UNIVERSITA' DEGLI STUDI DI PAVIA
DIPARTIMENTO DI MEDICINA INTERNA E TERAPIA MEDICA
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CDC Istituto di Ricerche Dermo-Cliniche

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CLINICAL MONITORING REPORT ON THE SAFETY AND USER FUNCTIONALITY OF A CLASS I MEDICAL DEVICE

Published title: Clinical monitoring of safety and functionality of a non-medicated patch for pain alleviation associated to dysmenorrhea

DEVICE NAME	**FIT LADY PATCH**
MANUFACTURER	**D.FENSTEC S.R.L.**
SCIENTIFIC TECHNICAL COMMITTEE	**Bio Basic Europe S.r.l.** Plinio Richelmi, Ornella Pastoris Fernando Marco Bianchi, Marta Benedetta Brumana, Alessandra Cantù, Antonella Colombo, Alessandra Di Benedetto, Evelyn Falconi Klein, Laura Mainardi, Silvia Violetti, Umberto Pianca, Claudio Angelinetta, Melania Battistella, Silvia Busoli Badiale, Daniela Gandini, Antonella Praticò, Eliana Regola, Francesca Vallotto.
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DOCUMENT TYPE	Clinical monitoring report on the safety and use functionality of a class I medical device
DATE	30th August 2017

MEDICAL DIRECTOR AND CLINICAL INVESTIGATOR, QUALITY CONTROL AND SIGNATURES

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13-09-17
Date

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Date

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Signature

15-09-17
Date

SYNOPSIS OF THE CLINICAL MONITORING

TITLE	Clinical monitoring report on the safety and user functionality of a class I medical device
REPORT No.	1702D03F-1
NAME OF DEVICE	PATCH FIT LADY
DESCRIPTION OF THE PROCEDURES	The FIT LADY PATCH medical device was investigated comparatively (placebo vs evolving patch) to evaluate its action in providing relief in presence of painful sensations associated with menstrual cycle. This medical device is to be used only in accordance with the approved Investigational Plan on subjects who have signed an informed consent form. Device use is limited to the approved study investigators.
OBJECTIVES	The study shall identify clearly the hypotheses and objectives, primary and secondary, of the clinical investigation and the populations for which the device is to be used in the investigation. These shall include as appropriate in particular: • *Claims and intended performance of the device must be verified. Implied objectives must be explained in labeling, directions for use or promotional material, instructions for use or promotional material. It should be clearly stated whether or not the determinations of the long term effect are part of the objectives of the current clinical investigation.* • *Risk and foreseeable adverse device effects must be assessed.* • *Specific hypotheses to be accepted or rejected basing on the criteria and specifications of the evaluated medical device.* **Claims and performance:** The disposable FIT LADY patch, useful in the case of painful sensations associated with menstrual cycle, based on FIR technology that reflects body infrared rays, contributes to the attenuation of the pain sensations associated with the menstrual cycle. For the treatment people must apply three patches, respectively one at the right ovule level, one on the left ovary level and one on the L3 vertebra level. They are kept in place for 5 days. **Risk and foreseeable adverse effects:** The patches are not to be used on wounds or on broken or reddened skin. The products are non-sterile and do not contain any form of medication. If you suffer from specific blood circulation (especially to do with microcirculation) or muscular problems, seek the advice of your GP before applying the patches. Do not apply a plaster if it shows any sign of wear or defects. If any reactions to the plaster occur, for example itchiness or reddening, remove the patch immediately. **Primary Objective:** · Confirm the skin tolerability of the medical device "Patch Fit Lady". **Secondary Objectives:** · Verify whether the use of the medical device "PATCH FIT LADY" helps relaxing the muscular tension of the affected area, thanks to the ability to reflect body infrared rays, it helps to relieve the painful sensations associated with the menstrual cycle. · Assess effect of "PATCH FIT LADY" treatment on quality of life.

TYPE OF THE INVESTIGATION	Comparative, double-blind monocentric clinical monitoring – 2 groups of 20 female patients each. They are selected on the basis of menstrual painful sensations. A group uses the FIT A patch (force 0 = placebo); a group uses the FIT C patch (force 3 = active in evolution).
DURATION TEST	Beginning date April 2017 Ending date June 2017
CENTER(S) / COUNTRY(IES)	The study was coordinated by The Dermo-Cosmetic and medical R&D center - Bio Basic Europe s.r.l., supervised and carried out at the medical studio of Dr. Fernando Marco Bianchi
PATIENTS / GROUPS	40 female patients 2 groups of 20 female persons affected by painful menstrual cycle
INCLUSION CRITERIA	Patients have been selected and included in the study. The selection has been done according to the undermentioned inclusion criteria: · 18-40 years old · Painful menstrual cycle · Patients who gave their consent to participate in this test and to use their personal data · Promise not to change their usual daily routine · No psychological diseases · No atopy in the anamnesis
EXCLUSION CRITERIA	Patients with the following criteria were not recruited for this test: · Sensibility to one of the device component · Patients who do not consent to the use of personal data
CONCOMITANT MEDICATION CONCOMITANT DEVICE	None. In case of any concomitant treatment, it will be reported.
EFFICACY ENDPOINT	Attenuation of pain sensation associated to menstrual cycle.
TOLERABILITY SAFETY ENDPOINTS	During the test side-effects may occur by using the medical device. In order to guarantee the safety of the patient, any side-effects had to be written on the Patient sheet. To evaluate the skin tolerability of the medical device, any changes affecting the skin such as erythema and oedema have been recorded.
QUALITY OF LIFE	The improvement of patient's quality of life has been evaluated (reduction of discomfort), thanks to a reduction of pain sensation. **SKIN TOLERABILITY:** During medical device use, the state of the skin of the patients has been evaluated. To evaluate the variations of the skin parameters in a specific period of time, numerical values are given (see pag.15).

STATISTICAL METHODOLOGY	Patients are evaluated both at the beginning and at the end of the treatment using the same operator and the same value instrument: **First evaluation**: the first day of treatment beginning **Last evaluation**: after 5 days of treatment The experimental model: we evaluate the quantitative variation of a parameter both at the beginning and after a treatment on the same patients of the same group or between different groups. The study objective is to evaluate whether there is a statistical significant difference between the first data and after 5 days of treatment. **Comparison pre/during/post treatment** Patients are evaluated both at the beginning and at the end of the treatment using the same value instrument and the same operator. **Clinical parameter** **Attenuation of the intensity of painful sensation associated with menstrual cycle** The statistical analysis of clinical parameters, which provide a numerical evaluation using specific scales depending on the evaluated parameter (VNS scale, from 0 to 10), was carried out through the non-parametric Friedman test with a fixed threshold of acceptability at 5%. **Self-evaluations** Patients' opinions were also registered. This self-assessment was performed according to VNS scale where 0 corresponds to the minimum value and 10 is the maximum one. The statistical analysis was carried out through the Student «t» test: we decided to fix the threshold of acceptability at 10%.
STUDY EXTENSION	No study extension

SUMMARY

The medical device underwent a comparative, double-blind monocentric clinical monitoring in order to verify whether it helps to attenuate the painful sensation associated with menstrual cycle and the tolerability of the product following the application. Compliance of use is evaluated too.
This clinical monitoring was coordinated by The Dermo-Cosmetic and medical R&D center - Bio Basic Europe s.r.l., supervised and carried out at the medical studio of Dr. Fernando Marco Bianchi (M.C. – Dermatologist, Venereologist and Medical Hydrology specialist).
40 female patients were selected and divided into 2 groups of 20 patients each, aged 18-40 with painful menstrual cycle. A group uses the FIT A patch (force 0 = placebo); a group uses the FIT C patch (force 3 = active in evolution).
Patients of each group used the product by applying 3 patches in specific body areas for 5 consecutive days, respectively one to the right ovary, one to the left ovary and one on the vertebra L3 in order to evaluate which one helps attenuate painful sensations.
During this period, specific clinical parameters such as: erythema, oedema, attenuation of the intensity of the pain sensation associated with menstrual cycle were evaluated.
All the evaluations concerning the product given by patients in the sensorial test were collected at the end of this test. The score they gave is according to the VNS scale (0-10 where 0 is minimum value and 10 the maximum one).

EXPERIMENTAL PART

DEVICE NAME

FIT Lady Patch

USE

Samples of the tested product were used during 5 days of painful menstrual cycle, as written in the directions of use.

- Remove the patch from the base
- Apply the patches on the point where pain is felt, ensuring that skin is clean, dry and hair-free
- Wait for approximately two minutes before moving to ensure the patch adheres fully to the skin
- Keep the plaster on for 5 days
- Continue the treatment until the sensations improve
- The patch will continue to work even if it gets wet (e.g. in the shower)

Three patches (see Annex D) are applied for the treatment, respectively to the right ovary, one to the ovary level and the third at the level of the vertebra L3 and they are kept in place for 5 days.

COMPOSITION

See technical file.

EXECUTION OF THE TEST

CLINICAL PARAMETERS

- Skin alterations (erythema, oedema)
- Attenuation of painful sensations intensity associated with menstrual cycle (VNS scale, from 0 to 10)

The readings and evaluations are taken:

- at (T0) (basal value), before the product application
- after the product use: after 5 days (T5)

SELF-ASSESSMENT

This self-assessment concerning the product was performed according to VNS scale where 0 is the minimum value and 10 the maximum one. The assessments were collected at several times:

- After 5 days of product application

TABLES FOR CLINICAL EVALUATION OF SAFETY

SKIN ALTERATIONS (SKIN TOLERABILITY)

The skin state of the patients during the period of use of the product was evaluated. To evaluate the variations of the skin parameters in a specific period of time, the following numerical values were given:

Skin alterations (erythema and oedema)			
Erythema		**Oedema**	
No Erythema	0	No Oedema	0
Slight Erythema (hardly visible)	1	Very slight Oedema (hardly visible)	1
Clearly visible Erythema	2	Slight Oedema	2
Moderate Erythema	3	Moderate Oedema (about 1mm raised skin)	3
Serious Erythema (dark red with possible formation of light eschars)	4	Strong Oedema (extended swelling even beyond the application area)	4

ATTENUATION OF THE INTENSITY OF PAINFUL SENSATION ASSOCIATED WITH MENSTRUAL CYCLE

For this parameter we used the VNS scale (from 0 to 10, 0 corresponds to the minimum value and 10 is the maximum one). The INTRA and INFRA-GROUP statistical analysis has been performed using the Friedman Test with a fixed threshold of acceptability at 5%.

EVALUATION AND RECKONING OF SENSORIAL EVALUATIONS

For the sensorial parameters we used the VNS scale (from 0 to 10, 0 corresponds to the minimum value and 10 is the maximum one).

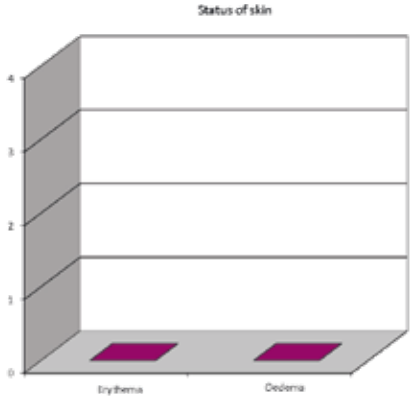
INFRA-GROUP: The statistical analysis has been performed using Student « t » test: we decided to fix the threshold of acceptability at 10%.

SUMMARIZING TABLES OF THE VALUES

CLINICAL EVALUATIONS OF SKIN TOLERABILITY

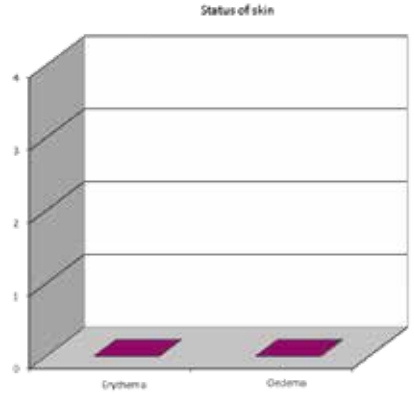
Skin tolerability

PATCH - FIT A		
Panellist code	Erythema	Oedema
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	0	0
20	0	0
Average	**0**	**0**



No skin alterations
have been recorded

PATCH - FIT C		
Panellist code	Erythema	Oedema
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	0	0
20	0	0
Average	**0**	**0**



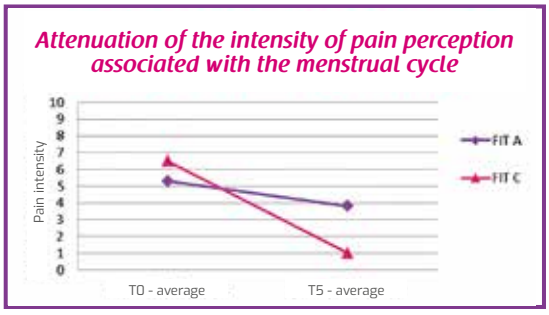
No skin alterations
have been recorded

ATTENUATION OF PAINFUL SENSATION INTENSITY ASSOCIATED WITH MENSTRUAL CYCLE

ATTENUATION OF PAINFUL SENSATION INTENSITY ASSOCIATED WITH MENSTRUAL CYCLE				
Panellists' code	T0 - FIT A	T0 - FIT C	T5 - FIT A	T5 - FIT C
1	5	5	5	4
2	4	4	4	0
3	5	6	3	2
4	6	5	5	0
5	4	6	2	1
6	5	6	2	0
7	6	7	3	0
8	4	5	3	2
9	6	3	5	0
10	3	8	2	1
11	4	8	3	0
12	7	8	6	3
13	5	7	5	2
14	6	6	4	0
15	4	9	2	1
16	5	7	2	0
17	6	8	3	2
18	8	6	6	0
19	7	7	5	0
20	6	8	6	1
Average	**5,3**	**6,5**	**3,8**	**1,0**

	T0 - FIT A	T0 - FIT C	T5 - FIT A	T5 - FIT C
T0 - FIT A		no	yes	
T0 - FIT C	no			yes
T5 - FIT A	yes			yes
T5 - FIT C		yes	yes	

At time T0, no statistically significant differences between the two groups. While there is a statistically significant difference ($p<0.05$) between the FIT A group and the FIT C group after 5 days of application of the patches.



Over the 5 days the device was applied, the average reduction in the perception of pain recorded was:

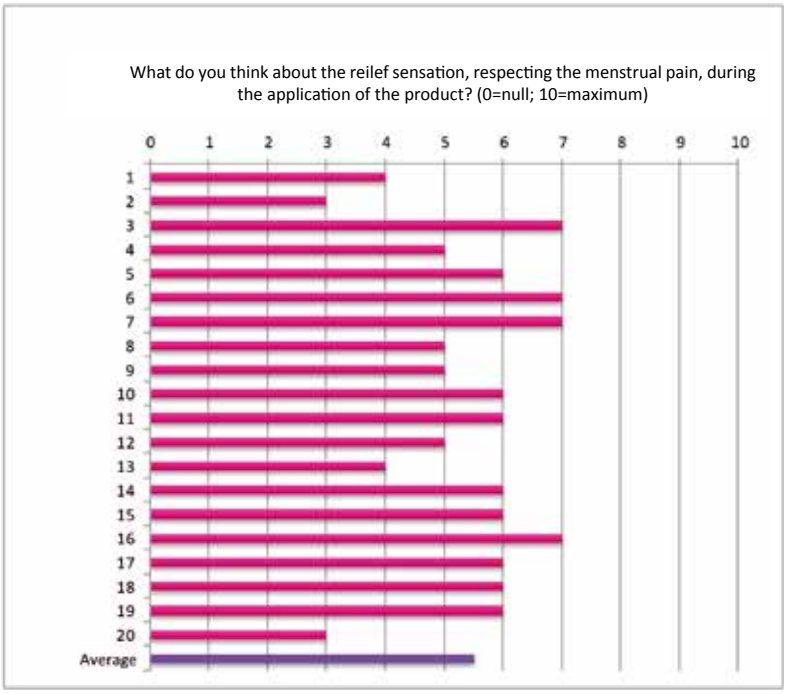
- 28% in the FIT A group
- 85% in the FIT C group

The statistical analysis at day 5 of treatment between the two groups returns a p value of 0.0000077

SELF-ASSESSMENT

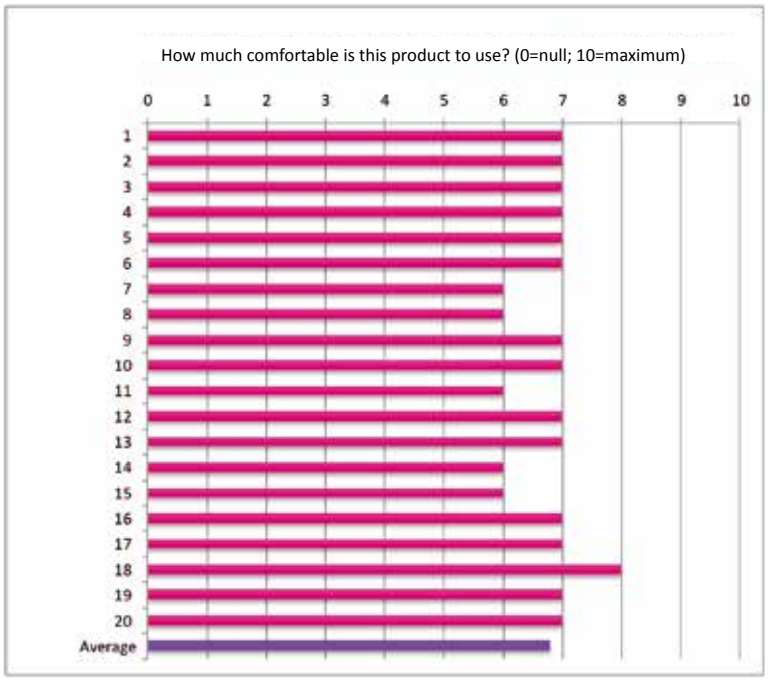
FIT A PATCH - PLACEBO

Vol. Ref.	
1	4
2	3
3	7
4	5
5	6
6	7
7	7
8	5
9	5
10	6
11	6
12	5
13	4
14	6
15	6
16	7
17	6
18	6
19	6
20	3
Average	5,50



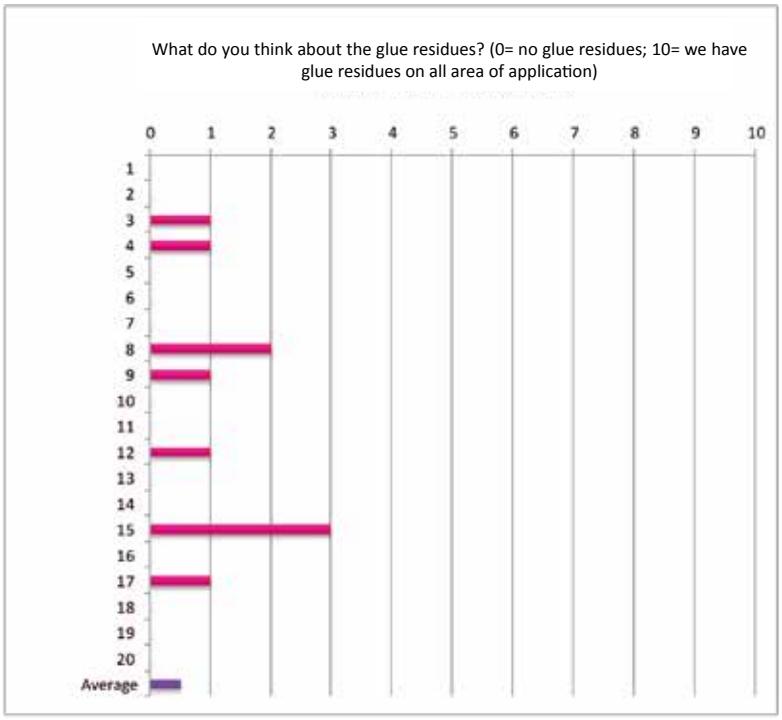
Vol. Ref.	
1	7
2	7
3	7
4	8
5	7
6	7
7	6
8	7
9	7
10	7
11	7
12	6
13	6
14	6
15	7
16	7
17	7
18	8
19	8
20	7
Average	6,95

Vol. Ref.	
1	7
2	7
3	7
4	7
5	7
6	7
7	6
8	6
9	7
10	7
11	6
12	7
13	7
14	6
15	6
16	7
17	7
18	8
19	7
20	7
Average	6,80



Vol. Ref.	
1	9
2	7
3	8
4	6
5	7
6	7
7	7
8	6
9	6
10	7
11	7
12	7
13	7
14	7
15	6
16	7
17	8
18	8
19	7
20	7
Average	7,05

Vol. Ref.	
1	0
2	0
3	1
4	1
5	0
6	0
7	0
8	2
9	1
10	0
11	0
12	1
13	0
14	0
15	3
16	0
17	1
18	0
19	0
20	0
Average	0,50



Vol. Ref.	
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3	7
4	6
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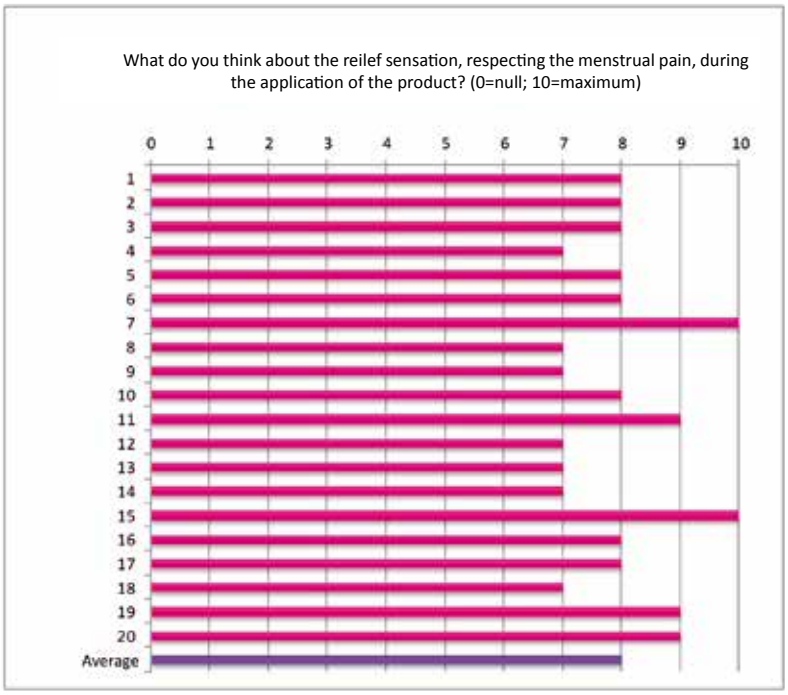
6	7
7	6
8	5
9	6
10	7
11	6
12	5
13	5
14	6
15	6
16	7
17	7
18	7
19	7
20	6
Average	6,25

Vol. Ref.	
1	6
2	7
3	7
4	6
5	6
6	6
7	6
8	5
9	5
10	7
11	6
12	5
13	5
14	6
15	6
16	7
17	7
18	7
19	7
20	6
Average	6,15

FIT C PATCH - EVOLVING PRODUCT

Vol. Ref.	
1	8
2	8
3	8
4	7
5	8
6	8
7	10
8	7
9	7
10	8
11	9
12	7
13	7
14	7
15	10
16	8
17	8
18	7
19	9
20	9
Average	8,00



Vol. Ref.	
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7	9
8	8
9	8
10	7
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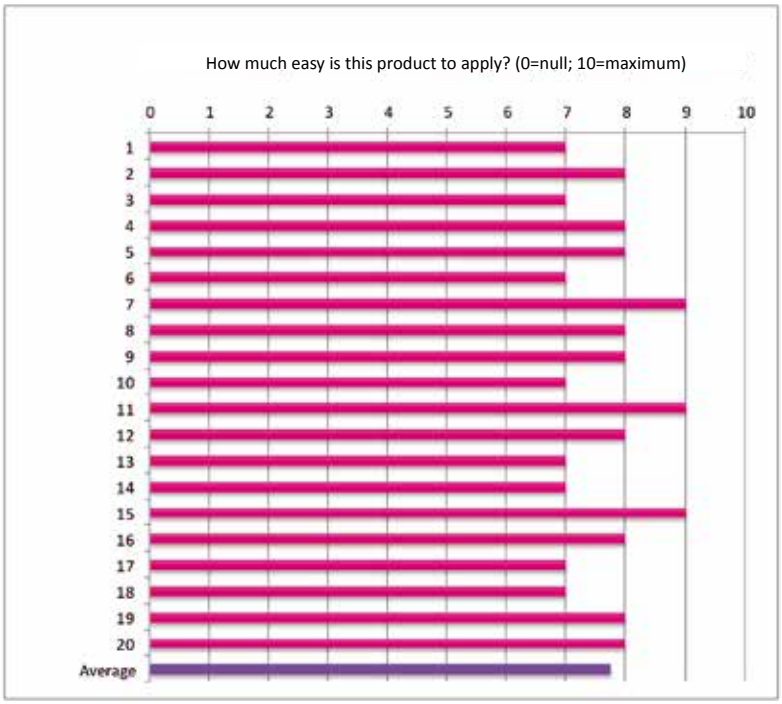
13	7
14	7
15	9
16	8
17	7
18	7
19	8
20	8
Average	7,75



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9	8
10	7
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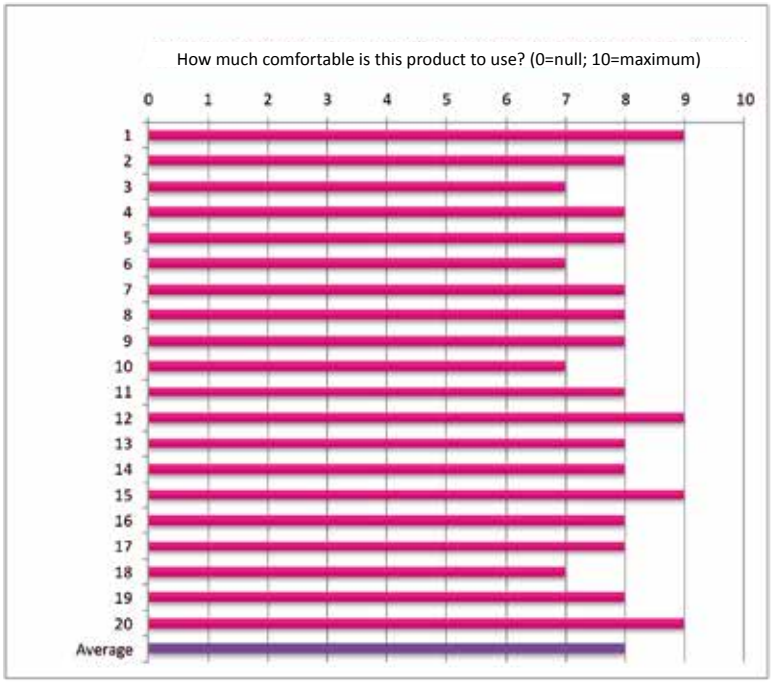
17	8
18	7
19	8
20	9
Average	8,00



Vol. Ref.	
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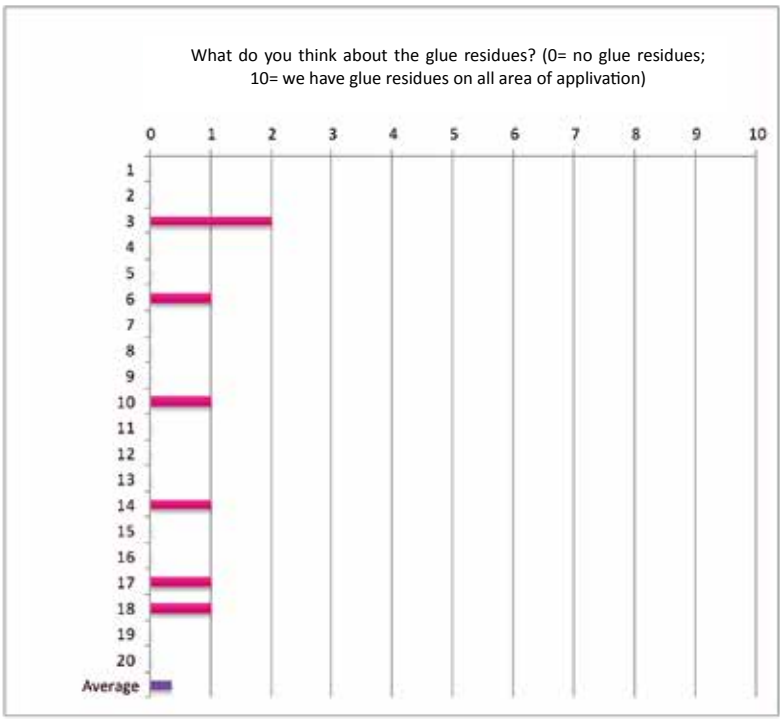
9	7
10	8
11	8
12	8
13	8
14	8
15	9
16	8
17	8
18	7
19	8
20	8
Average	7,90

Vol. Ref.	
1	0
2	0
3	2
4	0
5	0
6	1
7	0
8	0
9	0
10	1
11	0
12	0
13	0
14	1
15	0
16	0
17	1
18	1
19	0
20	0
Average	0,35



Vol. Ref.	
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7	10
8	8
9	8
10	8
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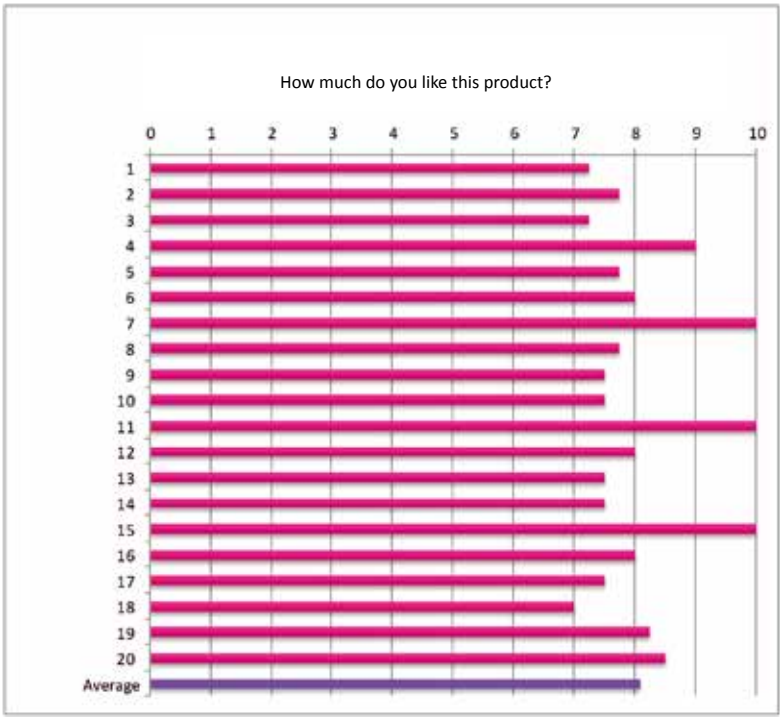
13	8
14	8
15	10
16	8
17	8
18	7
19	8
20	9
Average	8,10



Vol. Ref.	
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6	9
7	10
8	9
9	8
10	8
11	10
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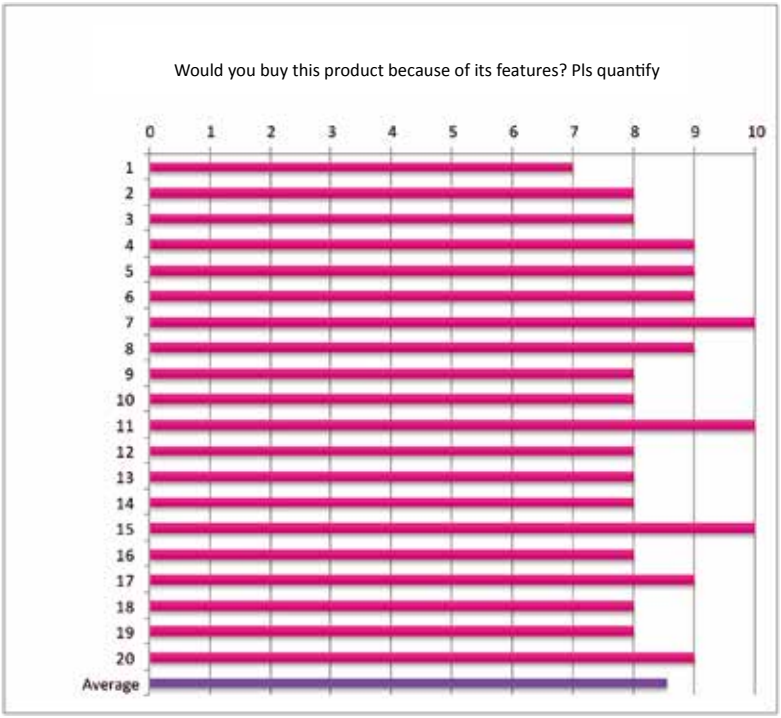
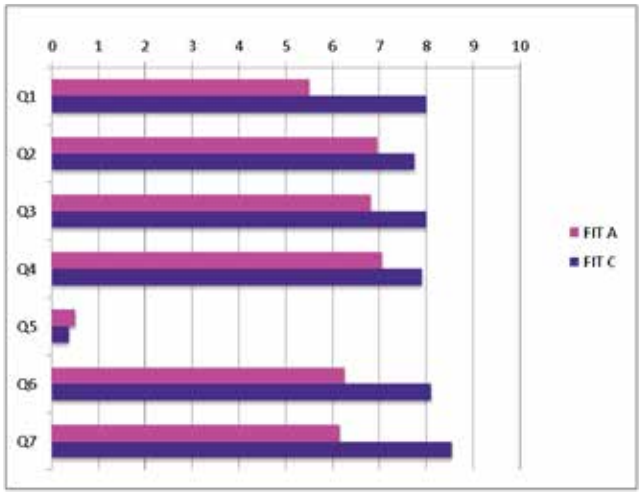
13	8
14	8
15	10
16	8
17	9
18	8
19	8
20	9
Average	8,55



COMPARISON BETWEEN FIT A VS FIT C



	FIT A VS FIT C	
	t	significant difference
Q1	0,00	yes
Q2	0,00	yes
Q3	0,00	no
Q4	0,00	yes
Q5	0,51	no
Q6	0,00	yes
Q7	0,00	yes

There are statistically significant differences between the FIT A group and the FIT C group for all questions, except for questions concerning the comfortable use and glue residues.

CONCLUSIONS

Based on the results obtained, we can state that the class I medical device:

FIT LADY PATCH

was shown, in patients who took part in the clinical trial, to be well tolerated and have the ability to reduce discomfort and the perception of pain during the menstrual cycle, attributable to the reflective power of FIT C. The medical device also proved very pleasant to use, improving the patients' quality of life.

BIBLIOGRAPHY

Italian Legislative Decree n.46 of 24 February 1997 amended by Italian Legislative Decree n.37 of 25 January 2010 – Acknowledgement of Directive 93/42/EEC and 2007/47/EC.

DECLARATION OF HELSINKI - ethical principles for medical research involving human subjects adopted by the 18th WMA General Assembly, Helsinki, Finland, June 1964, and consecutive amendments (last amendment: 59th WMA General Assembly, Seoul, October 2008).

ENCLOSURE D: INFOGRAPHIC - HOW TO APPLY THE PATCHES