.

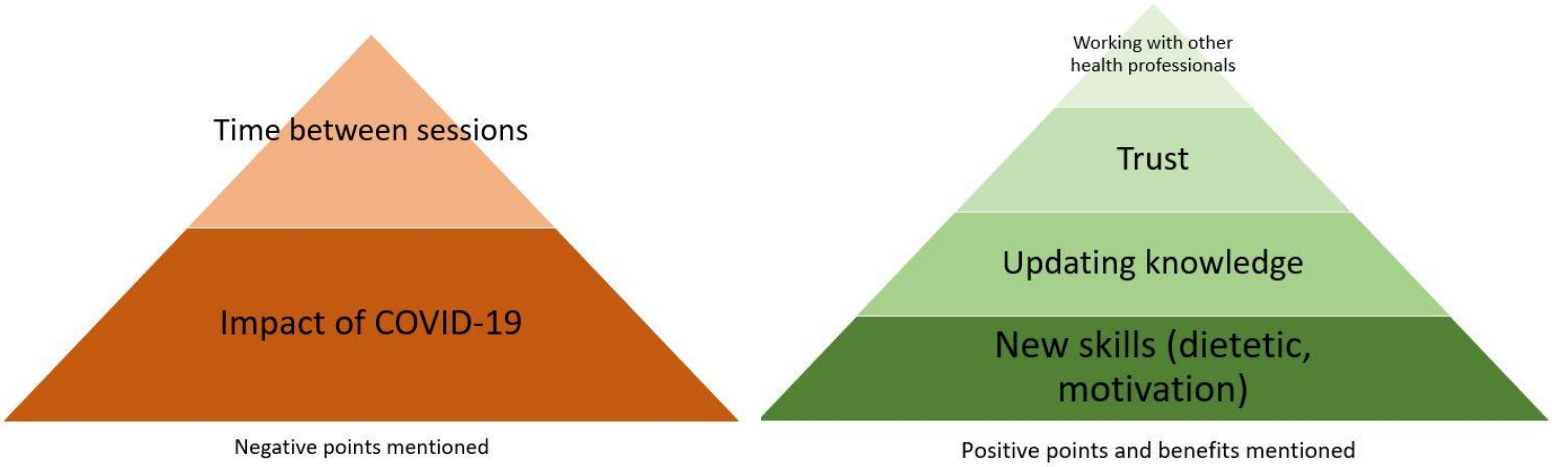

Figure 4 A: Positive/benefits and negative points mentioned by the patients (n=42)

Discussion

As previously mentioned, the main objective of this study was to evaluate the ETOPPIA2 program and then to compare it with ETOPPIA1, according to 3 themes : global activity, processes and achievement of the objectives. The methodology chosen was to work around the 3 main moments to collect all of the necessary data. A total of 64 patients were included at 20 different pharmacies, where 168 educational sessions were conducted around 8 themes. The overall patient satisfaction was 84%. The program helped to reduce CV risk factors such as stress, high blood pressure, diabetes, cholesterol, smoking and overweight, by enabling patients to change their sporting and dietary habits. Compared with ETOPPIA1, the overall participation (sessions and patients) is lower but the benefits obtained are relatively similar with a clear improvement in the set-up and number of sessions offered. Moreover, a clear difference exists between the benefits obtained by patients and those obtained by pharmacists.

1. Overall activity of the program

In the first step, an evaluation was performed around the overall activity, which was divided into the following 3 themes: the beneficiaries of the program, educational activities, and actors in the implementation. Much of this discussion about results is available in comparison with ETOPPIA1 (i.e. gender, age, number of patients, sessions, themes, time volume).

Two types of sessions were planned in the TPE namely individual and group sessions. Currently, no evidence exists in the literature to justify switching from one to the other for any benefit. Most studies justify this choice on the feeling of the session's implementer about the participants' abilities. ETOPPIA consisted mainly of individual sessions as well as some group sessions. It was a choice of the pharmacists to be able to offer this to obtain a group stimulation, ensure that more complete experiences were shared and involve patients from other TPE programs, such as smoking cessation, where some of the patients who participated in the *EOL* smoking cessation program were involved. The format seems interesting, as some patients were able to benefit from both and sometimes both formats for the same type of session, for different therapeutic objectives. It was found that the educational sessions on nutrition were most used in a group setting, with a very enriching sharing of ideas and experiences for the moderator and the patients, which would not have been possible in an individual version. According to the results of the CONCErTO study [29], the most critical factor in each project is individualisation, which even appears necessary to define the needs and priorities of each individual. Nevertheless, it appears that individual sessions are the easiest to implement in TPE, unlike group sessions. In a heterogeneous group, the health professional is forced to adapt the interventions individually. This constraint thus allows pharmacists to correspond perfectly to the recommendations.

As for the recruitment of patients, it was entirely conducted by pharmacists, as in the first version of the program. Because of their proximity as health professionals and their ability to see the patients in their entirety, pharmacists are in a position to understand the potential benefits for them. Although a large proportion of the participating pharmacies are part of an interprofessional approach working within a coordinated and collective professional practice, no patients were included by their physician. Thus, the problem may not be the possibility of working together or to know about the existence of this program, but rather raising awareness of the importance of TPE

among physicians, highlighting the results obtained and the quality of the pharmacists' work. The lack of interprofessional links, particularly in recruitment, is a major axis for improvement. Therefore, developing this 'cohesive and integrated health care practice among health professionals, in response to the needs of patients [30], with the aim of putting patients at the centre of care' seems essential.

The 'Understanding treatment' and 'Dietetics' sessions welcomed the highest number of participants. This is unsurprising as compliance is a major issue in secondary and tertiary prevention. It involves educating patients about their various medications and requires sufficient knowledge and an understanding of the treatment. The proportion of sessions conducted on lifestyle was significant: these had the greatest impact in the program (dietetics). The literature describes this relationship between the dietary habits, lifestyle and control of CV risk factors very clearly [31], with the aim of reducing CV events, hospitalisations and deaths. The current recommendations of the European Society of Cardiology [32] (*ESC*) are to extend the Mediterranean diet to all patients suffering from CV pathologies, to reduce morbi-mortality. The addition of an 'Understanding the disease' session was a request of both the pharmacists and patients, which was well used in this program (12.5% of sessions conducted). This allowed for a more complete differentiation and development of the 'Disease' and 'Treatment' session.

It's important to note that in the context of this work, only inclusions up to and including January 2021 have been retained. These are currently in progress and are close to the objective that had been set in collaboration with the ARS. A four-yearly evaluation as recommended by the French HAS [27] could be relevant to take into account these new patients, with the full evaluation workforce and the necessary hindsight on the program.

2. The program's processes

In the second step, an evaluation was performed around the process of the program, which was divided into the following 5 themes : the patient's educational pathway, information sharing, educational activities, organisation/coordination and the beneficiaries' opinion, which are also found in the objectives of the program.

A session guide was available to assist the pharmacist in conducting sessions. Almost all of the pharmacists found it to be adapted and easy to use. However, it was not followed in a linear manner by all of them, allowing for a real and more natural exchange, but rather in a less structured manner, which could explain the discussions that were sometimes difficult to refocus as well as the time spent. Two pharmacists also reported that additional documentation would be beneficial for ensuring the sessions' consistency.

Although the majority of pharmacists found the duration of the educational diagnosis and educational sessions to be adapted to their professional obligations and the objectives of the session, many found the educational diagnosis long. Furthermore, 3 times more pharmacists found the educational sessions long when it was related to their professional obligations than when it was related to the objectives of the session. Most often, it was the pharmacists' managers who performed the sessions, who have the most other responsibilities and potentially the least time. Today, TPE is an integral part of the pharmacy activity and it's sometimes undermined, due to staff

shortages and new tasks to develop (e.g. flu vaccinations, antigenic tests, COVID19 vaccination). This is one of the main difficulties in expanding the implementation of such programs: unlike in a hospital where a special TPE team exists, pharmacists aren't assigned to a single task, they must continue their daily activity, their order management and seeing the rest of the patients. It might be interesting to consider a different distribution of tasks within the pharmacy team both in terms of personnel and time, as is the case in hospital programs [32] such as dedicated and predefined times during the week by a dedicated team. Increasingly, the practice of the pharmacist will turn towards what are called '*new missions*' among which TPE is a major figure. It entails a dimension of accompanying the patient in his/her entirety as well as a clinical component which did not really exist a few decades ago. This will require a restructuring of the human and organisational functioning of pharmacies.

Despite the fact that the majority of sessions were 'adapted', time management of sessions was the most frequently mentioned difficulty and point of evolution by pharmacists for all sessions combined which makes it possible to corroborate this long time mentioned in relation to professional obligations. This was also the case during ETOPPIA1, which led to the modification of some session leaders. Such time management is specific and requires a case-by-case adaptation from the pharmacist, who sometimes must refocus the patient if he/she gets lost and adapt his/her language to the patient's level of understanding, resulting in variable durations (between 5 and 120 min). These are the sessions that lasted the longest, where pharmacists highlighted the difficulty of managing temporality (e.g. dietary guidelines, control stress and anxiety) ; however, this was one point mentioned in all of the sessions. The leaders of these specific sessions could be reworked to better guide the pharmacist. As the 'understanding the disease' session was added, it was found to be one of the longest sessions, with a certain amount of knowledge to transmit ; yet, this did not reduce the duration of the 'understanding the treatment' session, which included some of this information. This session is therefore an extra that proved to be necessary. An optimal length for an educational session for ensuring understanding and adherence is estimated to be between 30 and 45 minutes. More generally in other studies [33] sessions have lasted approximately 45 minutes.

Furthermore, the time seemed 'appropriate' for 88% of the patients, but more than a third (42%) stated that the time could be a constraint for the next sessions. These patients are probably active people, still in work and who must reconcile their professional and personal lives. It should also be recalled that a large proportion of the educational diagnoses occurred between two lock-down, where the time pressure was greatest, which may explain these results. No results from other projects were found in the literature to corroborate or refute this conclusion. An opinion from the French Health Authority [34] was published in 2020, which expressed concern about the follow-up of chronic patients and the slowdown in the implementation of TPE sessions ; health professionals were encouraged not to stop them and to use other means, notably digital. It would be interesting in a future version of the program to compare the time that patients would be willing to invest into the program and the time planned by the pharmacist for the patients, according to the different educational objectives to be achieved thus comparing what is desired, desirable and achievable. Unlike educational sessions given in hospital following an acute CV event, this program addresses patients in their daily life at the chronic stage. This difference helps to explain the limited amount of time that some patients would be willing to invest. It has been shown by psychological studies

that acute events tend to be more worrying for patients than chronic events which will be present for many years anyway.

Moreover, several pharmacists mentioned having difficulties in managing the group. The group sessions are the perfect example: they were the longest, according to the questionnaires ; as according to the pharmacists the group could sometimes be complicated to refocus, with talkative patients mixed with shy ones, informed patients and naive patients, despite the value this brings. This probably explains the low use of this possibility among pharmacists (only 4% of sessions). Some TPE programs already operate on the same principle respecting the World Health Organization (*WHO*)'s definition of TPE [23]. Conducting a session several times could be envisaged, as was the case for one pharmacist. Some even proposed assessment, summary, and cross-cutting sessions. Furthermore, developing group-specific session leaders, with tools adapted to multi-person use, could also be considered. During the educational diagnosis, it might still be possible to identify the patient's ability to cooperate with a multi-person session. Sessions heavy on theory and knowledge were the ones where pharmacists had the most difficulty in communicating simple information, requiring them to reinforce the knowledge later (e.g. understanding my illness, managing my treatment, emergency treatment). Some pharmacists therefore decided to perform some sessions several times, with a more transversal system of learning between sessions as well as review and synthesis sessions. Some TPE programs [25,35] in France operate according to this model.

3. Achievement of the program's objectives

In the third stage, the evaluation was based on the achievement of the program's objectives, which was divided into the following 5 themes: achievement of objectives for patients, patient satisfaction, pharmacist satisfaction, satisfaction of other professionals and accessibility.

Concerning the educational diagnosis, all pharmacists felt that the interview was conducted under good conditions, both in general and in terms of trust. These results were positive, similar to those of the patients, as they corresponded with the pharmacists' feeling of having had an ability to encourage and rephrase what was said. In the end, the feeling of having established a real therapeutic alliance was present, which is in line with the intrinsic values of TPE. The patients felt free to express themselves as they wished and all appreciated having an attentive pharmacist with an excellent capacity for listening. All of these conditions are necessary for a strong adherence of the patient to the program. It is extremely rare in the literature not to find this type of quality criteria that correspond to the various recommendations. Overall, the patients were very satisfied. This result is encouraging and promising, as the first session is essential for the follow-up of TPE, the basic structure of everything that will be built afterwards, and the construction of a therapeutic alliance between the healthcare professional and the patient. In each program developed, the aim is to have such a high overall satisfaction rate, for all parameters. The question regarding difficulties and points of evolution was less understood. Many patients expressed personal difficulties (e.g. lack of time, loneliness, difficult dietary rules, complicated organisation) instead of their difficulties in the program. This suggests that the question may have been incorrectly phrased. Furthermore, patients were for the most part able to express themselves regarding their disease, treatments, environment, expectations/needs, fears/difficulties, projects and motivations. The patient must feel invested and

active in these objectives, which was the case for all patients. The results of free expression were less unanimous for the patients than for the pharmacists, although almost all of them felt that they understood this information 'rather' well. It was interesting to observe that the pharmacists felt that they had room for improvement, to become better at identifying educational needs and transforming them into educational objectives. This same tendency was found in ETOPPIA1, where the pharmacists were most often quite demanding about their own self-evaluation. This part of the educational diagnosis, the most crucial part, was the basis for the design of the personalised educational program, which explore several dimensions of the patient: bioclinical, sociocultural, cognitive/educational, psychoaffective and motivational.

Moreover, the relationship of trust to be established is a major axis of TPE, which was found in the 1998 WHO definition [23]. This was mentioned in the majority of sessions in ETOPPIA2 as was found in ETOPPIA1. This represents the strength of a program that is outside of the hospital environment, where the patient feels confident with his/her usual pharmacist, in a place he/she knows and in complete confidentiality.

Bias in understanding, active listening and time management were difficulties mentioned during ETOPPIA1 which concern the pharmacist more than the program itself. It was interesting to find that the selection of relevant sessions was a challenge. This is a pillar of diagnosis, finding educational needs and transforming them into educational objectives to be achieved during sessions. Perhaps adding a session on the disease adds to the complexity for patients who feel interested in each topic. A duality existed between the time it would take and the actual time available for the pharmacist to take. However, a large disparity also existed between pharmacists who had the opportunity and desire to conduct a very large number of sessions/inclusions (n=41) and those who had conducted only one session (n=1). It might be appropriate to select participating pharmacists, by valuing assistants who have more time to offer than titular pharmacists.

In terms of satisfaction, the pharmacists were more mitigated than patients. Their satisfaction was very good (98%) although they were less enthusiastic. Several points can explain this difference: the pharmacists had to be active listeners, conduct the interviews and not allow him/herself be guided like the patient. Some pharmacists mentioned finding it difficult to manage time, maintain active listening and conduct the session, which could explain the less satisfactory results. Indeed, 10% of them had difficulties in conducting the educational diagnosis. Moreover, unlike ETOPPIA1, there were pharmacists who had already conducted TPE programs and thus had some background and experience in this field ; they were mixed with newly arrived pharmacists, who were perhaps more critical of their expectations and achievements. As the session leader did not receive any requests for changes, it is likely that these difficulties were more organisational than material.

Overall, the patients who attended group sessions were generally satisfied with all the sessions. Almost all of them mentioned the motivational aspect, both in terms of knowledge exchange and discussions. Some also mentioned meeting other patients suffering from the same pathology and exchanging information about their difficulties. Several times, group sessions with spouses were mentioned on the subject of nutrition, which most often affects the entire family. These results are consistent with those of the pharmacists. One of the objectives of TPE as defined by the WHO [23] is also to focus on the patient as well as the group around him/her (i.e. his/her

family). One patient who had a session with another health professional mentioned the fact that he had had different visions but a common discourse with the pharmacist, which he considered beneficial. Interprofessionality in TPE programs is a critical but difficult goal to achieve.

Moreover, patient feedback on adherence, active participation, educational tools, trust and confidentiality was encouraging with values indicating high satisfaction, concordant with the pharmacists' feedback on these same elements. These results are reassuring as they indicate that no differences exist between what is wanted by one actor and felt by the other, which is one of the main biases of TPE. As the pedagogical tools had already been modified between the two programs, no major problems with them were mentioned. The improvement in knowledge was very well noted, in agreement with the majority of studies that have evaluated improvements in knowledge before and after TPE [35], which have all pointed in the same direction, namely a significant improvement in knowledge. The overall satisfaction was very good, with patients finding benefits to participating. The link between reality and the program was slightly less significant: patients must appropriate the different information and integrate it into their daily lives, a process that may take more or less time. This point makes reinterviewing the patients a few months later even more relevant for ensuring that the skills and knowledge acquired are maintained over time. Another reason would be to evaluate with the necessary hindsight if indeed the program was in line with the patients' reality.

Many free remarks were reported by both patients and pharmacists. Some of these cannot be detailed here, but they concerned personal points to be discussed in future sessions. The positive points mentioned by both groups are interesting because they are complementary. Unlike ETOPPIA1, this question was much better understood, as the pharmacists considered the feedback between the two programs. All of the components of TPE were present. The educational skills of the pharmacist (e.g. active listening, rephrasing, empathy) will help the patient to be active in the educational process, providing motivation which is a strong pillar of the implementation of such a program. As a relationship of trust is created, a therapeutic alliance will be established, allowing the necessary educational objectives to be defined. The involvement of the family was noted as a positive point by several pharmacists, who were more present during the educational diagnosis than in the previous version. Coronary artery disease has multiple components and consequences, affecting the patient as a person as well as his or her entourage. Some educational goals and needs require personal involvement and changes in their daily life: here, the family will be affected and can be of great help. No TPE projects with special sessions for family and carers were found in the literature. The interprofessional approach, allowing for a relay with the hospital, was raised by both pharmacists and patients.

One of the aims of this study was to demonstrate that TPE and more specifically TPE for coronary heart disease in out-of-hospital care could be beneficial for both the patient and the pharmacist. As seen later, the benefits obtained are more questionable for the pharmacist. They can be divided into two categories: individual benefits for the patients and structural benefits in the link between patients and healthcare providers around the program included in the care process.

In addition, the proportion who changed their dietary habits was quite high but remained relatively important. Unfortunately, this change did not necessarily lead to a major reduction in cholesterol levels, a major loss of

weight or the stabilisation of diabetes, despite the contribution of dietician-led sessions. A critical point not studied in ETOPPIA1 is the reduction of alcohol consumption, which is associated with a decrease in CV morbidity and mortality. Crucial to note is that these results are based exclusively on declarative data, as the patients were not weighed and did not have a biological check-up before and after the program, which could be part of an improvement. In addition, the time at which these results were requested was just after the French lockdown for COVID-19. Studies [36] on a sample revealed the importance of the repercussions on patients followed for cardiac pathology: weight gain +1.7kg, sedentary rate +22%, daily caloric intake +35.4% among others. It would be interesting for pharmacists to have access to future biological assessments to monitor the contribution of this program to a risk factor (i.e. poor diet) and the biological repercussions over the long term. This change in eating behaviour is often found in other TPE programs [25]. The results of a study have indicated lower rates of re-hospitalisation, death and CV events in patients who participated in nutrition sessions [37]. Although these results were below expectations, they were nevertheless satisfactory for people who made these changes with the expectation of maintaining them over time. The results were similar in the MSA study [35].

Although in the benefits of this program, no patient had new heart pain, urgently available treatment is still recommended. An important point of behavioural change was the introduction of emergency treatment for 4 patients following the various sessions with the pharmacist. Indeed, during the sessions, they realised that several patients no longer had emergency treatments prescribed or available. The pharmacists then contacted the prescribers to raise the problem and this led to the implementation of a better follow-up and a more complete management in accordance with the recommendations.

All patients felt that they had improved their knowledge of the disease and treatments which has been found in almost all studies with this parameter in their evaluation. This indicates that the session was effective and communicated well to patients. It could be interesting to evaluate the evolution of knowledge with the different sessions in a 'before and after' manner and also to evaluate this learning over time. It is likely that knowledge will diminish over time, so the pharmacist must be vigilant during treatment renewals, taking the time to re-explain some things and convey simple information. Most current studies on knowledge assessment are 'before and after' studies, which does not allow for comparison with our program ; however, it could be an axis for improvement. It should be noted that this point is based on declarative information and on the person's own sense of knowledge. Not every piece of knowledge about the disease and treatment was investigated, as was the case in another studies [25,35]

Furthermore, few patients participated in the session on stress and anxiety despite the addition of a session guide who was not present in ETOPPIA1 (this session was created during the program). Of the 6 participants, 80% felt less stressed and less anxious following the program. The French Society of Cardiology insists on the fundamental need to include a psychologist in the TPE team [38], to have this role of accompanying and informing the patient about the role of psychosocial factors in the appearance of pathologies. Studies have indicated that patients with depression have a higher mortality rate for major cardiological events [39]. Hospital-based TPE programs have had fascinating results regarding the improvement of the quality of life of patients, both medically and psychologically.

Moreover, 9 out of 10 patients claimed to perform regular physical activity following the program, a number higher at the end of the program than at the beginning. The same proportion was found in other TPE programs for coronary heart disease. These figures are interesting and should be followed up in the long term to determine whether these habits are maintained over time, which is the main risk considering that 59.9% of patients 6 months after hospitalisation for CVDs declare having no or little physical activity [19]. These data are all the more interesting as many sessions could not be held with physiotherapists who were partners in the project, as well as group-adapted physical activity sessions, which was a critical project. It remains to be seen whether the involvement and motivation of the patients will continue, as the lockdown led to a severe increase in sedentary behaviour [36] (+22%) and a related increase in CV risk. Unfortunately, the modalities of sporting activity were not studied, only the fact of participating in such activity or not. Many studies have demonstrated the value of regular and adapted physical activity in both the primary and secondary prevention of coronary heart disease [35].

For patients, smoking cessation is critical, or at least the keys to reducing tobacco consumption. The fact that the number of smokers and participants in the smoking cessation session was rather low indicated that an acute CV event is a strong reason for quitting smoking. Although the number of smokers who reduced their consumption after the program was relatively low (40%) compared with expectations, the figures in other studies are comparable, which should not to be overlooked. The INTERHEART study [40] clearly demonstrated the impact of smoking on coronary heart disease, leading to a 3-fold increase in the risk of heart attack and a 60% higher risk of death from heart disease at age 35 in smokers than in non-smokers. Smoking cessation seems particularly difficult to maintain in the long term, which leads us to imagine an extension of the program over a longer period of time with regular reminders.

A significant benefit, which has not been studied much in the literature in the context of a TPE project, is the strengthening of the status and role of the pharmacist as a health professional. Through the relationship of trust established, appreciated by 97% of patients, and the resulting confidentiality (98%), more than 80% of patients felt invested, active and globally satisfied. All of these elements allow the pharmacist to step out of his/her 'commercial status' to perceive the clinical aspect of his/her practice, be close to the patient, be available, be perceived as an indispensable health professional and a specialist in medicines and support the patient's autonomy in his/her illness. It was interesting to observe that this new status of support through educational schemes, which has always been present but is highlighted by this type of project, was requested by both patients and pharmacists. These results are in line with the latest French IFOP survey (2020) which demonstrated the importance of patients' trust in their pharmacist (97%) and the wish to see them conduct more important public health missions. While this may suggest real benefits for pharmacists, these are more questionable than patient benefits. The investments required in terms of time, staff and learning are such that the financial benefits and recognition may not seem sufficient (€300/patient in this program). The feedback from pharmacists indicated, for example, that the remuneration is not sufficiently high for the time spent. Others suggested that loyalty and long-term benefits are much more crucial.

4. Comparison with ETOPPIA1

This version of the program is relatively similar to ETOPPIA1, with some modifications having been applied following the identification of changes and issues raised in the previous evaluation.
ETOPPIA2 recorded a decrease in the number of patients (n = - 10) and sessions conducted (n = - 125) compared with ETOPPIA1, despite the addition of a new session (n = + 1) and the addition of a new session guide (n = + 1 (stress session)), an increase in the number of participating pharmacies (n = + 7) and the extension of the inclusion criteria, which were considered too restrictive during ETOPPIA1, leading to the exclusion of patients between 2013 and 2015. This result can be explained by the impact on the profession by the COVID-19 pandemic, the various health restrictions, other patient concerns and finally the lack of a favourable environment for TPE, as observed in other TPE programs. These conclusions are questionable, as the study population is still growing at present. However, the results of the overall participation are encouraging: it was not noted by pharmacists that the inclusion of patients was blocked by the entry criteria, which are currently more open. Overall, few pharmacists found themselves blocked by the inclusion criteria, but rather by the inclusion itself and the presentation of the benefits to the patient to motivate them. Indeed, the criteria of age and time between the acute event and inclusion in ETOPPIA1 were revoked as being too selective and not relevant to real practice. These results were compared with others in the literature, although inclusions are usually made in the hospital itself, without any time criteria between the hospitalisation and the TPE except to do so as soon as possible.

The average age of coronary patients has remained stable, comparable to results found in the literature. Indeed, in the 2010 FAST-MI study [41], the average age of onset of acute coronary disease was between 60 and 70 years. Furthermore, the proportion of women is higher than in the previous program. A parallel can be drawn to the increase in CV risk in young women (under 65 years) in France (+25.2% in hospitalisation rate for heart attack between 2002 and 2013) [1] and the significant increase in mortality rates from heart disease in women under 65 years according to the ESC [42].

Moreover, patients and pharmacists completed almost half as many sessions as in the ETOPPIA1 program. These results must be nuanced due to the small sample size: a large disparity existed between pharmacists who completed a minimum of 1 session and those who completed a maximum of 41. There are no recommendations in the literature and each program is intended to be different: the objectives are not common and the number of sessions will depend on the needs of the study population.

Several changes in the structure and flow of the program were applied following the ETOPPIA1 evaluations : the addition of a new session was seen as beneficial as it met a real need and was successful, as seen in the satisfaction of patients/pharmacists. The group sessions are very interesting and more numerous, although still used too little and only by pharmacists with some experience of TPE. The changes of habits reported by patients were also highly encouraging with real benefits in terms of CV protection. It's difficult to statistically analyse them with ETOPPIA1, as the samples are so different. Nevertheless, it's possible to note a similarity in the benefits obtained and those obtained in other TPE programs. The fact that other criteria for observing benefits were adopted is a crucial and necessary point. Concerning the educational sessions, in this version of the program,

patients' views were not solicited at the end of each educational session, as they were in the 2013-2015 version and were included in a more general question in the final questionnaire. This resulted in significant time efficiency and a reduced overload of assessment requests. It has been demonstrated that the more assessments there are, the more fatigue sets in and the greater the number of incorrect results obtained. The changes of the sessions conductors were not able to reduce the perception of the sessions being 'too long', which had already been mentioned during ETOPPIA1. As this is a highly subjective factor, it would be difficult to change without reducing the quality of the project. One of the possibilities of the new program was to make the pharmacist's assessment electronic *via* online questionnaires (thus reducing the time required to process the information) and to conduct the final patient assessment by phone to free the pharmacist.

The end-of-program questionnaire took the form of a telephone call to each patient. This format seems interesting, unlike a paper questionnaire ; that is, the bias in understanding mentioned during ETOPPIA1 is limited as the question can be rephrased. It's possible to expand on an answer and to guide it. The main disadvantages are the fact that it's time-consuming and that a phone conversation can lead to a lack of reflection. Unlike ETOPPIA1, most of the results are qualitative in the form of open-ended questions for obtaining the maximum amount of information. Although this final evaluation format (a phone call for the patient and Google Forms for the pharmacist) seems favourable, it's not optimal as a significant amount of time is required to collect the data and difficulties are experienced in retrieving it, perhaps more so than with the ETOPPIA1 method.

Another point raised during ETOPPIA1 was the lack of inter-professional links in the implementation of the project. Many other health professionals were involved in this version, such as physiotherapists for sports sessions and dieticians for dietary sessions. However, they are still too few in number and mainly present with pharmacists who are already working with them on other projects ; thus, this point still needs to be developed, especially in terms of the possibility for doctors to recruit and prescribe participation in such educational sessions. This is a recurring point that is not necessarily found in the hospital sector, which is a fully interprofessional structure. This lack of cooperation is neither justifiable nor explicable, but its development still requires time, a change of generation and joint learning of each other's skills.

5. Perspectives

Many concrete prospects exists for improving this program, which are discussed in this section.

Improvements to the program were suggested verbally by the patients. Some mentioned shortening the time between recruitment and the completion of all sessions. This is consistent with one of the negative points, where some patients saw several months pass between recruitment, 1 or 2 sessions and then the following ones, or even some sports sessions with a coach were cancelled. These delays were exceptional, as justified by the evolution of the health crisis, the various bans and the recommendations in force. The aim was to conduct as many sessions as possible in a shorter time, to take advantage of the patients' motivation, as opposed to exhausting them. Thus, not all programs are equal in terms of timing, and each has many advantages and

disadvantages. An out-of-hospital program needs to be less condensed and adjusted to the temporality of patients who have returned to their daily lives. Hospital programs are usually completed within a few weeks.

With regard to the state of the art proposed by M.Labrunée [16] in 2012 on TPE in the context of CVDs, the conclusion of this study is relatively comparable. It's an integral part of the care pathway in nonpharmacological management and responds to the problem raised in this work in the improvement of medical and paramedical follow-up in tertiary prevention. Self-management is becoming increasingly effective for this chronic disease, with a clear improvement in lifestyle. The cost/effectiveness ratio and the reduction in morbidity/mortality were not studied here due to the lack of a long-term perspective. To extend this work, the rules and methods of information/education transmission should be standardised, as should the evaluation of the results. The long-term monitoring of lifestyle changes by pharmacists in the form of annual reminder interviews and calculations of cost-effectiveness + morbidity/mortality reduction are expected to be the future of this program. In the same way that an annual evaluation has been conducted, it would be relevant to propose a quadrennial evaluation to ETOPPIA by proposing a follow-up evaluation to all patients who participated which is rather rare in the field of TPE. Through improving patient follow-up, the program can be improved.

As proposed in some programs (in hospital or not) [35], it seems necessary to consider biological parameters, in the form of a before/after program comparison, thus moving away from the strictly declarative and to allow for a statistical analysis. This biological monitoring could be part of the program's recruitment process, with a medical prescription to develop interprofessional links and encourage doctors to join. It's also a way of making the patient responsible for this approach and the follow-up that exists. It's easy to imagine being able to ask each patient for their last blood test, to check total cholesterol levels, blood sugar levels, triglycerides, HbA1c and renal clearance among others as well as blood pressure and BMI : their interpretation and explanation could even be the subject of a session. A blood test could be taken before the program and then at the end, to study the impact of the program on concrete criteria.

As proposed in the TPE program set up by the Mutuelle Sociale Agricole (*MSA*) [35] in France, it might be relevant to address the theme of knowledge, which has never been evaluated in ETOPPIA in the form of questionnaires. It would thus be possible to combine the evaluation of content and form with the consequences that such a program may have on the knowledge of patients, in several domains, pre-program and post-program, and maintenance over time (3 months, 6 months and 1 year). Thus, the knowledge acquired and the patients' confidence in their own knowledge could be compared and monitored over time, which would make cross-sectional follow-up summary sessions all the more interesting. Some studies have even divided the evaluation into 4 distinct points: patient skills, patient knowledge (associated with the degree of certainty), program satisfaction and self-assessment of life changes 3 months after [43]. The follow-up of patients after a program is a critical point. In some TPE programs [44], follow-up is performed in several sessions ending with a final evaluation session. Another session takes place 1 month later, then 2 months, and then 6 months. This allows several evaluations and checks that knowledge is maintained over time, by comparing evaluations between the end of the program and 1 year for example. It can be complicated to set this up in 'town pharmacies', as the teams sometimes experience a high turnover and changes in owners. Other studies have demonstrated that the

educational impact (in the CV or non CV setting) is highest directly after the program and tends to decrease a few months later.

As proposed by one patient and found in certain studies [45], it could be interesting opening up this type of program to all patients who have not necessarily had an acute CV event and to act in the prevention of CVDs in primary prevention. Any person with a prescription for a hypolipidemic +/- antiplatelet agent on the advice of their pharmacist and/or prescription from their physician could be recruited. This type of program would be interesting for improving lifestyle and opening up the offer of TPE to the greatest number of people. A progression in the reduction of risk factors has been demonstrated [46] in primary prevention, from 1 year post-program to 4 years post-program in a continuous and significant manner. While this open proposal is interesting, it is also far from the actual objectives of TPE which are to aim for patient autonomy and to improve patient management. The selection criteria had already been opened up for this program making it more accessible to the majority of patients.

The impact of COVID-19 was a significant point in the implementation of this program. It raised questions and allowed us to put ourselves in situations that we would never have imagined, which in turn allowed us to accelerate our reflections on the implementation of the program. It is now necessary to consider the future of TPE in France [47], mainly the different means of implementation, while seeking to maintain the relationship of trust and proximity as necessary for the development of TPE. The current avenues are more focused on distance learning (i.e. video-conferencing), which is already used in some projects [48-49]. In the years to come, so called 'e-TPE' [50] is bound to take on a special dimension with many digital tools available and useful for TPE in development. Currently, the SOPHIA [51] support program offered by the French National *Assurance Maladie* for patients with asthma and diabetes is completely accessible *via* a 'personal digital health space' and a network of nurse health advisors accessible by phone and this program already has 1 million members. In the future, it is also possible to envisage the development of a new model, through the digitalisation of programs, in a hybrid format. The advantages would be maintaining educational continuity despite distance (geographical for rare disease programs or for health reasons) and including people who are resistant to face-to-face teaching. According to the first feedback from e-TPE programs that have been set up, they are rather positive in terms of contact and educational activities. They have also made it possible to highlight the predominant role of digital tools. Currently, a similar approach is already offered in France to conduct 'telemedicine' namely 'teleconsultation' for the physician and 'telecare' for the pharmacist. These practices are based on the digital use of health. However, the lack of group sessions can be difficult and demotivating. The conclusion drawn is the importance of returning to face-to-face sessions as soon as possible, supplemented by e-TPE sessions. The main element remains the digital divide, which will certainly be a major issue to manage in the near future.

More generally on TPE as a whole, a large disparity exists in access to TPE programs in France. Few chronic patients are included, due to a lack of structures offered to them, and a lack of time, within a context of geographical inequalities in access to care [52]. Nevertheless, a large offer of proximity is available. Many efforts must be made to include the maximum number of chronic patients and to obtain long-term public health benefits. More generally, it is probable that in the years to come more cross-sectional polypathological programs will be

developed as opposed to dealing with each individual disease, in a context where the links and risk factors between chronic diseases are better known. Digital technology is proving to be a promising avenue for development [53].

Besides the digitalisation of programs, the deployment of TPE programs on an even wider scale will require political and financial support. It should also be recalled that one of the secondary objectives of TPE is to achieve significant economic benefits by focusing on prevention and reducing the use of therapies and all types of care systems [54]. Public authorities, motivated by the results of the latest available studies, are increasingly committed to improving the quality of the health system and controlling healthcare expenditure. Among the proposals for health 2022 of Caisse Nationale d'Assurance Maladie (*CNAM*) which were published in July 2021 [55], five concern prevention and health promotion ; among these, three are committed to health education programs, through various approaches.

The health care expenses related to cardio-neurovascular diseases should not be underestimated. In 2019, the cost of treating approximately 66.3 million people was estimated to be 167 billion euros by Assurance Maladie. Chronic diseases and treatments accounted for approximately 61% of this expenditure (86 billion euros) and concerned 36% of the population (24 million people). Moreover, 10.5% of expenditure concerns the treatment of CVDs (17.9 billion euros). Although it is currently difficult to find complete medico-economic analyses demonstrating the efficiency of TPE programs on health insurance expenditure, the literature testifies to a significant reduction in the risk of re-hospitalisation, through increased compliance and improved lifestyle, thus reducing hospital costs, particularly in the CV field [56-57]. In the absence of quantifiable data, the method of financing remains precarious and structure-dependent [58]. Therefore, this is the main lever to be studied quantitatively, modulating it, through enhanced coordination between actors and funders, to ensure its sustainable development.

6. Strengths and weaknesses

This study had two major strengths. The first was the fact that the final evaluation was conducted by an external party, which is not compulsory in the recommendations for TPE evaluations. It brought a critical viewpoint to the evaluation, without affect, which differed from that of the pharmacist or the patient, who perceives, minimises or increases his/her feelings. It would be ideal to have this external observer throughout the program. Moreover, it seemed difficult to provide an external observer to standardise the quality of the answers of each session as is done for hospital programs [59] even through it would be beneficial. However, rephrasing the questions in questionnaires (particularly those formulated as open-ended questions, relating to difficulties and favourable points, for which the most off-topic answers were counted), making them easier and providing better training for the facilitators prior to the program on the evaluations and tools would increase the quality of the answers and avoid errors of understanding. As is already done during the training required to participate in ETOPPIA, time is necessary for discovering the different questionnaires. This time could be increased, led by the evaluator and be the subject of an exchange where everyone's expectations and requests are presented.

The second strenght was the telephone interviews for collecting patients' final evaluations. Although the questionnaires were designed as thoroughly as possible to obtain quantitative responses without any bias in terms of understanding, the oral interview makes it possible to take time with each patient, rephrase and adapt the questionnaire, obtain the most complete response possible, and enhance the qualitative aspect which are not possible with a questionnaire and a limited written response. Few programs operate with the same evaluation system, making ETOPPIA2 a relatively innovative program.

Various points may appear to be difficulties but they are beneficial for the evaluation. Notably, the different parts of the program were not evaluated by the same observer (pharmacists, patients or independent person) with an obvious disparity in the appropriation of the questionnaires and the answers. This does not allow for a certain homogeneity but it does allow for an even more interesting range of responses. The evaluation of a program based on declarative data has the disadvantage of a certain gap between the data collected and the reality of behaviour in daily life ; however, it allows, and this is what was intended, a greater openness in the questions, an exploration of other points and the patient to be moved towards exchanges that would never have occurred without qualitative data. The Hawthorne effect [60] (i.e. an influence on observed attitudes due to the presence of the observer) should not be overlooked. Moreover, the sample size is perceived as quite small, which reduces the statistical power, with a significant number of people lost to follow-up (e.g. death, no news, moves) ; however, the percentage of respondents is high, which made this work possible. To date, inclusions continue and the numbers of sessions and participants continue to increase, which are close to the original target.

One point seemed promising but did not have the expected effect, namely the switch from paper questionnaires to dematerialised questionnaires in the form of Google Forms links. The expectation was that the data would be easier to retrieve, quicker, more intuitive and more efficient, with a shorter processing time between the session, input and retrieval by the evaluator. In the end, a larger number of data entry errors was noted, with duplications, longer delays and greater heterogeneity of satisfaction with the online questionnaires. This will need to be discussed and amended in a future version of the program. Nevertheless, it is legitimate to ask the following question: Are these difficulties exclusively due to this digitalisation? The context of overwork brought about by COVID-19 may also have accentuated these errors, as might the almost global choice of a single actor per pharmacy. Many programs have been able to operate with online data collection questionnaires without this being a problem.

Moreover, limitations to this study were easily identifiable. First, the formulation of certain questions of different questionnaires may have been subject to confusion and a lack of answers for both patients and pharmacists. Moreover, the lack of comparative quantitative data (biological and clinical) was a significant limitations. Some studies [35] have been based on before/after comparisons of data such as blood pressure, HbA1c and cholesterol. In addition, a control group was absent which would have been a group of patients who did not benefit from the program. This particular point is difficult to implement, however, and is not actually the best way to demonstrates the efficiency of ETOPPIA. From a more global point of view, a critical bias lies in the selected population: it was highly heterogeneous, in terms of knowledge, follow-up, stage of disease, support, and ability to understand and assimilate the information. The patients who agreed to participate are probably the most motivated to change,

the most confident with their pharmacist and the most demanding. This is a fact that has been found in most evaluations of other programs. Moreover, one of the greatest difficulties mentioned by the different actors during the ETOPPIA2 program was the COVID-19 crisis which is still ongoing in France. It has led to organisational, health, team and patient management difficulties. Unfortunately, some patients died prematurely, others were lost to follow-up, while others still were demotivated by the various confinements. Some pharmacists had to stop working to concentrate on tests and vaccinations, sometimes lacking staff and space to meet the new health standards. It is therefore difficult to compare the two versions of the program on the same scale. Nevertheless, this cannot be viewed entirely as a limitation of the study, although it may explain the lower than expected number of inclusions and the difficulties in management, among other factors. The main limitation of this study in relation to COVID-19 was the lack of adaptation of the program and of TPE more generally to such a crisis. Relevant questions are as follows : where should the interviews be conducted when health norms are stricter? How should one free up time when over-booked? How can patients be motivated when they are experiencing anxiety? How can education be the focus when the patient has other worries? How do we continue the program in other, less than ideal, conditions?

Other difficulties originated from the recovery of pharmacist and patient data. The difficulty with the pharmacist data was due to a lack of time despite the convenience of online Google Forms rather than a paper questionnaire as well as the current health situation causing stress and delay. The difficulty with the patient data was due to the desire to collect data by telephone, which require more time and organisation. These two phenomena have made data recovery very difficult, leading to a certain loss of efficiency.

The socio-demographic characteristics of the population were not studied or taken into account in the evaluation in this work as may be the case in other programs. This could have been relevant, especially in the study of the influence of the level of precariousness and education on CV risk factors and on the changes that TPE could bring. This specific study would have been difficult to implement, due to a lack of participants in each social category and a lack of representativeness. However, on a larger scale, if this program became national, it might be possible. In the criteria of the social determinants of health that could be taken into account, it is possible to note, according to the American Heart Association (*AHA*), the Socioeconomic position, ethnicity, social support, culture and language, access to care, residential environment. The AHA indicates that "lower socioeconomic position in the United States is associated with a greater prevalence of CVD risk factors and a higher incidence of and mortality resulting from CVD" [61].

Conclusion

What was once presented as a way to follow up coronary patients in some works is now a reality: a follow-up programme for coronary patients exists outside of the hospital. The local pharmacy thus allows quick and easy contact with a competent health professional where specialists and general practitioners would be less available. It should be recalled that pharmacy studies are the only ones where TPE training is obligatory, making student pharmacists the main vehicles and motors for setting up such programs.

This experimental program proved to be positive and promising in a pharmacy sector where there was no TPE program in post-heart-attack outside of the hospital. This project is all the more interesting because it addresses the public in a chronic context and not in an acute context. It enables patients to acquire knowledge and develop new behaviours perceived as beneficial, in a relationship of trust with pharmacists. Thanks to their expertise, proximity and networking in the multidisciplinary care network, pharmacists are crucial players in the entire educational process. They can play a major role in this process, from initial information to implementation and then to patient follow-up. This program provides pharmacists with the opportunity to actively participate in patient care and to implement the concept of clinical pharmacy in their daily practice. Nevertheless, difficulties remain, both in implementation and evaluation, but resolving theme would facilitate the development of this type of program on a larger scale. Patient follow-up, data collection and the standardisation of practices are the points that must be addressed in the near future.

Conclusion

Les pathologies coronariennes sont des pathologies chroniques de plus en plus fréquentes impliquant un grand nombre de changements d'ordre hygiéno-diététiques, médicamenteux etc. Le nombre de récidive reste important malgré les nombreuses démarches engagées. Ces patients doivent être repérés et doivent faire l'objet d'un accompagnement personnalisé et adapté dans lequel ils auront leur place au cœur du système de soin.

Ce qui était présenté dans d'autres travaux comme un axe d'amélioration dans le suivi du patient coronarien est maintenant une réalité : un programme de suivi existe en dehors du cadre hospitalier. Les pharmacies de proximité permettent un contact rapide et facile avec un professionnel de santé formé et compétent, là où les médecins spécialistes et généralistes peuvent être moins accessibles. Il paraît nécessaire de rappeler que les études de pharmacies sont les seules pour lesquelles l'enseignement de l'ETP est obligatoire, rendant les pharmaciens des vecteurs et des moteurs dans la mise en place de projet comme ETOPPIA.

Ce programme expérimental tend à être positif et prometteur dans un secteur où nul programme d'ETP pour les patients en post-infarctus n'existait en dehors de l'hôpital et du suivi en urgence. Ce projet est intéressant dans le sens où il s'adresse à un public dans un contexte chronique et non aigu. Il permet aux patients d'acquérir des connaissances et de développer de nouvelles compétences perçues comme bénéfiques, dans un contexte de relation de confiance avec le pharmacien. Grâce à leur expertise, leur proximité et leur capacité à être un membre actif du réseau de soin dans lequel évolue le patient, les pharmaciens sont des acteurs cruciaux dans tout le processus éducatif. Ce programme donne l'opportunité aux pharmaciens de participer activement dans le soin du patient et de mettre en avant le concept de pharmacie clinique dans leur pratique quotidienne. Ce programme a ainsi permis aux patients de travailler sur les principaux facteurs de risques inhérants à leur pathologie et d'être ainsi actifs dans le cadre de leur prévention secondaire et tertiaire. Cependant, des difficultés persistent, tant dans la mise en place du projet que dans l'évaluation, qui, résolues, permettraient de faciliter le développement de ce type de projet à une plus grande ampleur. Le suivi du patient, la collecte des données et la standardisation des pratiques sont les points qui doivent être améliorés dans un futur proche. De plus, les bénéfices obtenus par les pharmaciens et les patients sont inégaux, les premiers trouvant le temps investi peu en adéquation avec la rémunération.

Si la première phase du projet ETOPPIA a mis en évidence la possibilité d'un accompagnement des patients coronariens en dehors de l'hôpital avec succès, cette deuxième phase a ainsi permis de consolider les outils disponibles, d'étendre ce programme sur un territoire plus large, d'adapter ce projet en tenant compte des difficultés évoquées et ainsi de proposer aux patients et aux pharmaciens demandeurs une palette d'outils performants et adaptés. Une extension de ce programme pourrait être envisagée par la suite, tenant compte des optimisations et perspectives proposées.

Bibliographie

1. World Health Organization, (2020). The top 10 causes of death. Consulté le 15 octobre 2021 [Internet], à l'adresse https://www.who.int/fr/news-room/fact-sheets/detail/the-top-10-causes-of-death

2. World Health Organization, (2020). Mortality and global health estimates : leading causes of death. Consulté le 10 septembre 2021 [Internet], à l'adresse https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates/ghe-leading-causes-of-death

3. Inserm-CépiDc. (2019). Causes of death by sex: annual data from 1990 to 2016. Consulté le 20 septembre 2020 [Internet], à l'adresse https://www.insee.fr/fr/statistiques/2385258#tableau-figure1

4. N.G. Frangogiannis, (2015). Pathophysiology of Myoacardial infarction. Comprehensive physiology, 1841-1875. https://doi.org/10.1002/cphy.c150006

5. National Heart, Lung, and Blood Institute, NIH (2022). Causes and Risk Factors. Consulté le 29 mai 2022 [Internet], à l'adresse https://www.nhlbi.nih.gov/health/heart-attack/causes

6. World Health Organization, (2017). Cardiovascular diseases (CVDs). Consulté le 15 octobre 2021 [Internet], à l'adresse https://www.who.int/fr/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)

7. U. Pietrzykowski, P. Michalski, M. Kasprzak et al. (2020). Medication adherence and its determinants in patients after myocardial infarction. Scientific Reports, 10(1). https://doi.org/10.1038/s41598-020-68915-1

8. P.M. Ho, J.A. Masoudi, F.A. Reid, et al. (2006). Impact of medication Therapy discontinuation on mortality after myocardial infarction. Archives of internal medicine, 166(17), 1842. https://doi.org/10.1001/archinte.166.17.1842

9. P.Tuppin, A. Neumann, N. Danchin, et al. (2010). Evidence-based pharmacotherapy after myocardial infarction in France : Adherence-associated factors and relationship with 30-month mortality and rehospitalization. Archives of Cardiovascular Diseases, 103(6-7), 363-375. https://doi.org/10.1016/j.acvd.2010.05.003

10. B. Pavy. (2013). Quelle éducation thérapeutique en réadaptation cardiaque ? Réalités cardiologiques, 1(297), 20-24. http://www.realites-cardiologiques.com/wp-content/uploads/sites/2/2013/12/05.pdf

11. C.D. Evans, E. Watson, D.T. Eurich et al. (2011). Diabetes and Cardiovascular Disease Interventions by Community Pharmacists : A Systematic Review. Annals of Pharmacotherapy, 45(5), 615-628. https://doi.org/10.1345/aph.1p615

12. S. Barnason, C. White-Williams, L. P. Rossi, American Heart Association, et al. (2017). Evidence for Therapeutic Patient Education Interventions to promote cardiovascular patient self-management : a scientific statement for Healthcare professionals from the American Heart Association. Circulation : Cardiovascular quality and outcomes, 10(6), 1-23. https://www.ahajournals.org/doi/10.1161/HCQ.0000000000000025

13. B.Pavy, R. Barbet, F. Carré, et al. (2013). Therapeutic education in coronary heart disease : Position paper from the Working Group of Exercise Rehabilitation and Sport (GERS) and the Therapeutic Education Commission of the French Society of Cardiology. Archives of Cardiovascular Diseases, 106(12), 680-689. https://doi.org/10.1016/j.acvd.2013.10.002

14. Y. Juillière, P. Jourdain, J. Roncalli, et al. (2009). Therapeutic education unit for heart failure : Setting-up and difficulties. Initial evaluation of the I-CARE programme. Archives of Cardiovascular Diseases, 102(1), 19-27. https://doi.org/10.1016/j.acvd.2008.10.015

15. G. Lagger, Z. Pataky, A. Golay, (2010). Efficacy of therapeutic patient education in chronic diseases and obesity. Patient Education and Counseling, 79(3), 283-286. https://doi.org/10.1016/j.pec.2010.03.015

16. M. Labrunée, A. Pathak, M. Loscos, et al. (2012). Therapeutic education in cardiovascular diseases : State of the art and perspectives. Annals of Physical and Rehabilitation Medicine, 55(5), 322-341. https://doi.org/10.1016/j.rehab.2012.04.003

17. G. Lagger, Z. Pataky, A. Golay. (2009). Efficacité de l'éducation thérapeutique. Revue Médicale Suisse, 5, 688-690. https://WWW.revmed.ch

18. K. Kotseva, D. Wood, D. de Bacquer, et al. (2016). EUROASPIRE IV : A European Society of Cardiology survey on the lifestyle, risk factor and therapeutic management of coronary patients from 24 European countries. European Journal of Preventive Cardiology, 23(6), 636-648. https://doi.org/10.1177/2047487315569401

19. K. Kotseva, G. de Backer, D. de Bacqueret al. (2019). Lifestyle and impact on cardiovascular risk factor control in coronary patients across 27 countries : Results from the European Society of Cardiology ESC-EORP EUROASPIRE V registry. European Journal of Preventive Cardiology, 26(8), 824-835. https://doi.org/10.1177/2047487318825350

20. L.V. Miller, J. Goldstein (1972). More Efficient Care of Diabetic Patients in a County-Hospital Setting. New England Journal of Medicine, 286(26), 1388-1391. https://doi.org/10.1056/nejm197206292862605

21. B. Ibanez, S. James, S. Agewall et al. (2017). 2017 ESC Guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation : The Task Force for the management of acute myocardial infarction in patients presenting with ST-segment elevation of the European Society of Cardiology. European Heart Journal, 39(2), 119-177. https://doi.org/10.1093/eurheartj/ehx393

22. T. Denolle, M. Dib, M. Brune, et al. (2017). Control of cardiovascular risk factors in coronary patients one year after cardiac rehabilitation. Annales de Cardiologie et d'Angéiologie, 66(3), 135-139. https://doi/org/10.1016/j.ancard.2017.04.005

23. WHO working group. (1998), Therapeutic patient education : continuing education programmes for health care providers in the field of prevention of chronic diseases. Consulté le 21 mai 2022 [Internet], à l'adresse http://apps.who.int/iris/bitstream/10665/108151/1/E63674.pdf

24. J-C. Cohen, F-X. Derzko, X. De La Tribonnière, et al. (2020). Surveys on an inventory of the practice of therapeutic patient education (TEP) in an Universitary Hospital Center : for a revitalization of TPE. Educ Ther Patient / Ther Patient Educ : ETP Journal, 12(1), 1-17. https://doi.org/10.1051/tpe/2020005

25. S. Desert. (2017). Thèse de D.E.S de médecine générale : Evaluation du programme d'éducation thérapeutique EduCardAix dans les suites d'un syndrome coronarien aigu. Faculté de médecine Aix-Marseille Université. Consulté le 12 octobre 2021 [Internet], https://dumas.ccsd.cnrs.fr/dumas-01877912/document

26. M. Vandangeon, (2016). Thèse de doctorat de pharmacie : Evaluation annuelle d'un programme d'éducation thérapeutique du patient post-infarctus à l'officine : le programme ETOPPIA. Faculté de pharmacie de l'Université d'Angers.

27. HAS-santé, (2014). Evaluation annuelle d'un programme d'éducation thérapeutique du patient (ETP) : une démarche d'auto-évaluation. Consulté le 20 juin 2022 [Internet] à l'adresse https://www.hassante.fr/jcms/c_1234324/fr/evaluation-annuelle-d-un-programme-d-education-therapeutique-du-patient-etpune-demarche-d-auto-evaluation

28. J.F.d'Ivernois, R. Gagnayre, J .P. Assal et al. (2006) Evaluation of therapeutic patient education. https://hal.archives-ouvertes.fr/hal-00115779/document

29. L. Ricci LR, J. Villegente JV, D. Loyal DL et al. (2021). Tailored patient therapeutic educational interventions : a patient-centred communication model. Health expectations, 25(1) 276-289. https://doi.org/10.1111/hex.13377

30. D. D'amour, I. Oandasan. (2005). Interprofessionality as the field of interprofessional practice and interprofessional education : an emerging concept. Journal of Interprofessional car. 1. 8-20. https://doi.org/10.1080/13561820500081604

31. F. Gomez-Delgado, N. Katsiki, J. Lopez-Miranda et al. (2021). Dietary habits, lipoprotein metabolism and cardiovascular disease : from individual foods to dietary patterns. Crit Rev Food Sci Nutri. 61(10), 1651-1669. https://doi.org/10.1080/10408398.2020.1764487

32. F.L.J. Visseren, F. Mach, Y .M. Smulders, (2021). 2021 ESC Guidelines on cardiovascular disease prevention in clinical pratice. European Heart Journal, 42(34), 3227-3337. https://doi.org/10.1093/eurheartj/ehab484

33. N. Ben Nasr, A. Rouault, N. Cornillet et al. (2018). Evaluation of a hypertension-based patient education program in a stroke center. International Journal of Clinical Pharmacy, 40. 1490-1500. https://doi.org/10.1007/s11096-018-0745-2

34. Haute Autorité de Santé (2020). Acccompagner les patients ayant une maladie chronique et/ou à risque de forme grave de COVID-19 dans la levée du confinement [Internet], consulté le 06/06/22 à l'adresse https://www.has-sante.fr/jcms/p_3184139/fr/accompagner-les-patients-ayant-une-maladie-chronique-et/ou-a-risque-de-forme-grave-de-covid-19-dans-la-levee-du-confinement

35. C. Crozet, V.V. Bockstael, J. Devos et al. (2009) Evaluation d'un programme national en France d'éducation thérapeutique pour des patients du régime agricole atteints de maladies cardio-vasculaires. Educ Ther Patient/Ther Patient Educ. ETP Journal, 1(1), 33-38. http://dx.doi.org/10.1051/tpe/2009013

36. A.Aajal, B.El Boussaadani, L. Hara et al. (2021). The consequences of the lockdown on cardiovascular diseases. Ann Cardiol Angeiol. 70(2), 94-101. https://doi.org/10.1016%2Fj.ancard.2021.01.006

37. M. Baudet, P. Hericotte, C. Daugareil et al. (2006). Improvement of the prognosis of the acute coronary syndromes in Landes by lifestyle modifications. Annale of Cardiology and Angeiology, 55(4), 8-192.

38. B. Pavy, M.C. Iliou, B. Vergès-Patois et al. (2012). French society of cardiology guidelines for cardiac rehabilitation in adults. Arch cardiovasc dis, 105(5), 28-309.

39. R.V. Milani, C.J. Lavie (2007). Impact of cardiac rehabilitation on depression and its associated mortality. Am J Med, 120(9), 799-806.

40. S. Yusuf, S. Hawken, S. Ounpuu et al. (2004). Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study) : case-control study. Lancet. 364(9438), 937-952. https://doi.org/10.1016/s0140-6736(04)17018-9

41. M. Hansse, Y. Cottin, K. Khalife et al. (2012). French registry on acute ST-elevation and non ST-elevation Myocardial infarction 2010 : FAST-MI 2010. Heart Br Card Sic, 98(9), 699-705.

42. S. Antipolis (2021). Heart disease deaths rising in young women. European Society of Cardiology. [Internet], consulté le 02/06/2022 à l'adresse https://www.escardio.org/The-ESC/Press-Office/Press-releases/Heartdisease-deaths-rising-in-young-women

43. V. Brunie, M.C. Lott, J. Guiader et al. (2012). Therapeutic patient education in heart failure : a program(s assessment. Annale of cardiology and angeiology, 61(2), 74-80. https://doi.org/10.1016/j.ancard.2011.09.006

44. J. Bernard-Leclerc, O. Conort, Y. Bacq et al. (2010) Impact of a therapeutic education programme on knowledge, compliance and satisfaction of patients treated for chronic viral hepatitis C. Educ Ther Patient/Ther Patient educ, ETP Journal 3(1), 21-33. http://dx.doi.org/10.1051/tpe/2011104

45. M. Baudet, C. Daugareil. (2014). Therapeutic education in primary cardiovascular prevention. Interests and limits. Ann Cardiol Angeiol. 63(4), 235-239. https://doi.org/10.1016/j.ancard.2014.01.010

46. M. Baudet, C. Daugareil. (2018). Therapeutic education in primary cardiovascular prevention : 4 years sustained interest. Ann Cardiol Angeiol. 67(1), 14-17. https://doi.org/10.1016/j.ancard.2017.02.001

47. X. De La Tribonnière. (2014). Compte rendu du Vème congrès de la société d'éducation thérapeutique européenne : Education thérapeutique : quelles frontières ? Educ ther Patient / Ther Patient Educ : ETP Journal, 6(2), 1-12. https://doi.org/10.1051/tpe/2014017

48. A. Dibie, V. Femery, A. Dubois, et al. (2018). VIVOPTIM : feedback of an e-Health experimental program of primary prevention of cardiovascular risk on 30 to 70 years old volunteers. Annales de Cardiologie et d'Angéiologie, 67(5), 293-299. https://doi.org/10.1016/j.ancard.2018.09.002

49. T. Jongh, I. Gurol-Urganci, V. Vodopivec-Jamsek, et al. (2012). Mobile phone messaging for facilitating selfmanagement of long-term illnesses. Cochrane. Consulté le 16 février 2022 [Internet], à l'adresse https://www.cochrane.org/CD007459/COMMUN_mobile-phone-messaging-for-facilitating-self-management-oflong-term-illnesses

50. J.D. Cohen, M. Chambouleyron, A. Guillaume, et al. (2020). L'e-ETP : vers une nouvelle pratique ? Educ ther patient/Ther Patient educ : ETP Journal, 12(2), 1-4. https://doi.org/10.1051/tpe/2021004

51. Assurance Maladie. (2022). SOPHIA, le servicie d'accompagnement de l'Assurance Malaide. Consulté le 13 septembre 2022 [Internet], à l'adresse https://www.ameli.fr/assure/sante/assurance-maladie/sophia/servicesophia-assurance-maladie

52. D. Peljak. (2011). L'éducation thérapeutique du patient : la nécessité d'une approche globale, coordonnée et pérenne. Santé Publique, 23(2), 135-141. https://doi.org/10.3917/spub.112.0135

53. P. Lafitte, K. Lince-Barrere, M.Marchand et al. (2020). Digital for TPE : about a multimorbidity. Educ Ther Patient / Ther Patient Educ : ETP journal, 12(1), 1-8. https://doi.org/10.1051/tpe/2020001

54. S. Papadakis, N.B. Oldridge, D. Coyle et al. (2005). Economic evaluation of cardiac rehabilitation : a systematic review. European Journal of preventive cardiology, 12(6), 20-513. https://doi.org/10.1097/01.hjr.0000186624.60486.e8

55. Assurance Maladie. (2021). Améliorer la qualité du système de santé et maîtriser les dépenses : propositions de l'assurance maladie pour 2022. Rapport au ministre chargé de la Sécurité sociale et au Parlement sur l'évolution des charges et des produits de l'Assurance Maladie au titre de 2022 (loi du 13 août 2004), consulté en août 2021 [Internet] à l'adresse https://assurance-maladie.ameli.fr/sites/default/files/2021-07_rapportpropositions-pour-2022_assurance-maladie_3.pdf

56. Haute Autorité De Santé, (2008). L'éducation thérapeutique dans la prise en charge des maladies chroniques : analyse économique et organitionnelle. Service Évaluation économique et Santé publique. Consulté le 8 septembre 2021 [Internet] à l'adresse https://www.has-sante.fr/jcms/r_1499485/fr/l-education-therapeutiquedans-la-prise-en-charge-des-maladies-chroniques-analyse-economique-et-organisationnelle

57. Haute Autorité De Santé, (2008). L'éducation thérapeutique dans la prise en charge des maladies chroniques : Analyse économique et organisationnelle. Consulté le 16 février 2022 [Internet], à l'adresse https://www.hassante.fr/jcms/r_1499485/fr/l-education-therapeutique-dans-la-prise-en-charge-des-maladies-chroniquesanalyse-economique-et-organisationnelle#toc_1_4

58. F. Baudier, B. Garros. (2009). Éducation thérapeutique : « new deal » des régimes d'assurance maladie ? ADSP, 66, 46-49. https://www.hcsp.fr/docspdf/adsp/adsp-66/ad664649.pdf

59. P. Giannuzzi, P.L.Temporelli, R. Marchiolo et al. (2008). Global secondary prevention strategies to limite vent recurrence after myocardial infarction : results of the GOSPEL study, a multicenter, randomized controlled trial from the Italian Cardiac Rehabilitation Network. Archival Intern medical. 168(20), 2194-2204. https://doi.org/10.1001/archinte.168.20.2194

60. R. McCarney, J. Warner, S. Lliffe et al. (2007). The Hawthorne Effect : a randomised, controlled trial. BMC Med Res Methodol. 7(30), https://doi.org/10.1186%2F1471-2288-7-30

61. E. P. Havranek, M.S. Mujahid, D.A. Barr et al. (2015). Social Determinants of risk and outcomes for cardiovascular disease. Circulation, American Heart Association. 132, 873-898. https://doi.org/10.1161/CIR.0000000000000228

Annexes

Annexe 1 : Educational diagnosis : Patient questionnaire

ETOPPIA2 / Educational diagnosis: patient satisfaction questionnaire

Questionnaire to be completed at the end of each educational diagnosis

*Obligatoire

1. Mail

2. Pharmacist's name *

3. Patient anonymity number *

4. Patient's initials *

5. Concerning the educational diagnosis in which you have just participated, would you say that *

Only one answer per line possible

Plusieurs réponses possibles.

	Totally disagree	Partially disagree	Partially agree	Totally agree
The interview took place in good conditions (confidentiality, calm, listening, etc.)	☐	☐	☐	☐
Generally speaking, I would say that the quality of the greeting made it possible to establish a real climate of trust	☐	☐	☐	☐
During the interview, I had the opportunity to fully express myself on : - my illness	☐	☐	☐	☐
- my treatment	☐	☐	☐	☐
- my environment	☐	☐	☐	☐
- my expectations, my needs	☐	☐	☐	☐
- my fears, my difficulties, my anxieties	☐	☐	☐	☐
- my projects, my motivations	☐	☐	☐	☐
During the interview, I felt that I was listened to and found the pharmacist attentive to what I said	☐	☐	☐	☐

I was able to ask all the questions that came to mind	☐	☐	☐	☐
The length of the interview seemed appropriate to me	☐	☐	☐	☐
JI have fully contributed to the decisions and actions defined at the end of the interview and taken together with the pharmacist	☐	☐	☐	☐
The time needed to conduct the next sessions seems to be a barrier to my participation	☐	☐	☐	☐
Overall, I am very satisfied with this session	☐	☐	☐	☐

6. Other points (favourable, difficulties ...) that I would like to mention : *

Annexe 2 : Educational diagnosis : Pharmacist questionnaire

ETOPPIA2/Educational diagnosis: pharmacist self assessment

Questionnaire to be completed at the end of each educational diagnosis

*Obligatoire

1. Mail

   Une seule réponse possible.

   ◯ Option 1

2. Pharmacist's name *

3. Patient anonymity number *

4. Patient's initials *

5. Duration of interview (min) *

6. Educational diagnosis *

Only one answer per line possible

Plusieurs réponses possibles.

	Totally disagree	Partially disagree	Partially agree	Totally agree
Were you able to conduct this interview in good conditions of confidentiality and listening (without interruption from the phone, the employee, etc.)?	☐	☐	☐	☐
Do you think you have given your patient confidence?	☐	☐	☐	☐
Did you feel comfortable with the questionnaire?	☐	☐	☐	☐
Did you follow the flow of the questionnaire linearly?	☐	☐	☐	☐
Did you encourage the patient to ask questions?	☐	☐	☐	☐
Did you regularly rephrase what the patient said?	☐	☐	☐	☐

7. Has this interview enabled you to identify : *

Only one answer per line possible

Plusieurs réponses possibles.

	Totally disagree	Partially disagree	Partially agree	Totally agree
The patient's knowledge and beliefs about their illness	☐	☐	☐	☐
stheir knowledge and beliefs about their treatment	☐	☐	☐	☐
its environment	☐	☐	☐	☐
its expectations, its needs	☐	☐	☐	☐
their fears, difficulties and anxieties	☐	☐	☐	☐
its projects, its motivations	☐	☐	☐	☐

8. Did you find this educational diagnosis difficult to conduct? *

Only one answer possible

Plusieurs réponses possibles.

- ☐ Totally disagree
- ☐ Partially disagree
- ☐ Partially agree
- ☐ Totally agree

9. Why or why not? On which point(s) in particular? *

10. Overall *

Only one answer per line possible

Plusieurs réponses possibles.

	Totally disagree	Partially disagree	Partially agree	Totally agree
Was the patient involved and in support of the decisions and actions defined at the end of the interview?	☐	☐	☐	☐
Are you satisfied with this interview?	☐	☐	☐	☐

11. Duration of the interview *

Only one answer per line possible

Plusieurs réponses possibles.

	Too short	Short	Adapted	Long	Too long
Compared to the requirements of the educational diagnosis, the length of the interview seemed to you?	☐	☐	☐	☐	☐
Compared to your other professional obligations, the duration of this interview was?	☐	☐	☐	☐	☐

12. Identified points of evolution / progress? *

Annexe 3 : Educational session questionnaire

ETOPPIA2/Summary of the educational session

Questionnaire to be completed by the pharmacist at the end of each session

*Obligatoire

1. Mail

2. Pharmacist's name *

3. Patient anonymity number *

4. Patient's initials *

5. Session *

Une seule réponse possible.

- ◯ Individual
- ◯ Group

6. Workshop : *

Une seule réponse possible.

- ◯ Understanding heart attack
- ◯ Understanding my treatment
- ◯ Managing your treatment
- ◯ Managing my emergency treatment
- ◯ Adapted physical activity
- ◯ Smoking cessation support
- ◯ Dietary guidelines
- ◯ Managing my stressful situations

7. Duration of the session (min) *

_____

8. Summary of the session (progress, skills acquired or developed by the patient, objective set to be implemented in his/her daily life) *

_____

_____

_____

_____

_____

9. Concerning the session *

Only one answer per line possible

Plusieurs réponses possibles.

	Too short	Short	Adapted	Long	Too long
In relation to the objectives of the workshop, did you find the length of the session	☐	☐	☐	☐	☐
Compared to your overall professional obligations, the duration of this session proved to be	☐	☐	☐	☐	☐

10. Difficulties encountered / Points of evolution identified? *

Annexe 4 : End of program evaluation : patient

ETOPPIA2/Final patient questionnaire

Questionnaire to be completed at the end of the program by a phone call to each patient

1. Patient's anonymity number

_____

2. Patient's initials

_____

3. I am :

Une seule réponse possible.

- ◯ A woman
- ◯ A man
- ◯ Autre : _____

4. Patient's age

_____

5. Have you ever participated in a TPE program ?

Une seule réponse possible.

- ◯ Yes
- ◯ No
- ◯ ETOPPIA1
- ◯ Autre : _____

6. Did you participate in group sessions? With other professionals? How did you feel?

7. Why did you decide to participate in this ETOPPIA2 program?

8. With regard to this program, can you give a score out of 10 to these different elements:

Only one answer per line

Plusieurs réponses possibles.

	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10
Patient adherence to the program	☐	☐	☐	☐	☐	☐	☐	☐
Active participation	☐	☐	☐	☐	☐	☐	☐	☐
Improving patient knowledge	☐	☐	☐	☐	☐	☐	☐	☐
The adequacy of the educational tools with the needs of the patient	☐	☐	☐	☐	☐	☐	☐	☐
The adequacy of the formation with the reality	☐	☐	☐	☐	☐	☐	☐	☐
The quality of the relationship of trust with the pharmacist	☐	☐	☐	☐	☐	☐	☐	☐
Confidentiality of meetings	☐	☐	☐	☐	☐	☐	☐	☐

9. Which session(s) or behaviour(s) do you think would be most beneficial to you?
Several answers possible

Plusieurs réponses possibles.

- [ ] Understanding chronic treatment
- [ ] Understanding the disease
- [ ] Managing compliance with chronic treatment
- [ ] Emergency treatment management
- [ ] Appropriate and regular physical activity
- [ ] A healthy and balanced diet
- [ ] Smoking management
- [ ] Stress management
- [ ] Autre : _____

10. Before entering the program, I smoked (number of cigarettes/d):

_____

11. After the educational sessions, I smoke (number of cigarettes/d) :

_____

12. Before entering the program, I weighed (kg) :

_____

13. Now I weigh (kg) :

_____

14. Before entering the program, I was physically active:

Une seule réponse possible.

- ◯ Yes
- ◯ No

15. After the educational sessions :

Une seule réponse possible.

- ◯ I have changed my sports practice
- ◯ I have started physical activity again
- ◯ I have not taken up sport
- ◯ I continue to practice the same sports
- ◯ Autre : _____

16. Regarding the consequences of these sessions :

Une seule réponse possible par ligne.

	Yes	I don't know	No changement	No
My stress and anxiety have decreased	◯	◯	◯	◯
I have changed my eating habits	◯	◯	◯	◯
My blood pressure has decreased	◯	◯	◯	◯
My diabetes has stabilised	◯	◯	◯	◯
My cholesterol has gone down	◯	◯	◯	◯
I know my disease and treatments better	◯	◯	◯	◯
I had new chest pains	◯	◯	◯	◯
My alcohol consumption has decreased	◯	◯	◯	◯

17. What would be the positive/negative points of this program ?

18. What are the main benefits of the project?

19. Do you see any room for improvement, any sessions to be added, any particular difficulties?

20. Do you plan to continue this type of care? Why or why not?

21. In general, how satisfied were you with ETOPPIA2, from the training to its evaluation?

Une seule réponse possible.

	1	2	3	4	5	6	7	8	9	10	
Unsatisfied	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Fully satisfied

22. Something else ?

Thanking you sincerely for your involvement and participation in this ETOPPIA2 program, from training to evaluation.

Annexe 5 : End of program evaluation : Pharmacist

ETOPPIA2/Pharmacist final questionnaire

Please answer this questionnaire at the end of your inclusion in the ETOPPIA2 program. These answers will enable the evaluation of this project regarding the overall activity, effects and processes of this program. It will be interesting to find out the benefits for both carers and patients, while aiming to improve practice.

*Obligatoire

1. Mail

2. Name : *

3. Why did you decide to participate in this ETOPPIA2 program? *

4. Concerning the general organisation of this program, can you give a score out of 10 to these different elements : *

Only one answer per line

Plusieurs réponses possibles.

	1/10	2/10	3/10	4/10	5/10	6/10	7/10
General organisation	☐	☐	☐	☐	☐	☐	☐
The ease of recruitment	☐	☐	☐	☐	☐	☐	☐
Coordination between patient/team/program referent	☐	☐	☐	☐	☐	☐	☐
The quality of interprofessional work	☐	☐	☐	☐	☐	☐	☐
Training prior to this program	☐	☐	☐	☐	☐	☐	☐
Implementation of the sessions	☐	☐	☐	☐	☐	☐	☐
The number of sessions available	☐	☐	☐	☐	☐	☐	☐

5. Do you think that at the end of the program you have achieved the educational objectives that you set at the beginning? Please explain? *

6. With regard to these two elements, you judge : *

Une seule réponse possible par ligne.

	Inadequate	Not enough	Correct	Adequate
The time spent on this program (training –> evaluation)	◯	◯	◯	◯
Remuneration in line with the time invested	◯	◯	◯	◯

7. How do you rate the criteria for patient inclusion compared to the reality of the counter? How many patients on average have you had to turn away? *

8. Regarding the relationship with the patient during this program, can you give a score out of 10 to these different elements? *

Only one answer per line

Plusieurs réponses possibles.

	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10
Patient adherence to the program	☐	☐	☐	☐	☐	☐	☐	☐
Active participation	☐	☐	☐	☐	☐	☐	☐	☐
Improving patient knowledge	☐	☐	☐	☐	☐	☐	☐	☐
The adequacy of the educational tools with the needs of the patient	☐	☐	☐	☐	☐	☐	☐	☐
The adequacy of the training with the reality of the patient	☐	☐	☐	☐	☐	☐	☐	☐
The quality of the relationship of trust with the patient	☐	☐	☐	☐	☐	☐	☐	☐
Confidentiality of interviews	☐	☐	☐	☐	☐	☐	☐	☐

9. Have you noticed any impact of this program on the patient's compliance or relationship with their illness? Please explain? *

10. Which session(s) or behaviour(s) do you think would be most beneficial to patients? *

More than one answer possible

Plusieurs réponses possibles.

- [ ] Understanding chronic treatment
- [ ] Understanding the disease
- [ ] Managing compliance with chronic treatment
- [ ] Emergency treatment management
- [ ] Appropriate and regular physical activity
- [ ] A healthy and balanced diet
- [ ] Smoking management
- [ ] Stress management
- [ ] Autre : _____

11. Do you plan to continue these therapeutic talks for patients with coronary disorders in your pharmacy? Why do you want to do this? *

12. What would be the positive/negative points of this program ? *

13. What are the main benefits of the project? *

14. Do you see any room for improvement, any sessions to be added, any particular difficulties? *

15. Do you plan to continue this type of interprofessional project in the future following this TPE program ? *

16. In general, how satisfied were you with ETOPPIA2, from the training to its evaluation? *

Une seule réponse possible.

	1	2	3	4	5	6	7	8	9	10	
Unsatisfied	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Fully satisfied

17. Anything else ? *

Thanking you sincerely for your involvement and participation in this ETOPPIA2 program, from training to evaluation.

Table des annexes

Table des figures

Table des tableaux

Table des abréviations

AHA	American Heart Association
ARS	Agence régionale de Santé
CHU	Centre Hospitalo-Universitaire
CNAM	Caisse Nationale d'Assurance Maladie
CV	Cardio-vascular
CVD	Cardio-vascular disease
ESC	European Society of Cardiology
ETOPPIA	Education Thérapeutique à l'Officine des Patients en Post-Infarctus en Anjou
ETP	Education Thérapeutique du Patient
HAS	Haute Autorité de Santé
IDM	Infarctus Du Myocarde
MSA	Mutuelle Sociale Agricole
MSH	Ministry of Solidarity and Health
MSP	Maison de Santé Pluriprofessionnelle
TPE	Therapeutic Patient Education
URPS	Union Régionale des Professionnels de Santé
WHO	World Health Organization

Table des matières

DEMURGE Gaël

Evaluation annuelle d'un Programme d'Education Thérapeutique à l'Officine des Patients en Post-Infarctus en Anjou (France) : ETOPPIA2

RÉSUMÉ

Les maladies cardiovasculaires sont la principale cause de mortalité dans le monde depuis les 15 dernières années. Actuellement, l'ETP est un élément majeur et primordial en cardiologie dans la partie préventive des recommandations. En 2018, une seconde étape du programme ETOPPIA a été lancée pour soutenir les patients coronariens à travers une approche interprofessionnelle. Le but de l'étude suivante était d'évaluer le programme ETOPPIA2 et de le comparer avec la précédente version. Pour collecter toutes les données qualitatives et quantitatives, des questionnaires ont été réalisés à des points clefs à chaque étape du programme pour les patients et pharmaciens inclus entre Avril 2019 et Janvier 2021. Au total, 64 patients ont été inclus par 20 différentes officines, où 168 sessions éducatives ont été réalisées à travers 8 thèmes. La satisfaction globale patients était de 84%. Le programme a aidé à réduire les facteurs de risque cardiovasculaires comme le stress, l'HTA, le diabète, l'hypercholestérolémie, le tabac et le surpoids en permettant aux patients de changer leurs habitudes hygiéno-diététiques. Une amélioration des connaissances sur la pathologie/traitements et sur les compétences a été démontrée à travers des conditions d'entretiens favorables et une posture éducative. En comparaison avec ETOPPIA1, la participation globale (séances/patients) était plus faible mais les bénéfices obtenus étaient relativement similaires, avec une nette amélioration dans la mise en place et le nombre de séances proposées. Cependant, une claire différence a été trouvée entre les bénéfices obtenus par les patients et ceux obtenus par les pharmaciens. Ce programme expérimental parait prometteur et bénéfique dans un secteur où il n'existait de programme d'ETP en post-infarctus en dehors de l'hôpital. Il a permis aux patients d'acquérir des connaissances et de développer de nouvelles habitudes perçues comme bénéfiques dans une relation de confiance avec les pharmaciens. ETOPPIA2 a permis aux pharmaciens de participer activement aux soins du patient et d'appliquer le concept de pharmacie clinique dans leur pratique quotidienne. Cependant, des difficultés persistent dans le suivi du patient, la collecte des données et la standardisation des pratiques, tant dans la mise en place que dans l'évaluation. Les résoudre permettrait de faciliter le développement de ce type de programme à une plus grande échelle.

Mots-clés : Education Thérapeutique du Patient, Evaluation, ETOPPIA, maladie coronarienne

Annual evaluation of a therapeutic education program for post-heart-attack patients in Anjou (France) : ETOPPIA2

ABSTRACT

Cardiovascular diseases have been the main cause of death worldwide for the last 15 years. Currently, TPE is a major and primordial element of cardiology in the preventive part of the recommendations. In 2018, a second step of the ETOPPIA program was launched to support coronary patients through an interprofessional approach. The aim of the present study was to evaluate the ETOPPIA2 program and compare it with the previous version. To collect all the qualitative and quantitative data, questionnaires were placed at key points at each stage of the program for the pharmacists and patients included between April 2019 and January 2021. In total, 64 patients were included by 20 different community pharmacies, where 168 educational sessions were conducted around 8 themes. The overall patient satisfaction was 84%. The program helped to reduce cardiovascular risk factors such as stress, high blood pressure, diabetes, cholesterol, smoking, and overweight by enabling patients to change their sporting and dietary habits. An improvement in knowledge about the disease/treatments and skills was demonstrated under favourable interview conditions and educational postures. Compared with ETOPPIA1, the overall participation (sessions/patients) was lower but the benefits obtained were relatively similar, with a clear improvement in the set-up and number of sessions offered. Moreover, a clear difference was found between the benefits obtained by patients and by pharmacists. This experimental program proved to be positive and promising in a pharmacy sector where no TPE program exists for post-heart-attack outside of hospitals. It enabled patients to acquire knowledge and develop new behaviours perceived as beneficial in a relationship of trust with pharmacists. ETOPPIA2 provides pharmacists with the opportunity to actively participate in patient care and to implement the concept of clinical pharmacy in their daily practice. Nevertheless, difficulties remain in patient follow-up, data collection and standardisation of practices, in both implementation and evaluation. Resolving theme would facilitate the development of this type of program on a larger scale.

Keywords : Therapeutic Patient Education, program, evaluation, ETOPPIA, coronary disease