EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

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Committee on Herbal Medicinal Products (HMPC)

Assessment report on *Achillea millefolium* L., flos

Based on Article 16d(1), Article 16f and Article 16h of Directive 2001/83/EC as amended (traditional use)

Final

Herbal substance(s) (binomial scientific name of the plant, including plant part)	*Achillea millefolium* L., flos
Herbal preparation(s)	Comminuted herbal substance. Liquid extract (DER 1:5.8); extraction solvent: liquor vine: ethanol 96% (V/V) 91:9 (m/m).
Pharmaceutical forms	Herbal substance and comminuted herbal substance as herbal tea for oral use. Herbal substance for infusion preparation for cutaneous use. Herbal preparation in liquid dosage forms for oral use.
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1. Introduction

1.1. Description of the herbal substance(s), herbal preparation(s) or combinations thereof

- Herbal substance(s)

Yarrow flower consists of the dried inflorescence of *Achillea millefolium* L. (Fam. Asteraceae) (*Ph. Helv.VII: Millefolii flos)*.

- Herbal preparation(s)

Comminuted herbal substance as infusion for tea preparation (Augustin et al. 1948, Rácz et al. 1984, German Commission E monograph 1990, Blumenthal et al. 1998, 2000, Hänsel et al. 1992).

- Combinations of herbal substance(s) and/or herbal preparation(s) including a description of vitamin(s) and/or mineral(s) as ingredients of traditional combination herbal medicinal products assessed, where applicable.

Principal components of the herbal substance

Volatile oil, not less than 0.2% (*Ph. Helv.VII.)*.

The essential oil contains numerous identified components including borneol, bornyl acetate (trace), camphor, 1.8-cineole, eucalyptol, limonene, sabine, terpin-4-ol, terpineol and α-thujone (monoterpenes), caryophyllene (a sesquiterpene) achillicin, achillin, millefin and millefolide (sesquiterpene lactones), azulene and chamazulene (sesquiterpene lactone derived), and isoartemisia ketone. The relative composition of components varies greatly between *Achillea* species, especially the azulene content. Azulene has been reported as the major component. However, true yarrow (*A. millefolium*) is thought to be hexaploid and azulene-free, whereas closely related species, such as *Achillea lanulosa* Nutt. and *Achillea collina* Becker, are tetraploid and contain up to 50% azulene in their volatile oil. It is possible that the tetraploid species may be supplied for *A. millefolium (*Barnes et al. 2007).
Candan et al. (2003) performed GC-MS analysis of the essential oil which resulted in the identification of 36 compounds constituting 90.8% of the total oil. Eucalyptol, camphor, alpha-terpineol, beta-pinene, and borneol were the principal components comprising 60.7% of the oil.

1.2. Information about products on the market in the Member States

Regulatory status overview

Member State	Regulatory Status				Comments
Austria	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	No products.
Belgium	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	
Bulgaria	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	
Cyprus	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	No products.
Czech Republic	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	No products.
Denmark	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	No products.
Estonia	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	No products.
Finland	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	No products.
France	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	No products.
Germany	☐ MA	☒ TRAD 3	☐ Other TRAD	☐ Other Specify:	Plus in combination.
Greece	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	
Hungary	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	
Iceland	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	
Ireland	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	No products.
Italy	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	No registered or authorised products.
Latvia	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	
Liechtenstein	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	
Lithuania	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	
Luxemburg	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	
Malta	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	
The Netherlands	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	
Norway	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	No products.
Poland	☐ MA	☒ TRAD 1	☐ Other TRAD	☐ Other Specify:	
Portugal	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	
Romania	☐ MA	☒ TRAD 2	☐ Other TRAD	☐ Other Specify:	Plus in combination.
Slovak Republic	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	No products.
Slovenia	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	No products.
Spain	☐ MA	☒ TRAD 1	☐ Other TRAD	☐ Other Specify:	Many products in combination.
Sweden	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	No products.
United Kingdom	☐ MA	☐ TRAD	☐ Other TRAD	☐ Other Specify:	

MA: Marketing Authorisation

TRAD: Traditional Use Registration
Other TRAD: Other national Traditional systems of registration
Other: If known, it should be specified or otherwise add 'Not Known'
This regulatory overview is not legally binding and does not necessarily reflect the legal status of the products in the MSs concerned.

According to the information provided by the National Competent Authorities[1]

Active substance, pharmaceutical form	**Indication**	**Posology**	**Legal status**
Comminuted herbal substance for herbal tea.	Loss of appetite; dyspeptic disorders.	Two grams per 250 ml; 1-2 times a day.	Since 1979, in Spain.
Liquid extract (DER 1:5.8) from *Millefolii* flos, extraction solvent: liquor vine : ethanol 96 (V/V) 91 : 9 (m/m) oral liquid.	Traditionally used to support gastro-intestinal function.	Oral use in adults and adolescents over 12 years several times daily 10-20 drops. 100 g liquid contain 100 g extract.	At least since 1976, on the German market.
Herbal substance as herbal tea.	Traditional herbal medicinal product for treatment of loss of appetite and dyspeptic complaints (mild, spastic gastrointestinal discomfort). Topical use: small superficial epidermal excoriation.	Oral use (infusion) 1.5 g herbal substance for ½ glass of boiling water. Use 2–3 times daily. Topical use: infusion should be prepared in the same way as for oral use.	For more than 30 years, in Poland.
Tincture (1:5; ethanol 70% V/V) oral drops, solution.	For functional bowel disorders.	Internal use: 20-30 drops in 50 ml water, twice a day (in the morning and in the evening, 30 minutes before a meal).	Since 2006, in Romania.
Comminuted herbal substance for preparing herbal tea.	Internal use: mild dyspeptic/gastrointestinal disorders, temporary loss of appetite. External use: abscesses, skin wounds and burns, varicose ulcers, haemorrhoids.	Internal use: single dose: 2.5 g (in 250 ml water), 2-3 times daily. External use: single dose: 8 g (in 200 ml water), topically. The use in children and adolescents under 12 years of age is not recommended because of lack of data. The use during pregnancy and lactation is not recommended.	Since 1996, in Romania.

[1] Data are collected using the template entitled 'Document for information exchange for the preparation of the assessment report for the development of Community monographs and for inclusion of herbal substance(s), preparation(s) or combinations thereof in the list' (EMEA/HMPC/137093/2006)

1.3. Search and assessment methodology

Articles and references retrieved from databases (Pubmed, Toxnet) or internet sources (e.g. Google) until the end of April 2009. The term of *Achillea millefolium*, flower was searched.

2. Historical data on medicinal use

2.1. Information on period of medicinal use in the Community

According to Blumenthal M et al. (2000) yarrow has been used as medicine by many cultures for hundreds of years (Budavari 1996; Zeylstra 1997). Its English common name is a corruption of the Anglo-Saxon name *gearwe*; the Dutch, *yerw*. The genus name *Achillea* may derive from Achilles of the Greek mythology, who was fabled to have had his wounds treated by topical use of the herb. The species name *millefolium* derives from the many segments of its foliage. The ancient Europeans called it *Herba Militaris*, the military herb – an ointment made from it was used as vulnerary drug on battle wounds. Yarrow flower was formerly official in the United States Pharmacopeia. Additionally, it is listed in the Indian Ayurvedic Pharmacopoeia for fevers and wound healing (Karnick 1994).

Millefoli flos is described in the Polish Herbal Compendium from 1978.

A Polish product containing the herbal substance for herbal tea has been on the market for more than 30 years.

The comminuted herbal substance as infusion for tea preparation was described by Augustin et al. (1948).

A Spanish product containing the comminuted herbal substance for herbal tea preparations has been on the market for more than 30 years.

A German preparation, a liquid extract (1:5.8) from *Millefolii flos*, extraction solvent: liquor vine: ethanol 96% (V/V) 91:9 (m/m), 2-3 times daily 10-20 drops, has been on the market for more than 30 years.

2.2. Information on traditional/current indications and specified substances/preparations

Indication: Loss of appetite, dyspeptic ailments, such as mild, spastic discomforts of the gastrointestinal tract.

In the literature: German Commission E Monographs 1990 (Blumenthal M et al. 1998, 2000).

In the package leaflet of products on the market for more than 30 years:

- a Polish product containing herbal substance for herbal tea,
- a Spanish product containing comminuted herbal substance for herbal tea,
- a German liquid extract (1:5.8) from *Millefolii flos*, extraction solvent: liquor vine: ethanol 96% (V/V) 91:9 (m/m).

Indication: Traditional herbal medicinal product for treatment of small superficial wounds.

A Polish product containing herbal substance for herbal tea has been on the market for more than 30 years with this indication.

Indication: Traditional herbal medicinal product for the symptomatic treatment of minor spasm associated with menstrual periods.

Assessor's comment: *During the public consultation this indication was suggested referring to the literature reference of Bühring U et al. 2008, which contains this indication for the herb and the flower as well. Considering that Hagers Handbuch (1992) and Commission E monograph (1990) do not make a distinction between the herb and the flower and the herb consists of mainly flowers, this suggestion can be accepted.*

Proposed indications in the monograph

1) Traditional herbal medicinal product used for temporary loss of appetite.

2) Traditional herbal medicinal product for the symptomatic treatment of mild, spasmodic gastro-intestinal complaints including bloating and flatulence.

3) Traditional herbal medicinal product for the treatment of small superficial wounds.

4) Traditional herbal medicinal product for the symptomatic treatment of minor spasm associated with menstrual periods.

2.3. Specified strength / posology / route of administration / duration of use for relevant preparations and indications

Three grams of yarrow flower (German Commission E Monographs 1990, Blumenthal et al. 1998, 2000, Bühring U et al. 2008).

- Herbal substance:

Oral use: 1.5 g herbal substance as infusion for ½ glass of boiling water; 2–3 times daily (product on the market for more than 30 years in Poland).

Cutaneous use: infusion should be prepared in the same way as for oral use (product on the market for more than 30 years in Poland).

- Herbal preparation for oral use:

Two grams of comminuted herbal substance in 250 ml water as infusion; once or twice a day (product on the market for more than 30 years in Spain).

Liquid extract (1:5.8) from *Millefolii flos*, extraction solvent: liquor vine: ethanol 96 (V/V) 91:9 (m/m). Adults and adolescents over 12 years: 2-3 times daily 10-20 drops (product on the market for more than 30 years in Germany).

Posology in the monograph

Adolescents, adults and elderly.

Single dose.

Oral use:

Indications 1) and 2):

Herbal tea: 1.5-2 g of herbal substance or comminuted herbal substance in 250 ml boiling water as a herbal infusion; 2 times daily.

Assessor's comment: Dosages of the products containing the herbal substance and the comminuted herbal substance were contracted.

For the indication "loss of appetite" the herbal tea is to be taken 30 minutes before meals.

Indication 2):

Liquid extract: 10-20 drops, 2-3 times daily.

Indication 4):

Herbal tea: 1-2 g of the herbal substance or comminuted herbal substance in 250 ml boiling water as a herbal infusion 2-3 times daily.

Assessor' comment: according to the Millefolii herba monograph.

Cutaneous use:

Indication 3):

Herbal substance for infusion preparation for cutaneous use: 1.5 g of the herbal substance in 250 ml water as an infusion 2–3 times daily.

The use in children under 12 years of age is not recommended (see section 4.4 'Special warnings and precautions for use').

Assessor's comment: The use of the herbal substance and comminuted herbal substance by adolescents were accepted taking into consideration that liquid extract has been used traditionally by adolescents for more than 30 years and the fact that there is no significant difference in composition between a liquid extract prepared with liquor vine: ethanol 96% (V/V) 91:9 (m/m) and herbal tea preparation. Even the herbal tea contains a lower amount of ingredients. The cutaneous use for adolescents can also be considered safe.

Duration of use

Indication 1) and 2):

If the symptoms persist longer than 2 weeks during the use of the medicinal product, a doctor or a qualified health care practitioner should be consulted.

Indication 3) and 4):

If the symptoms persist longer than 1 week during the use of the medicinal product, a doctor or a qualified health care practitioner should be consulted.

Assessor's comment: Duration of use in the monograph is based on monographs with similar indications.

Method of administration

Indications 1), 2) and 4):

Oral use.

Indication 3):

Cutaneous use: to be applied on the affected area in a form of impregnated dressing.

3. Non-Clinical Data

3.1. Overview of available pharmacological data regarding the herbal substance(s), herbal preparation(s) and relevant constituents thereof

***In vitro* studies**

- Antibacterial activity

A 50% ethanol extract of the flowers inhibited the growth of *Shigella dysenteriae*, but not that of *Escherchia coli* or *Salmonella enteritidis* at a concentration of 50 µl/agar plate (Caceres et al. 1990).

The *in vitro* antimicrobial activity of the essential oil of *Achillea millefolium* subsp. *millefolium* Afan. (*Asteraceae*) was investigated. The oil exhibited moderate activity against *Streptococcus pneumoniae, Clostridium perfringens* and *Candida albicans*, and weak activity against *Mycobacterium smegmatis, Acinetobacter lwoffii* and *Candida krusei.* The growth inhibitions of test micro-organisms ranged from 4.5 mg/ml (w/v) to 72 mg/ml (w/v) with the lowest MIC value against *Streptococcus pneumoniae*, *Clostridium perfringens*, *Candida albicans* at 4.5 mg/ml (w/v) (Candan et al. 2003).

- Anti-oxidant effects

Infusions (1:1; mg/ml) of dried pulverised flower heads of various *Achillea* (*Asteraceae*) species protected human erythrocytes and leucocytes against hydrogen peroxide-induced oxidative damage. This was shown by increased catalase, superoxid dismutase and glutation peroxidase activities, as well as by a reduced glutathione content of the cells and a decrease in lipid peroxidation. The human erytrocyte and leukocyte hemolysates served as control groups (Konyalioglu and Karamenderes 2005).

- Haemostyptic activity

A 5% m/V hot water infusion of yarrow (*Achillea millefolium)* significantly shortened recalcification time (a test of blood coagulation) in human plasma to 43% of that of the reference substance, 0.9% sodium chloride ($p<0.001$). The flowering herb had the highest haemostyptic activity, whereas pressed juice significantly prolonged blood coagulation ($p<0.05$ to $p<0.001$) (Sellerberg and Glasl 2000).

***In vivo* studies**

- Anti-inflammatory effect

An aqueous extract of the dry flower heads of *Achillea millefolium* L. (yarrow) has been found to possess anti-inflammatory activity as measured by the yeast–induced mouse paw oedema test. Fractionation has resulted in the isolation of a material which reduces inflammation by 35% compared to 44% and 26% respectively for the same doses (40 mg/kg body weight) of indomethacin and phenylbutazone. This concentrate is water-soluble, non-steroidal and has a very low order of toxicity. Physical and chemical studies show this active fraction to be mixture of protein-carbohydrate complexes (Goldberg et al. 1969).

3.2. Overview of available pharmacokinetic data regarding the herbal substance(s), herbal preparation(s) and relevant constituents thereof

There are no pharmacokinetic data.

3.3. Overview of available toxicological data regarding the herbal substance(s)/herbal preparation(s) and constituents thereof

Single dose study:

According to a safety assessment for its use in cosmetics, the oral and subcutaneous LD_{50} values of yarrow, *Achillea millefolium* L. extract (2% **flowers** in propylene glycol and water) were both 1g/kg in mice (Anonymous 2001).

Reproductive toxicity:

The effect of hydro-alcoholic extract (200, 400, 800 mg/kg) of *Achillea millefolium* L. yarrow **flowers** on spermatogenesis of 50 Wistar rats was investigated by intra-peritoneal administration. The animals were divided into 3 experimental groups (10 rats in each group) and a control group (10 rats received distilled water) and 1 sham group (10 rats received nothing). At the dose of 200 mg/kg, there was no effect on spermatogenesis and all cells had normal arrangement and count. At the dose of 400 mg/kg, a significant difference in cell arrangement and cell count was observed, but after 22 days, on which 5 rats of this group were kept without any extract administration, there was no significant difference between them and control group, so at this dose the effect was reversible. At the dose of 800 mg/kg a significant effect was observed as well, but after 22 days it was not reversible (Takzaree et al. 2008).

Sensitisation potential

Sensitisation potential was assessed in groups of guinea pigs (Hausen et al. 1991) in a modified Freund's complete adjuvant method, by 0.1% and 1% crude ethylether extract of the flowers. The sensitisation potential of the sesquiterpene lactone alpha-peroxyachifolid was also tested at 0.01% and 0.1% using groups of 10 guinea pigs and at 1% using a group of 3 guinea pigs. All animals tested with flower extract were sensitised. Sesquiterpene lactone alpha-peroxyachifolid was identified as a strong sensitiser. Other known yarrow constituents like dehydromatricaria ester and pontica epoxide appear to play no role.

From the ether extract of yarrow flowers, *Achillea millefolium* L., two guaianolides (1, 2) with a peroxide bridged cyclopentane ring and an alpha-methylene-gamma-butyrolactone structure have been isolated. For these compounds the names alpha-peroxyachifolid (1) and beta-peroxyisoachifolid (2) are proposed. Alpha-peroxyachifolid is responsible for the allergic contact dermatitis caused by yarrow (Rücker et al. 1991).

3.4. Overall conclusions on non-clinical data

There are only very few data on the pharmacological effects of yarrow flower.

Some *in vitro* experiments on antibacterial and anti-oxidant activity and the *in vivo* yeast–induced mouse paw oedema test may contribute to the long-standing use of yarrow in the indication of gastro-intestinal complaints, symptomatic treatment of minor spasm associated with menstrual periods and of treatment of small superficial wounds.

Adequate tests on reproductive toxicity, genotoxicity and carcinogenicity have not been performed. Guinea pig sensitisation tests indicated some sensitisation potential for yarrow extracts and for one sesquiterpene lactone component.

4. Clinical Data

4.1. Clinical Pharmacology

4.1.1. Overview of pharmacodynamic data regarding the herbal substance(s)/preparation(s) including data on relevant constituents

Oral administration of a 70% ethanol extract of the flowers (dose not stated) increased the secretion of gastric juice in healthy volunteers by 178% (Mahler 1926). No further information on this study was available.

4.1.2. Overview of pharmacokinetic data regarding the herbal substance(s)/preparation(s) including data on relevant constituents

4.2. Clinical Efficacy

4.2.1. Dose response studies

No studies available.

4.2.2. Clinical studies (case studies and clinical trials)

No studies available.

4.2.3. Clinical studies in special populations (e.g. elderly and children)

No studies available.

4.3. Overall conclusions on clinical pharmacology and efficacy

The promotion of gastric juice secretion in a clinical study by an ethanolic flower extract in healthy volunteers may contribute to explain the long-standing use of yarrow flower in the indication 'loss of appetite'. The substance' bitter taste make it plausible.

5. Clinical Safety/Pharmacovigilance

5.1. Overview of toxicological/safety data from clinical trials in humans

Irritation

In clinical testing, cosmetic product formulations containing 0.1% to 0.5% of ingredient that actually contained 2% of yarrow flower extract (in propylene glycole and water) were generally not irritating. In provocating testing, patients reacted to a *Compositae* mixture that contained yarrow, as well as to yarrow itself. Also in clinical testing, a formulation containing 0.1% yarrow (*Achillea millifolium*) extract (2% yarrow flower in propylene glycol (75%) and water) was not a sensitiser in a maximization test and alcoholic extracts of dried leaves and stalks of *Achillea millifolium* did not produce a phototoxic response (Anonymus 2001).

5.2. Patient exposure

No data available.

5.3. Adverse events and serious adverse events and deaths

None known (German Commission Monograph 1990, Blumenthal et al. 1998, 2000).

If the skin comes into contact with the flowers, in rare cases hypersensitivity (allergy) may occur, with reddening of the skin and formation of small blisters (Bisset 1994).

Five months after her first contact with dried yarrow flowers a 44-year-old woman began to experience rhinitis, asthma and urticaria symptoms in the workplace when she handled these dried flowers as an instructor of personnel making dried flower arrangements. She had a clinical history of spring seasonal rhino-conjunctivitis and asthma but no family history of atopy. The physical examination was normal. Basal spirometry and chest X-ray was normal. Methacholine inhalation test was positive with a PC20 of 2.5 mg/ml. Total serum IgE was 7.94 kU/l. Skin prick test with aqueous extracts from dried flowers were positive to yarrow (10x7 mm). Specific Inhalation Bronchial Challenge with aqueous extract of yarrow (1.25 mg/ml) elicited an asthmatic response with a fall in FEV1 of 31%. Specific IgE (EAST) with yarrow flowers was 0.9 kU/l respectively. Immunoblotting with yarrow flowers revealed several IgE binding bands of 51, 21 and 18 kDa. Occupational respiratory symptoms caused by decorative flowers are seldom reported in the literature (Compes et al. 2006).

Hypersensitivity reactions of the skin and/or mucosa (frequency unknown) for products on the market.

Proposed wording in the monograph:

Hypersensitivity reactions of the skin have been reported. The frequency is not known.

5.4. Laboratory findings

No data available.

5.5. Safety in special populations and situations

Contraindications (hypersensitivity and allergic potential to be both covered)

Allergy to yarrow and other *Compositae* (Blumenthal et al. 1998, 2000, Hänsel et al. 1992).

Known hypersensitivity (allergy) to *Asteraceae* such as: yarrow, arnica, chamomile flowers or marigold flowers, for example (Bisset 1994).

Warnings and precautions for use

Indications 1), 2), 3) and 4):

The use in children under 12 years of age has not been established due to lack of adequate (for more than 30 years) data.

If the symptoms worsen during the use of the medicinal product, a doctor or a qualified health care practitioner should be consulted.

Indication 3):

If signs of skin infection are observed, a doctor or a qualified health care practitioner should be consulted.

For tinctures, extracts containing ethanol the appropriate labelling for ethanol, taken from the 'Guideline on excipients in the label and package leaflet of medicinal products for human use', must be included.

Drug interactions

None documented.

Use in pregnancy and lactation

It is frequently considered that yarrow should not be taken during pregnancy. It is reputed to be an abortifacient and to affect the menstrual cycle, and the volatile oil contains trace amounts (0.3%) of the abortifacient principle thujone. Excessive use should be avoided during lactation (Newal et al. 1996, Barnes et al. 2007).

Assessor's comment: This sentence is not taken into consideration because preparations of yarrow flowers may contain up to 0.5 % of volatile oil (Kern 1969) with a trace amount of thujone (0.3%). The daily dose is 1.5 g of the herbal substance three times daily which means 4.5 g/day with about a 0.0675 mg content of thujon/day. This amount is probably very small to present a risk to human health (see Public statement on the use of herbal medicinal products containing thujone EMA/HMPC/732886/2010).

The standard sentences are suggested in the monograph:

Safety during pregnancy and lactation has not been established. In the absence of sufficient data, the use during pregnancy and lactation is not recommended.

Overdose

No case of overdose has been reported.

Effects on ability to drive or operate machinery or impairment of mental ability

No studies on the effect on the ability to drive and use machines have been performed.

5.6. Overall conclusions on clinical safety

The medicinal use of yarrow preparation can be considered safe. Only the reported hypersensitivity reactions may present a risk therefore for safe use the sentence of "Hypersensitivity to the active substance and to other plants of the *Asteraceae* (*Compositae*) family" was included in the Contraindication section of the Community monograph.

The known toxic principle thujone has been documented as a minor component of yarrow oil, but the concentrations are too low to present a risk to human heath.

Since there are insufficient data, the use during pregnancy and lactation is not recommended.

6. Overall conclusions

Yarrow flowers have been in medicinal use for a period of at least 30 years as requested by Directive 2004/24/EC, thus the requirement for the qualification as a traditional herbal medicinal product is fulfilled (long-standing use).

It is possible that the anti-inflammatory effect is due to its sesquiterpene lactones content and this property may support the traditional indications.

The medicinal use of yarrow preparations can be considered safe. Only the reported hypersensitivity reactions may present a risk therefore for safe use the sentence of "Hypersensitivity to the active substance and to other plants of the *Asteraceae* (*Compositae*) family" was included in the 'contraindication' section of the Community monograph.

Since there are insufficient data, the use during pregnancy and lactation is not recommended.

Due to inadequate data on genotoxicity the inclusion of Millefolii herba in the Community list of herbal substances, preparations and combinations thereof for use in traditional herbal medicinal products cannot be recommended.

Annex

List of references