

# The Prescription of the Morning-After Pill in a Berlin Emergency Department Over a Four-Year Period – User Profiles and Reasons for Use

Die Verordnung der sog. Pille danach in einer Berliner Kliniknotfallambulanz in einem 4-Jahres-Zeitraum – Anwenderinnenprofil und Anwendungsgründe

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## Key words

- emergency contraception
- emergency department
- levonorgestrel
- ulipristal acetate

## Schlüsselwörter

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- Notfallambulanz
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## Bibliography

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## Abstract



**Questions:** There are no current health care studies from Germany regarding the “morning-after pill”. This paper will use routine data to analyse details regarding the users’ profiles, reasons for using it and the utilisation of hospital outpatient facilities.

**Patient Collective and Methods:** Retrospective analysis of all triage sheets in the emergency department of the Virchow Hospital Campus/Charité University Hospital, Berlin, over a four-year period from 2007 to 2010 that were coded with the ICD diagnosis Z30 (= contraception advice) and statistical processing of the associated administrative data.

**Results:** 860 triage sheets were included in the analysis. The emergency department is used most frequently for the prescription of the “morning-after pill” at the weekend. The average age of the users was 25.1 years. The most common reason cited for needing emergency contraception was unprotected sexual intercourse, with the second-most common being “condom failure”. Around half of the women attended the department within 12 hours of having unprotected sex. Less than 2% (n = 14) of all women decided against a prescription of emergency contraceptive after counselling.

**Conclusions:** The user profile and reasons for using emergency oral contraception correlate largely with the information contained in international literature. Although the “morning-after pill” is probably prescribed mainly in general practices in Germany, and despite the availability of new drugs with a permitted post-exposure interval of up to 120 hours after unprotected sex, there appears to still be a high demand for counselling and prescriptions of the “morning-after pill” in the context of the emergency department.

## Zusammenfassung



**Fragestellungen:** Aktuelle Versorgungsforschungsstudien aus Deutschland zur „Pille danach“ liegen nicht vor. Auf der Basis von Routinedaten sollen Angaben zum Anwenderinnenprofil, zu Motiven für die Anwendung und zum Inanspruchnahmeverhalten von Klinikambulanzen analysiert werden.

**Patientinnenkollektiv und Methoden:** Retrospektive Auswertung aller sog. Erste-Hilfe-Scheine der Kliniknotfallambulanz des Campus Virchow-Klinikums/Universitätsklinikum Charité, Berlin, im 4-Jahres-Zeitraum 2007 bis 2010, die mit der ICD-Diagnose Z30 (= Kontrazeptionsberatung) kodiert waren, sowie statistische Bearbeitung der dazugehörigen administrativen Daten.

**Ergebnisse:** 860 Erste-Hilfe-Scheine konnten in die Auswertung eingeschlossen werden. Die Inanspruchnahme der Kliniknotfallambulanz für die Verschreibung der „Pille danach“ erfolgt überwiegend am Wochenende. Das mittlere Alter der Nutzerinnen lag bei 25,1 Jahren. Der am häufigsten angegebene Grund für die Notwendigkeit der Notfallkontrazeption war ungeschützter Geschlechtsverkehr, der zweithäufigste „Kondomversagen“. Etwa die Hälfte der Frauen suchte innerhalb von 12 Stunden nach ungeschütztem Verkehr die Klinik auf. Weniger als 2% (n = 14) aller Frauen entschieden sich nach der Beratung gegen die Verschreibung eines Notfallkontrazeptivums.

**Schlussfolgerungen:** Anwenderinnenprofil und Motive für die Anwendung der oralen Notfallkontrazeption korrelieren weitgehend mit den Angaben in der internationalen Literatur. Obwohl die „Pille danach“ in Deutschland wohl zu großen Teilen in der niedergelassenen Praxis verschrieben wird und trotz der Verfügbarkeit neuer Präparate mit einem zulässigen Einnahmeintervall von bis zu 120 Stunden nach ungeschütztem Verkehr scheint weiterhin ein hoher Bedarf an

Beratung und Verschreibung der „Pille danach“ im Kontext einer Kliniknotfallambulanz zu bestehen.

## Introduction

Hormone-based emergency oral contraceptives are currently available in over 140 countries worldwide and do not require a prescription in 44 of them [1]. This pill should be taken within 72 hours of unprotected sex and within 5 days for the newer drugs [2]. Consequently, round-the-clock prescribing is not absolutely necessary, even at weekends, for example in emergency departments; however for the women/couples affected, it is preferable for peace of mind.

Current studies show that the (correct) taking of an emergency contraceptive after unprotected sexual intercourse can prevent an unwanted pregnancy with a success rate of up to 94% [3].

The broader use of the “morning-after pill” may be able to prevent more unwanted pregnancies and especially terminations.

The morning-after pill, as it is known, is currently being prescribed around 400 000 times per year in Germany [4]. In 2007, a survey of girls in Germany who stated they had had sexual intercourse on more than one occasion revealed that 12% of them had already taken an emergency contraceptive [5].

The aim of this study was to analyse the uptake of services in the emergency department of a major city in relation to the “morning-after pill”. The data analysis focused on three main questions:

1. What can be determined from the age, insurance status and migration background of the (potential) users of the “morning-after pill” (socio-demographic profile)?
2. When is the emergency department used to obtain a prescription for emergency contraceptives (chronological profile)?
3. What reasons do the women give for needing emergency contraception (motivational profile)?

## Methods and Patient Collective

A retrospective analysis was carried out of all the triage sheets in the emergency department of the Campus Virchow Hospital/Charité University Hospital, Berlin, over a four-year period from 2007 to 2010 that were coded with the ICD diagnosis Z30 (= contraception advice). As a relatively standardised documentation sheet, the triage sheets are created on computer as part of the care process. They contain details of the reason for and the time of the attendance, the history taken, the course of medical consultation and any investigations and treatment carried out. The triage sheets also document administrative data relating to the patient’s insurance status, address and nationality. It is however acknowledged that these details do not provide adequate information about any migration background. On the other hand, most German hospitals document virtually no other administrative data regarding the migration history. Consequently, a supplementary surname analysis was used to attempt to determine whether there might be a migration background. The surname analysis is a valid method in migration research which, in the absence of other indicators or documentation of additional information, allows relatively reliable differentiation of the largest migrant groups [6,7]. It provides good indicators of ethnicity, but not the duration of the migration or the migration generation.

**Inclusion and exclusion criteria:** Only women who were given counselling regarding emergency contraception by a doctor in

the emergency department of the Campus Virchow Hospital/Charité were included in the study.

Women who wanted a prescription for their usual oral contraceptive, who attended due to problems with their intra-uterine pessary, etc., were excluded from the study. Also excluded were all cases of prescriptions for emergency contraception given in the context of sexual assault.

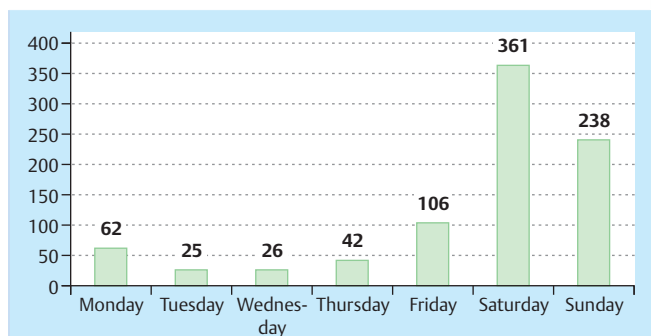
## Results

Out of the total of 1030 triage sheets marked with the diagnosis “Contraception advice”, 170 had to be excluded from the data analysis for the reasons set out above, which means that ultimately 860 cases remained for analysis and descriptive data representation.

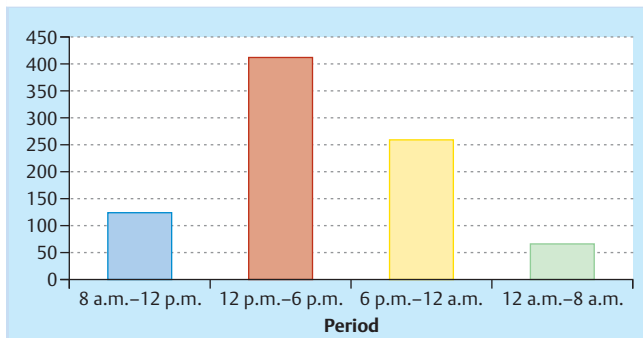
**Socio-demographic profile:** The mean age of women who attended the emergency department wanting to obtain the “morning-after pill” was 25.1 years (range 14–57, median 24 years). 79% of women had statutory insurance, and 21% had private insurance or were self-paying. Historical details regarding parity were available for fewer than half of the women in the study collective: 79% had no children, 12% had one child and 8% had a least two children. It is assumed from this that the proportion of users with a migration background accounted for around 43% of the overall collective.

**Chronological profile:** Out of the 860 consultations for emergency contraception, the majority took place at the weekend (ranking of the three busiest days: Saturday, Sunday, Friday). The number of prescriptions issued during the week was significantly lower by comparison (Fig. 1). There was also evidence of fluctuations based on the time of day, regardless of which day of the week it was: by far the largest number of women attended between mid-day and 6 p.m. to seek advice and possibly obtain a prescription (Fig. 2). If the seasonal prescribing frequency is also considered, during the 4-year period over which the study extended, the months of May, July and December were found to have a slightly higher rate of prescribing (Fig. 3).

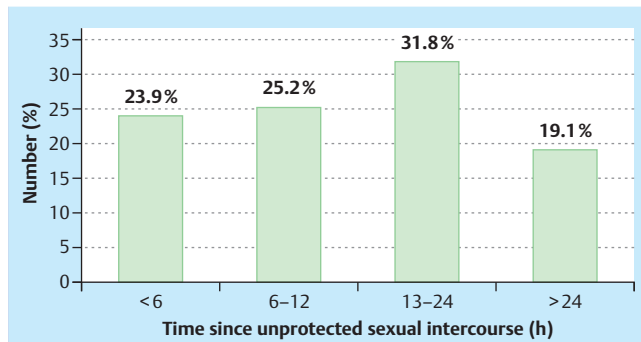
In 729 out of 860 cases (84.8%), details of the time that had elapsed since the unprotected intercourse and the attendance at the emergency department for a prescription of an emergency



**Fig. 1** Prescribing frequency/frequencies of emergency contraceptives according to day of the week.



**Fig. 2** Number of cases registered in relation to various times of the day.



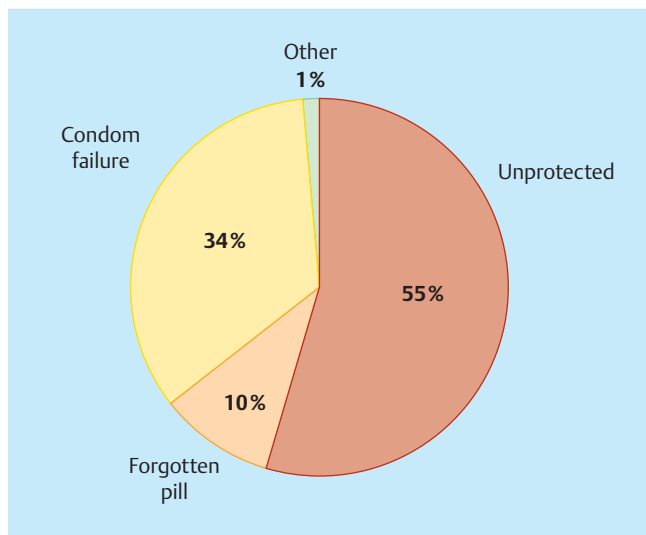
**Fig. 4** Presentation of users to the rescue point depending on the time since unprotected sexual intercourse (in %).

contraceptive were documented. **Fig. 4** shows that around half of the women who attended the department did so within 12 hours of having had sex.

**Motivational profile:** The three main reasons cited by the women who attended for wanting emergency contraception were (ranking): (1) unprotected sexual intercourse, (2) condom failure and (3) forgetting to take their usual oral contraceptive (**Fig. 5**). The “Others” category in the figure includes rare cases in which it was assumed that the usual oral contraceptive was impaired due to the simultaneous use of antibiotics, or when a Nuva-Ring® had been used incorrectly.

During the 2007–2010 study period, only two drugs were prescribed for emergency contraception at the Berlin emergency department: levonorgestrel (Unofem®) and ulipristal acetate (EllaOne®). **Fig. 6** shows the prescribing frequency of Unofem® and EllaOne® for each quarter between 2007 and 2010. Since the market launch of EllaOne® marketing at the end of the third quarter of 2009, both preparations have been offered at the end of each consultation, and the patient then decides herself. All in all, emergency contraception with ulipristal acetate accounts for only a small proportion of the prescriptions; the levonorgestrel preparation is accordingly the drug of choice in everyday clinical practice.

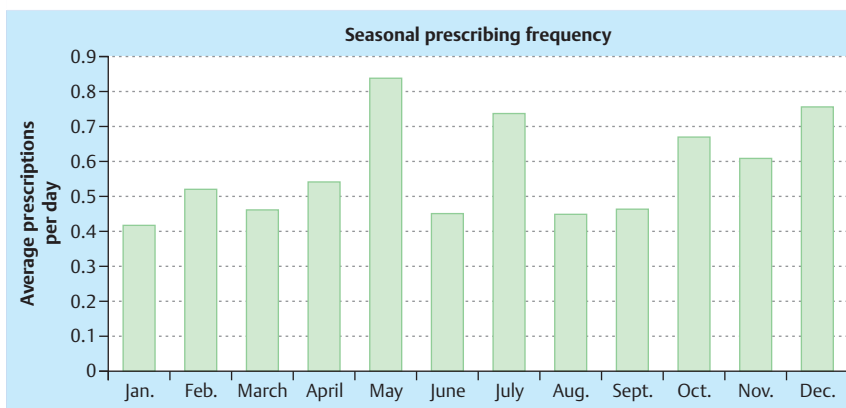
14 out of 860 women (1.63%) decided against obtaining a prescription for emergency contraception following their consultation with the doctor.



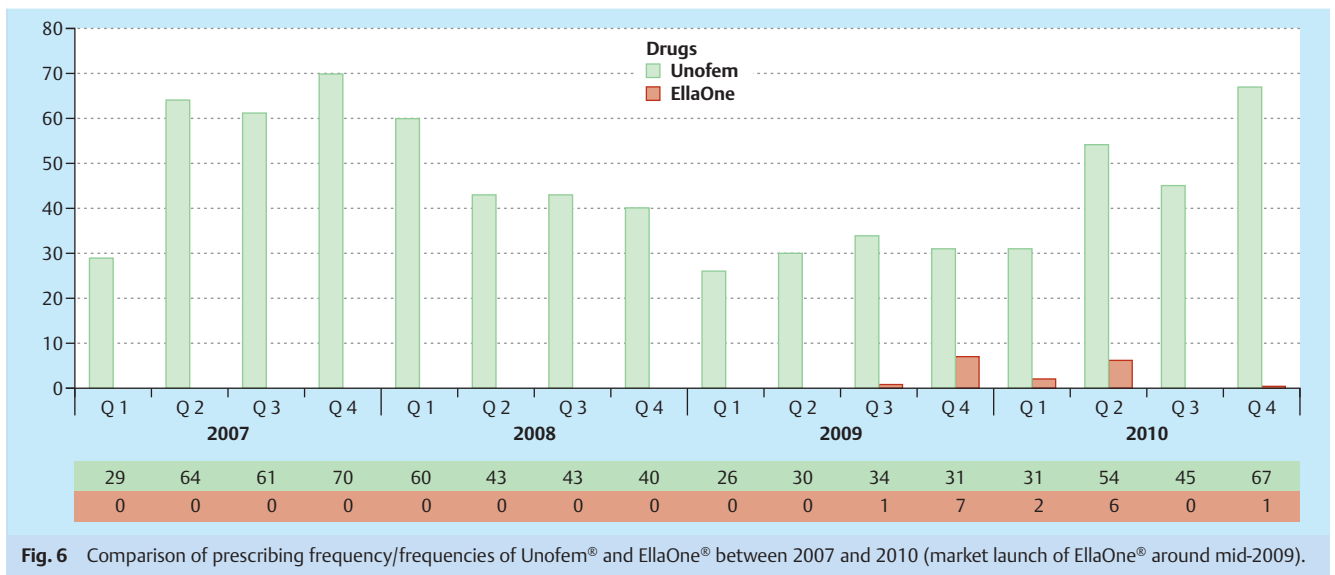
**Fig. 5** Distribution of reasons given for the need for emergency contraception (n = 631, in %).

## Discussion

There are no current systematic studies from the field of health-care research on the “morning-after pill” in Germany. Our retrospective study uses routine data to present information regard-



**Fig. 3** Average daily prescribing frequency of the “morning-after pill” in the emergency department during the study period, by month.



**Fig. 6** Comparison of prescribing frequency/frequencies of Unofem® and EllaOne® between 2007 and 2010 (market launch of EllaOne® around mid-2009).

ing user profiles, motives for use and the usage of services in a (major city) emergency department.

The data analysis shows that during the analysis period from 2007 to 2010, the emergency department at the Charité's Virchow Hospital Campus in the centre of Berlin was primarily used for the prescription of the "morning-after pill" at the weekend. The prescribing frequency in German general practices follows the results of the prescriber® study, which systematically and exclusively surveys prescriptions by general practitioners in Germany, virtually exactly. There is a "prescribing peak" on a Monday, while the prescribing frequency over the following weekdays is lower; at the weekend, the number of prescriptions for the "morning-after pill" issued by general practitioners is lowest in line with the usual opening hours of doctors' practice [4].

Our study results on the time of day that the services are used also show that many women clearly attend the rescue point at times that suit them, i.e. during the day between midday and 6 p.m. Since the studies from the 1990s that indicate the effectiveness of emergency contraception reduces in a linear fashion to the time after unprotected sexual intercourse [8] have not been confirmed, rather a recent review demonstrates excellent effectiveness for levonorgestrol or ulipristal acetate up to 72 or 120 hours later [9], this can also be tolerated.

Checa et al. (2004) reported seasonal variations in the prescribing frequency of/demand for emergency contraception. The demand for the "morning-after pill" in an emergency department in Barcelona/Spain was evidently higher in the months of July and August than in the other months. They explain this with corresponding fluctuations in sexual activity. This may also explain peaks in demand around the weekend [10].

The average age of the users is 25.1 years, within the same range of European publications on the same subject (Edinburgh: 26 years [1]; Barcelona: 23 years [10]; Madrid: 23 years [11]).

A migration background can be assumed for a significant proportion (43%) of women who attended the emergency department for a prescription of the "morning-after pill". Current statistics from the Berlin Senate indicate that 24.9% of the female population of the city has a migration background. In the Berlin inner city district of Mitte/Wedding, which is where the Charité emergency department/Virchow Hospital Campus is located, this per-

centage is even higher; here, around 44% of the women of child-bearing age are believed to be migrants [12].

A current representative study by the German Centre for Health Education (BZgA) reports that only 37% of the Turkish women surveyed knew about the "morning-after pill" as a form of emergency contraception, whereas 61% of the 820 Eastern European migrants and 94% of the West German women surveyed knew about it. This knowledge is dependent on the migration generation and education [13]. A further and more detailed breakdown of our data according to ethnicity was unfortunately not possible due to the limited data available. Ward et al. (2010) also reported a significant relationship between marked cultural adaptation (known as acculturation), income and education with the awareness and use of emergency contraception among young female migrants of Hispano-American origin in the USA [14].

The most common reason given for wanting the morning-after pill in the Berlin emergency department was "unprotected sexual intercourse", followed by condom failure. Similar surveys in emergency departments in other European countries unsurprisingly also see these two reasons as the two most common ones; the order in these countries varies according to the customary frequency with which condoms are used, with the figures for this reason varying between 42 and 91% [1, 10, 11, 15].

Lukic et al. (2000) rightly point out that women who present only to an emergency department for advice on and a prescription for emergency contraception may in individual cases be given only limited information about how the morning-after pill is used and its side effects due to the particular staffing and clinical demands of this setting and due to the understandable priorities of the doctors/gynaecologists who work there, as well as possibly longer waiting times [16].

One alternative would otherwise be simply to dispense with or at least relax the prescribing requirement for the "morning-after pill", as is already the case in many European countries and the USA [1], although this is a move that is currently being vehemently rejected by the German Association of Gynaecologists, for example [17].

## Conclusion for Clinical Practice

The data presented illustrate that counselling about and the prescription of the “morning-after pill” following the provision of the relevant information represents a significant element of the range of duties of an emergency department as an important point of contact, especially at the weekend. Women requesting this service should be given adequate advice and support in accordance with their individual situation.

## Conflict of Interest

None.

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