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# General practitioner residents and patients end-of life: involvement and consequences

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## Abstract

**Background:** The ageing of the population and the increased number of chronic diseases are associated with an increased frequency of end of life care in hospital settings. Residents rotating in hospital wards play a major part in their care, regardless of their specialty. General practitioner (GP) residents are confronted to such activities in hospital settings during their training. Our aim was to know how they feel about taking care of dying patients, as end-of-life care are very different from the clinical activity they are trained to.

**Methods:** We surveyed all GP trainees of “Ile de France”. The survey was made of 41 questions regarding advanced directives divided in 7 sections about patients’ care, communication, mentoring and repercussion on personal life. The survey was done one time, during two pre-specified days.

**Results:** 525 residents (53.8%) accepted to fulfill the survey. 74.1% of the residents thought that palliative care could have been better. Possible ways of improvements were: a reduction of unreasonable obstinacy (or therapeutic overkill, two terms defined in French law as curative treatment without reasonable hope of efficiency) (59.6%), patient’s (210 answers, 40%) and relative’s communication (information of patients and relatives about the severity of the disease and risk of death) (199 answers 37.9%). Residents also reported a lack of knowledge regarding end-of-life care specific treatments (411 answers, 79.3%) and 298 (47.2%) wished for better mentoring. Those difficulties were associated with repercussion on their private life (353 answers, 67.2%), particularly with their close relatives (55.4%). Finally, 56.2% of trainees thought that a systematic psychologic follow up should be instituted for those working in “at risk” hospital settings.

**Conclusion:** Self-perception management of dying patients by GP resident emphasize their lack of training and supervision. The feeling of suboptimal care is associated with consequences on personal life.

**Keywords:** End-of-life, Patient autonomy, General practitioner, Patient care management, Junior physician, Psychological resilience, Clinical competences

## Background

The aging of the population and scientific improvement have led to the increase of chronic conditions [1, 2]. The progressive physiological alteration associated

with long-term diseases may ultimately lead to death [3]. Thus, in the US, 70% of death is due to chronic illness [4]. On the same way, in France, two third of deaths are due to chronic illness and “could require end-of-life care” [5].

Most deaths, in particular those of patients who have chronic illnesses or require end-of-life care, take place in hospital settings [6–8]. In most cases, end of life care is provided in department that are not specialized in palliative care [9].

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In this situation, care is not limited to pharmaceutical prescription. They also include delivering bad news such as a serious disease or a bad prognosis, and managing relatives before and after death. This kind of care, because of the confrontation to physical and moral distress, in particular in serious situations, is associated with a risk of psychological complications among caregivers [10, 11] but also senior physicians [12–15]. Having to take part in decisions of therapeutics' withdrawal or withholding is associated with a greater risk [16–18].

In a vast number of department (for example oncology, neurology, internal medicine, ...), prescriptions are made by residents and controlled by senior physicians. Although youth and inexperience are known factors for psychological and broadly moral distress [11, 15], most of the currently available works looking at psychological complications cares, especially of dying patients, has been done with experienced physician, in department often confronted to end of life care such as in oncology, hospice and trauma departments [15].

The aim of our work is to evaluate the psychological impact of end of life care in the GP residents' population who is young and who is training for family medicine rather than palliative medicine.

## Methods

### Survey

The survey was designed by the REQUIEM group members and built according to professional guidelines [19, 20]. It was made of 41 questions divided in two major sections (Additional file 1: survey): knowledge regarding the French law on end of life care (2016-87- February 2nd, 2016; Claeys-Leonetti's law) and end of life care management during their last previous rotation (6 months). The second section was divided in seven subsections looking at: participation in therapeutic withdrawal decisions, implementation of palliative care decision by the whole medical team, management of patients' end of life care by the resident, repercussions of end-of-life care on the resident's personal life, quality of resident's supervision for end-of-life care patients, resident's training regarding end-of-life care and professional goals. Of note, we use the term of "unreasonable obstinacy" (or previously "therapeutic overkill"), defined as all curative acts undertaken when they seem futile, without reasonable hope of effectiveness, in order to standardize resident response to the survey.

The survey was anonymous. Participation to the survey was orally offered to all general practitioners (GP) residents ("internes de médecine générale") during a mandatory interview (a global meeting, including all residents,

for their choice of next rotation), between March 29th and April 5th 2016. This specific time and place was planned to allow the best response rate, as all residents were presents. The survey was filled out on a voluntary basis. Residents who did not want to participate in the study only needed to give back the survey unfilled to the investigator (VH).

### Population

In France medical training is separated in two periods: six years of general formation ("externat") followed by 3 to 6 years of residency depending on the specialty ("internat"). For general practitioners, residency last 3 years. In those three years GP residents complete six 6-month rotations either in hospital wards or in GP's practice.

We surveyed all GP residents training in Paris and its suburbs (Ile de France). The survey was looking at their last rotation, in any hospital ward. They were all met during a specific and mandatory gathering (administrative meeting to choose their next rotation) by the first author (VH).

### Ethics

The questionnaire was anonymous and filled out on a voluntary basis. An oral informed consent to participate was obtained from all of the participants in the study. Residents who declined to answer had to make it clear by handing out a blank survey to the investigator (VH). Empty surveys were collected to determine the number of participants involved.

The study is in compliance with the Helsinki Declaration. According to French legislation this survey was a non-interventional study and therefore did not require submission to an ethics committee per se. The survey was, however, approved by our hospital ethics board, who did not request any change and gave us their agreement. We did not need to obtain formal consent from the respondents. A filled-out survey was considered non-opposition to the study. Participants were informed that the data obtained would be anonymously analyzed and published in a scientific journal.

### Statistical analysis

Data were expressed as mean and standard deviations or, if appropriate, median and confidence intervals as a function of response disparity.

Comparison of variables was analyzed by an exact Fisher test or Chi<sup>2</sup>. Differences were considered as statistically significant for a p value of less than 5%. Statistical analysis was done on Statistica<sup>®</sup>. For ease of reading, the most statistically significant results are indicated in bold in the tables

**Results**

1. Population

The survey was handed out to all GP residents working in Paris and its suburbs (“Île-de-France”) (n=1172). About them, 196 (16.7%) did not fulfilled the inclusion criteria (previous 6 months’ rotation in GP office and not in hospital ward). Among the remaining 976 potential responders, 525 (53.8%) accepted to answer and fulfilled the survey. The remaining residents (n=451, i.e. 46.2% of potential responders and 38.4% of the whole residents’ population) refused to fill out the survey after being informed.

2. Patients’ end-of-life care during their current rotation

354 (67.4%) residents were satisfied with the quality of end of life care during their rotation. However, 315 (60%) thought that palliative care should have been implemented earlier. Moreover, 74.1% of them thought that the end-of-life care could have been improved. Possible axis for improvement were both somatic (pain) (64%) and anxiety (56,6%) management and psychological support for the patient and his relatives (See Fig. 1).

The period of time immediately preceding death was particularly difficult since 239 residents (45.4%) considered that patients’ physical suffering was inefficiently treated. Finally, 58.5% of the GP residents felt that their own psychological distress was not correctly taken care of.

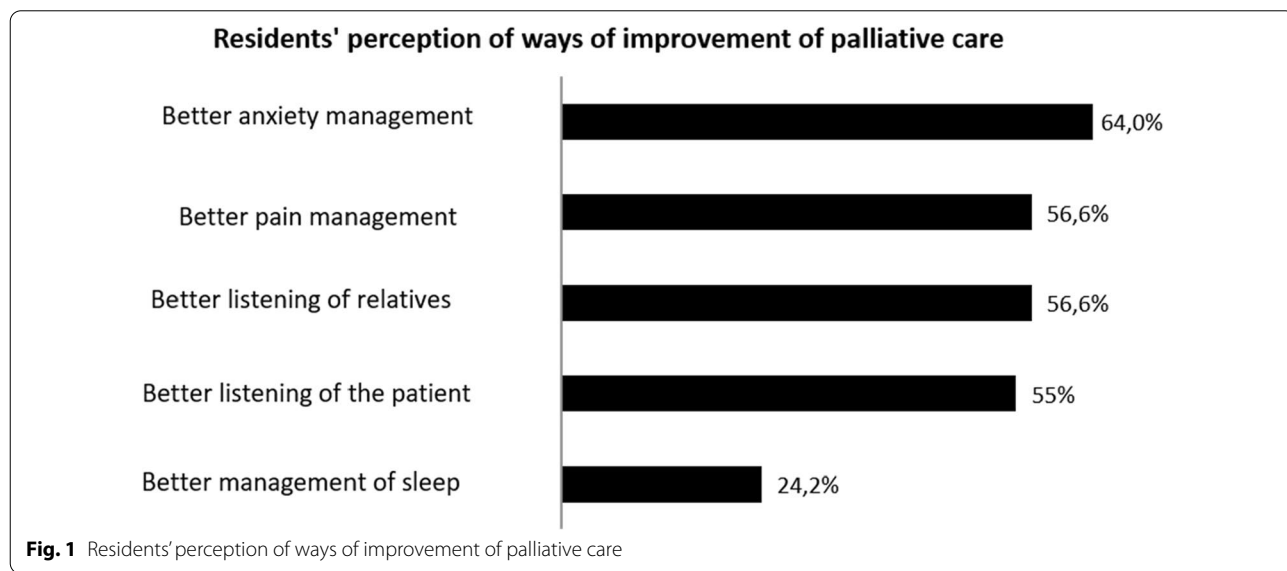
3. Parameters associated with the perception of end-of-life care quality

Four Types of parameters are associated with resident’s evaluation of end-of-life care quality: end-of-life care implementation, quality of patient’s complaints’ support, residents’ perception of their management by senior physicians and personal difficulties regarding end-of-life care. Details are in Table 1.

4. Difficulties met by residents while caring for dying patients

a. Perception of unreasonable obstinacy (lack of communication between physicians)

313 residents (59.6%) consider having witnessed unreasonable obstinacy in the care of their hospitalized patients. They considered it was obstinacy because of the severity of the clinical picture (65.9%) (example: a patient with multimetastatic cancer and severe malnutrition, with a loss of autonomy—clinical frailty scale: 7 -, who has been offered and umpteenth line of chemotherapy) and because of the severity of the prognosis short-term (61.7%) (example of testimony during the survey: “the end-of-life was obvious for the whole team except the attending physician, and the patient died without comfort treatment”). For 15.1% of residents, obstinacy was revealed by the refusal to follow a previously stated therapeutics’ limitation.



**Fig. 1** Residents’ perception of ways of improvement of palliative care

**Table 1** Parameters associated with resident satisfaction about quality of patients' end-of-life care

|   | Yes (n = 354)<br>(%) | No (n = 171) (%) | p                             |
|---|----------------------|------------------|-------------------------------|
| <i>Delay in implementation of palliative care</i>                                 |                      |                  |                               |
| Satisfaction about quality of patients' end-of-life care                          |                      |                  |                               |
| Palliative care should have been implemented earlier                              | 50.3                 | 80.1             | <b>6.2.10<sup>-11</sup></b>   |
| Perception of an unreasonable obstinacy   | 57.3                 | 64.3             | 0.12                          |
| The patient took part in therapeutic intensity                                    | 61                   | 57.9             | 0.49                          |
| Quality of palliative care could have been improved                               | 65.3                 | 92.4             | <b>2.9.10<sup>-11</sup></b>   |
| Management of patients complaints   |                      |                  |                               |
| Perception of an insufficient consideration of patient pain                       | 40.7                 | 55.6             | <b>0.001</b>                  |
| Perception of an insufficient consideration of patient psychological frailty      | 56.8                 | 62               | 0.25                          |
| Perception of quality of supervision form senior staff members                    |                      |                  |                               |
| Satisfied by the quality of their supervision                                     | 64.7                 | 28.1             | <b>3.37.10<sup>-15</sup></b>  |
| Perception of an ability to express their disagreement on the course of treatment | 46.7                 | 55.9             | 0.52                          |
| Distress in end-of-life care management   |                      |                  |                               |
| Hurt by a perception of unreasonable obstinacy                                    | 60.9                 | 70.9             | 0.077                         |
| No difficulties using and adapting analgesic and sedative drugs                   | 23.2                 | 18.7             | 0.24                          |
| Difficulties /avoiding talking about death with patient                           | 40.1                 | 52               | <b>0.009</b>                  |
| Difficulties /avoiding talking about death with patient's relatives               | 33.9                 | 46.2             | <b>0.006</b>                  |
| Desire to avoid caring for dying patients   | 20.6                 | 38.6             | <b>1.21 × 10<sup>-5</sup></b> |
| Clinical duties impact their personal life  | 65.3                 | 71.3             | 0.16                          |
| Wish to have a professional orientation in palliative care management             | 20.6                 | 14               | 0.068                         |

The most relevant statistically significant results are indicated in bold

b. Communication with senior physicians  
Among residents who felt having witnessed unreasonable obstinacy, only 167 (53.4%) felt free to express their disagreement.

c. Communication with patients  
210 (40%) participants disclosed having difficulties to talk about death with their dying patients. Likewise, 199 (37.9%) residents have difficulties

**Table 2** Factors associated with difficulties/avoiding talking about death

|   | Yes (n = 231) (%) | No (n = 294) (%) | p                             |
|---|-------------------|------------------|-------------------------------|
| <i>Factors associated with difficulties/avoiding talking about death with patient</i> |                   |                  |                               |
| Wish to have a professional orientation in palliative care management                 | 13.4              | 22.4             | 0.008                         |
| Resident satisfied with the quality of end of life care during their rotation         | 61.5              | 72.1             | 0.009                         |
| No difficulties using and adapting analgesic and sedative drugs                       | 19.5              | 17.9             | 0.64                          |
| Difficulties /avoiding talking about death with patient's relatives                   | 63.2              | 18               | <b>3.3 × 10<sup>-26</sup></b> |
| Desire to avoid caring for dying patients   | 36.4              | 18.7             | <b>5.32 × 10<sup>-6</sup></b> |
|   | Yes (n = 199)     | No (n = 326)     | p                             |
| <i>Factors associated with difficulties/avoiding talking about death with patient</i> |                   |                  |                               |
| Wish to have a professional orientation in palliative care management                 | 12.1              | 22.1             | <b>0.004</b>                  |
| Resident satisfied with the quality of end of life care during their rotation         | 60.3              | 71.8             | <b>0.006</b>                  |
| No difficulties using and adapting analgesic and sedative drugs                       | 20.6              | 22.4             | 0.63                          |
| Difficulties /avoiding talking about death with their patients                        | 73.4              | 18               | <b>3.3 × 10<sup>-26</sup></b> |
| Desire to avoid caring for dying patients   | 35.2              | 21.2             | <b>0.0004</b>                 |

The most relevant statistically significant results are indicated in bold

talking about these things with patients’ relatives. Both difficulties are associated in 63.2% of cases. As expected the wish to stop caring for dying patients in the future and communications difficulties are linked (cf. Table 2). Conversely, wishing to have an end-of-life activity in the future is associated with a lesser risk of communication difficulties. (cf. Table 2).

d. Therapeutic difficulties

Only 114 (21.7%) residents say having no difficulties using and adapting analgesic and sedative drugs used in end-of-life care. Also, 46.9% of the residents admit their fear to shorten the life of these patients because of the use of sedative and analgesic treatments. Moreover, 63.4% (n=246) of them considered that this fear to shorten life may have limited the adaptation of end-of-life care treatments. In the same fashion, fear to shorten life was associated with the feeling of a lack of anxiety management for dying patients (p=0,007).

e. Need for stronger supervision

In this work, 227 (52.8%) residents were satisfied with the supervision form senior staff members for the end-of-life care.

Among residents considering that supervision could improve (n=248), 59.7% of them wished for more assistance in the therapeutic aspect of end-of-life care.

The quality of supervision is associated in our work to the perceived quality of end-of-life care. However, it is not possible to determine the causality (cf. satisfaction towards end-of-life care and Table 3).

5. Distress in end-of-life care management during the current rotation

a. Distress related to the perception of unreasonable obstinacy

Among residents who felt they were witnessing unreasonable obstinacy (n=313), 64.6% were hurt by the situation. This distress was associated with the feeling to be unable to express their disagreement on the course of treatment in 71.7% of cases. Distress was also increased when feeling that the end-of-life care was insufficient (cf Table 4). Conversely, the perceived quality of supervision what associated with a lesser risk of distress.

b. Repercussion on personal life

The need to care of dying patients in the context of their hospital rotation is associated with

**Table 3** Perception of the quality of their supervision by senior staff members

|   | Yes (n = 354) (%) | No (n = 171) (%) | p                              |
|---|-------------------|------------------|--------------------------------|
| <i>Perception of the quality of their supervision by senior staff members</i> |                   |                  |                                |
| Satisfied by the quality of their supervision                                 | 64.7              | 28.1             | <b>3.37 x 10<sup>-15</sup></b> |
| Felt free to express their disagreement                                       | 46.7              | 55.9             | 0.52                           |

The most relevant statistically significant results are indicated in bold

**Table 4** Suffering due to a Perception of unreasonable obstinacy

|  | Yes (n = 201) (%) | No (n = 111) (%) | p             |
|--|-------------------|------------------|---------------|
| <i>Suffering due to a Perception of unreasonable obstinacy</i>                   |                   |                  |               |
| Resident satisfied with the quality of end of life care during their rotation    | 61                | 71.2             | 0.072         |
| Palliative care should have been implemented earlier                             | 75.1              | 55               | <b>0.0002</b> |
| Perception of an insufficient consideration of patient pain                      | 51.7              | 36               | <b>0.007</b>  |
| Perception of an insufficient consideration of patient psychological frailty     | 59.7              | 55               | 0.41          |
| Felt free to express their disagreement about a perceived unreasonable obstinacy | 48.3              | 62.7             | <b>0.01</b>   |
| No difficulties using and adapting analgesic and sedative drugs                  | 23.4              | 26.1             | 0.59          |
| Difficulties /avoiding talking about death with their patients                   | 68.5              | 40.4             | 0.21          |
| Difficulties /avoiding talking about death with patient’s relatives              | 39.6              | 32.6             | 0.27          |
| Clinical duties impact their personal life                                       | 77.1              | 57.7             | <b>0.0003</b> |
| Desire to avoid caring for dying patients  | 29.4              | 19.8             | 0.065         |
| Satisfied by the quality of their supervision                                    | 42.3              | 63.1             | <b>0.0004</b> |
| Wish to have a professional orientation in palliative care management            | 21.4              | 13.5             | 0.08          |

The most relevant statistically significant results are indicated in bold

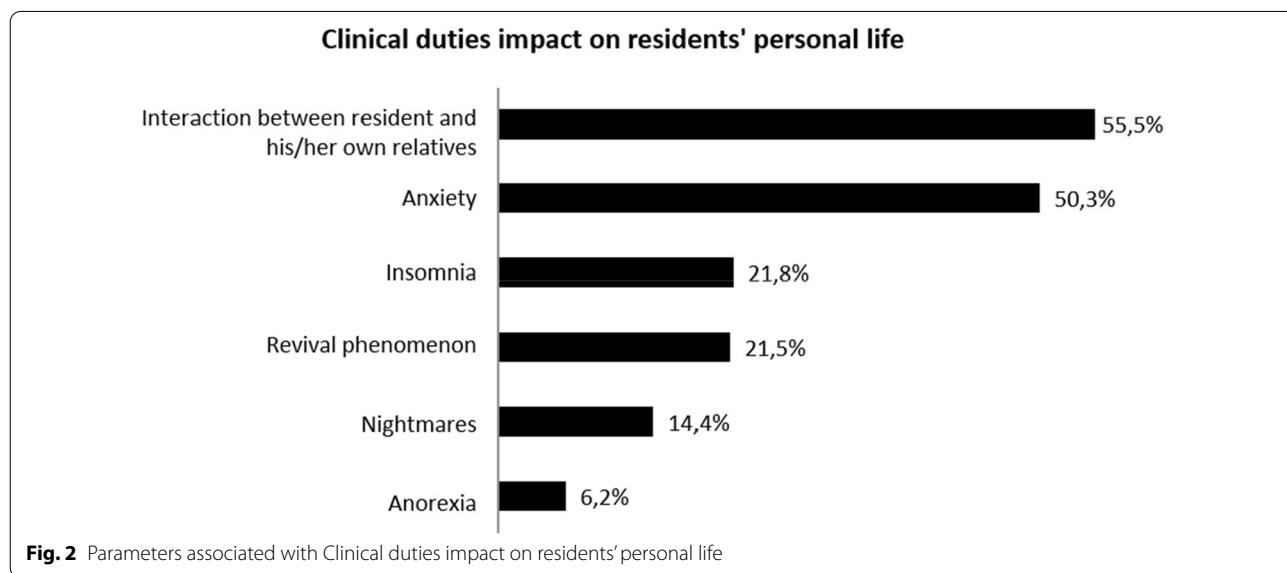
negative impact on their personal life for 67.2% (n = 353) of the surveyed residents.

Among them, 55.4% (n = 195) felt that their professional work impacted their relationship with their close relatives (example of testimony during the survey: “I was so concerned about my dying patient that my friend’s problems seemed trivial”, “they told me I gradually lost my patience during the period of hospital work and they were waiting for it to end”). 50.4% (n = 178) felt they were more anxious after these end-of-life care (“I felt that I no longer knew how to prescribe, including for everyday treatments”; “everything I was told became a source of anxiety, without me knowing why, and often without a clear idea of what was making me anxious”); 21.5% (n = 76) had reliving phenomenon; 20.8% (n = 74) suffered from insomnia after

these events (“I woke up every night for no reason at 2:35 a.m. exactly and couldn’t go back to sleep because of my patient whose condition I was constantly worried about. The more I was tired, the more the situation was eating me up”). The details of these elements are in Fig. 2 and Table 5.

Residents having felt an interaction with their personal life are more prone to wish to avoid end-of-life care in the future (30.9% versus 17.4%; p = 0,001).

The number of ways of interactions with personal life differs depending on the residents (cf. Figure 3). In about one third of resident, only one type of the personal life parameters (interaction with relatives, anxiety, insomnia, revivals, nightmares, anorexia) was affected by their palliative care activity. The impact can include two



**Table 5** Clinical duties impact on residents' personal life

|   | Yes (n = 353) | No (n = 172) | p             |
|---|---------------|--------------|---------------|
| Resident satisfied with the quality of end of life care during their rotation | 65.4          | 71.5         | 0.16          |
| Hurt by the perception of unreasonable obstinacy                              | 70.8          | 49.5         | <b>0.0003</b> |
| No difficulties using and adapting analgesic and sedative drugs               | 21.2          | 22.7         | 0.71          |
| fear to shorten life by adaptation of end-of-life care treatments             | 47            | 46.5         | 0.91          |
| Difficulties/avoiding talking about death with patient                        | 47.3          | 37.2         | <b>0.02</b>   |
| Difficulties/avoiding talking about death with patient's relatives            | 39.1          | 35.5         | 0.42          |
| Satisfied by the quality of their supervision                                 | 48.2          | 62.2         | <b>0.002</b>  |
| Desire to avoid caring for dying patients                                     | 30.9          | 17.4         | <b>0.001</b>  |
| Wish to have a professional orientation in palliative care management         | 19.3          | 16.9         | 0.50          |
| Would like a systematic psychological support in at risk departments          | 61.5          | 45.3         | <b>0.0004</b> |

The most relevant statistically significant results are indicated in bold

or more of these parameters and even include the six ways of interaction (1%; n=5). The proportion of residents wishing to avoid being responsible for dying patients depends on the number of personal life's settings previously touched by this situation ( $R^2: 0.8247$ ) (Fig. 4).

We observed a link between the impact on private life and the perceived quality of care. Residents who feel their clinical duties impact their personal life often thought the end of life care of their patient was not sufficient. They also have more difficulties in their communications with their patients (resident hurt by the perception of unreasonable obstinacy; perception of difficulties talking about death with their patient; details in Table 5). As expected, residents having felt an impact of end-of-life care on their personal life wished

more for a systematic psychological support in *at risk* departments. (61.5% vs 45.3%;  $p=0.0004$ ).

6. Impact of difficulties met: desire to avoid caring for dying patients.

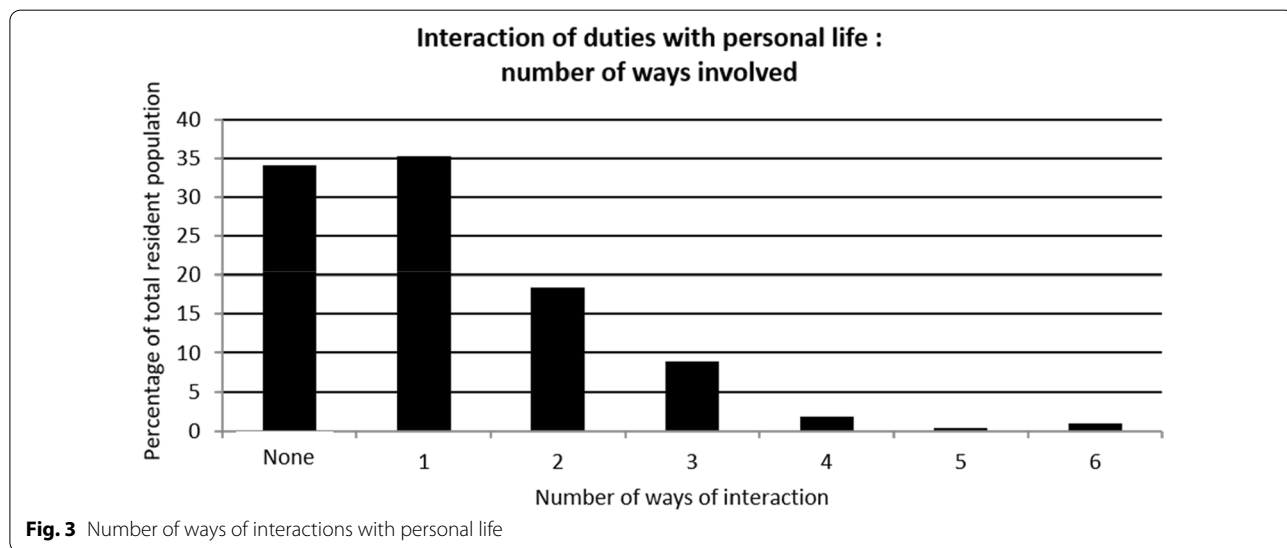
Factors associated with the desire not to care for any new dying patients were: the fear to shorten life with end-of-life care treatments (analgesic and anxiolytics) ( $p=0.0002$ ), communication difficulties with the patient and their relatives ( $p=5.32.10^{-6}$  and  $p=0.0004$  respectively), impact on personal life ( $p=0.001$ ).

Conversely, the quality of end-of-life care ( $p=1.21.10^{-5}$ ), residents' supervision by seniors ( $p=0.0002$ ), and desire to have an end-of-life care activity in the future ( $p=0.05$ ) were factors associ-

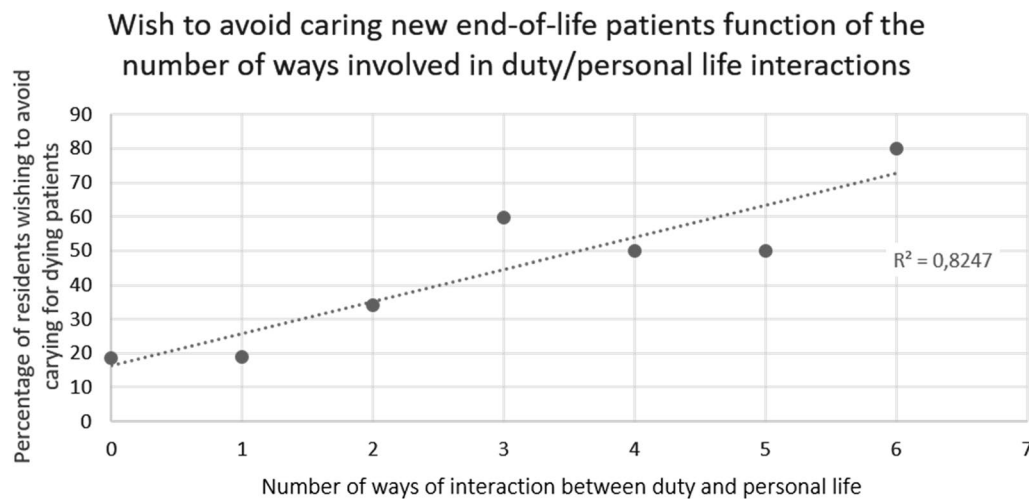
**Table 6** factors associated with the desire to avoid caring for dying patients

|   | Yes (n = 139) | No (n = 386) | p                             |
|---|---------------|--------------|-------------------------------|
| Quality of palliative care could have been improved                           | 78.4          | 72.5         | 0.17                          |
| Perception of unreasonable obstinacy  | 58            | 60.2         | 0.65                          |
| Hurt by the perception of unreasonable obstinacy                              | 72.8          | 61.5         | 0.065                         |
| Resident satisfied with the quality of end of life care during their rotation | 52.5          | 72.8         | <b>1.21 x 10<sup>-5</sup></b> |
| The patient took part in therapeutic intensity                                | 62.6          | 59.1         | 0.46                          |
| No difficulties using and adapting analgesic and sedative drugs               | 20.1          | 22.3         | 0.60                          |
| fear to shorten life by adaptation of end-of-life care treatments             | 60.4          | 42           | <b>0.0002</b>                 |
| Difficulties /avoiding talking about death with patient                       | 60.4          | 38.1         | <b>5.32 x 10<sup>-6</sup></b> |
| Difficulties /avoiding talking about death with patient's relatives           | 50.4          | 33.4         | <b>0.0004</b>                 |
| Clinical duties impact their personal life                                    | 78.4          | 63.2         | <b>0.001</b>                  |
| Satisfied by the quality of their supervision                                 | 39.6          | 57.5         | <b>0.0002</b>                 |
| Wish to have a professional orientation in palliative care management         | 12.9          | 20.5         | <b>0.05</b>                   |
| Would like a of a systematic psychological support in at risk departments     | 68.3          | 51.8         | <b>0.0007</b>                 |

The most relevant statistically significant results are indicated in bold



**Fig. 3** Number of ways of interactions with personal life



**Fig. 4** Correlation between the Wish to avoid caring new end-of-life patients and the number of ways involved in duty/personal life interactions

ated with the absence of avoidance of end-of-life care patients. Details are in Table<sup>6</sup>.

#### 7. Potential interest of a psychological support for residents

Among residents who filled out the survey, 56.2% thought that a systematic psychological support should be implemented in *at risk* departments to decrease the risk of extraprofessional impact of the care of severe patients. Departments that were considered at risk were oncology, hematology, critical care or geriatrics. Factors associated with the demand for a psychological follow up are: distress related to the perception of unreasonable obstinacy ( $p = 0,028$ ), interaction of those care with the resident's personal life ( $p = 0.00004$ ), and the desire to avoid new end-of-life care ( $p = 0.0007$ ). Conversely, residents who were satisfied with their supervision did not feel as strongly the need for a psychological support ( $p = 0.005$ ).

## Discussion

Our work has pointed out that GP residents having finished at least one rotation in a hospital ward have many difficulties regarding the end-of-life care. The first obstacle standing is the implementation of comfort care itself because of a lack of mastery in the use of pain and anxiety medicine in the specific context of end-of-life care. The difficulty they have in communicating about death also plays an important role in the trauma felt by our population. Also, the feeling of giving insufficient care because of those difficulties has a negative impact on the residents'

personal life. All of these factors lead the most affected residents to avoid future contact with palliative care.

End of life care is an important part of medical training. Although family medicine is usually about caring for patients with less severe pathology, family doctors often have to care for patients wishing to die at home [21]. A specific training during medical school has been implemented and strengthened in the last decades, but our results underline the persistent difficulties met by physicians. Our study blends in the current work about young physicians' preoccupations regarding end-of-life care [9], even though the population is younger and working in a different place than the one they are training to work in the future. Despite those differences, results are similar [9], which underlines that difficulties in apprehending end-of-life care depends very little on the professional orientation of young physicians.

The quality of end-of-life care is the main preoccupation of GP residents. Imperfections experienced by our population were associated with a lack of ease of sedatives and anxiolytic treatments use as well as communicating with the patient and their relatives. Such feeling of unpreparedness toward those situations has been widely reported and may concern as far as 80% of young physicians [22]. The lack of theoretical training, in particular regarding pharmacological end of life care therapeutics, is often reported [22–27]. Some work from the beginning of the year 2000 pointed out this lack of training amongst general practitioners [28]. Although the medical training has been widely modified since, it seems to still be true.

Patients with fatal disease often ask for the possibility to discuss end of life care with their physician [29].



However, young physicians [9, 30, 31] as well as residents [30] are faced with difficulties in communicating in this situation. In the same fashion, residents find it difficult to determine the right time for implementing palliative care as well as the practical management of patients' complaints. These difficulties have also been reported by internal medicine residents [23] who are more used to these end-of-life care situations, including during their critical care rotations [24].

Relations with relatives may need particular attention. Indeed, the severity of the illness or disagreements, regarding the orientation and intensity of care, may be cause for tensions between relatives and physicians and might be difficult to accept in the particular context of end of life care [32]. Also, satisfaction of grieving families depends on the quality of medical attention both in end of life care decisions and organization as well as in the post death support [33].

Lack of practice seems to be the main cause for communication difficulties. The absence of specific training in end of life communication is associated with physician discomfort and unease feelings [34–36]. Consequently, it is also a risk factor for burn-out [15]. Bedside training is often offered, but associated with a poor psychological tolerance [27]. High fidelity scenarios as well as seminars, while confronting residents to pragmatic situation without the psychological burden, might improve residents' future competence [23, 37]. Distance training has also proven to be efficient to improve young physicians' communication skills [31]. This improvement of end of life care management's skills is associated with a diminution of anxiety in these situations [38]. Conversely, lack of trust in ones skills and communication, in particular in breaking bad news, are at the center of health care worker's psychological distress [12, 15].

In our work, all of these elements are associated with a psychological burden on more than two third of replying GP residents. Similar results were obtained in different populations of young and inexperienced physicians, also leading to psychological distress, similar to post-traumatic disorders [9]. Patient's loss may lead to psychological distress because of a sense of guilt, or even burn-out. [39]. This distress is mostly due to death events [40, 41] and uncertainty around end-of-life care [38]. Death is often accountable for guilt feelings and sometimes even sense of failure in physicians populations [27]. However, most of the publications about the effects of end-of-life care or care in severe situations are looking at experienced physicians in specialized departments [15].

As expected, supervision plays an import role in GP residents' mental health and satisfaction during end-of-life care [26, 42, 43]. Lack of involvement, management

and discussions lead to a situation of discomfort when faced to end-of-life care [26, 44]. In our work, help from senior physicians is associated with perceived good quality of care by the resident and with a lower risk of personal burden related to end-of-life care. This confirms previous observations in different populations [40]. Senior management remains, however, sometimes insufficient for young physicians [25, 26, 44, 45].

Supervision and adequate management medication use at end-of-life and decision-making process, must, however, not lead to the exclusion of residents during this care. Their exclusion could alter their training during residency [26] as experience depends on seniors' observation [46].

On a broader perspective, training is essential to prevent psychological consequences of medical activities. The quality of end-of-care training is correlated to patient's end of life quality [47].

Our work has some limitations. Since the survey was filled out on a voluntary basis, the answers are not reflecting the mind of all residents. However, since the survey was offered to all residents orally, the absence of answer was not due to a lack of solicitation. Absence of participation was always due to participation's refusal. Observed results confirm that participants were the most interested in end-of-life care (18% of repplier wish to keep an end-of-life care activity in the future). Although they wish to care for end-of-life patients, perception of a lack of skills and psychological burden of this care on personal life are often reported, thus confirming their importance. Also, we only surveyed "Île-de-France" residents rather than all French residents. Residents from "Île-de-France" however represent almost a third of all French residents and are from all regions of France which allows an important representativeness of all residents. Finally, since answers were declarative, we cannot have any certainty about the reality of difficulties met and psychological impact. However, this limitation is common in this kind of work and links between psychological distress and perceived difficulties have been previously reported in similar situations with different physicians' populations.

Our work allows a broad evaluation of the difficulties and consequences met by GP residents when they have to care for end-of-life patients in hospital settings. It also underlines the necessity to continue and strengthen their management during their hospital rotations.

## Conclusion

End-of-life care is often provided during hospital rotations. Although many improvements in the medical formation have been made, residents often report insufficient competence regarding specific end-of-life care

therapeutics and in patients and relatives' communication. These gaps in their training is associated with a negative impact on residents' personal life. It may lead to the desire to avoid end-of-life care in the future.

#### Abbreviations

GP: General practitioner; REQUIEM: Research/Reflexion on End of Life Support Quality in Everyday Medical Practice; US: United States of America.

### Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12910-022-00867-9>.

**Additional file 1:** Survey regarding GP residents' perception of end-of-life care in hospital's wards in "Ile de France" (Paris area).

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#### Author contributions

VH, SH & FP: designed the project and built the survey; VH collect data and supervised the survey; AC & FP wrote the first draft of the paper; MT, CB & SH amended the first draft; AC & FP wrote the final version and the reviewed version. All authors have read and approved the manuscript and agree for submission and publication.

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#### Availability of data and materials

Data are available on motivated demand to the corresponding author (FP).

#### Declarations

##### Ethics approval and consent to participate

The project was approved by our local ethics committee. All participants accept to fulfill the survey ("*Groupe Ethique & Recherche Medicale*", IRB No. 00012157"; line 1, page 5 of the present file).

##### Consent for publication

Not Applicable.

##### Competing interests

All authors declare that they have no competing interests.

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