

# Gender differences in myocardial infarction: health professionals' point of view

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**Abstract.** *Background and aims:* Aim of this study is contributing to an analysis of healthcare professionals' perceptions of gender differences in myocardial infarction. *Method:* For this purpose, the study examines bio-clinical and psychosocial aspects of myocardial infarction in men and women, thanks to 8 focus groups attended by healthcare professionals working at Milan Hospital (Niguarda Ca' Granda), Parma University Hospital, Catania Hospital (Ospedale Cannizzaro) and Ancona INRCA (Scientific Institute recognized in the area of Geriatrics and Gerontology). *Results:* A qualitative analysis of the narratives have been aggregated in 5 code families: "pathophysiological peculiarities", "psycho-relational peculiarities", "therapeutic problems", "protection and risk factors", and "no difference" between men and women, in particular as far as diagnostic-therapeutic treatment is concerned. Pathophysiological peculiarities concern the acknowledgement of typically female characteristics which can affect clinical pathways, such as comorbidity and different symptoms. Psycho-relational peculiarities show women's attitudes toward symptoms underestimation and a high pain endurance. Therapeutic problems are connected to female physio-pathological peculiarities, which reduce treatment effectiveness. Protection and risk factors indicate peculiar protective conditions or potentially dangerous situations in female population, such as distress and greater responsibilities. *Conclusions:* The study confirms the "male model" of heart disease and a gap in evaluating and dealing with female infarction. The study takes into account differences in narratives, according to organizational environments, professional roles and male and female healthcare professionals.

**Key words:** myocardial infarction, bio-psycho-social issues, focus groups, gender differences, healthcare professionals

## Introduction and aim of the study

Although myocardial infarction represents one of the main causes of death in Western countries, scientific studies among female patients and their peculiarities have often been put aside (1, 2).

In the health social psychology field, there is a significant list of studies on a lasting stereotype of myocardial infarction as "typically male disease" (3, 4).

A gender perspective, which highlights the peculiarity of myocardial experience in men and women, helps in overcoming two traditionally shared beliefs:

to consider heart diseases as typically male pathologies and to describe the experience of infarction in women as "atypical" (5, 6). Such beliefs are widespread both in "common sense" and in scientific literature, creating a huge impact on diagnostic evaluation and therapeutic treatment.

According to the results of studies on the quality of life of men and women after myocardial infarction (7, 8), a gender difference emerges in treatment and in healing of patients surviving infarction. A recent review of the experience of women after myocardial infarction (9) stresses gender differences concerning delays in un-

dergoing clinical treatment, therapeutic adherence to prescriptions, social support and coping strategies. The results encourage to reflect on reasons which influence accessibility and different use of healthcare services by women and to deepen the analysis of gender differences not only from the point of view of patients, but from that of healthcare professionals too.

Aim of the present study is to try give a contribute in this direction, by analyzing gender specificity in myocardial infarction by adopting healthcare professionals' perspective, not thoroughly investigated yet. The study analyzes both the bio-clinical and the psychosocial aspects of myocardial infarction.

## Method

The focus groups seem to adequately meet the demands of this study (10), supporting their effectiveness in psychosocial research for healthcare organizations (11).

In particular, 8 focus groups were conducted in 4 healthcare organizations based in 4 different regional areas. In each one, the survey analyzed 2 different organizational situations: Cardiovascular Recovery Unit and Emergency Unit. Conducting focus groups in two different Units for each healthcare organization was decided following the hypothesis that pathology representation by healthcare professionals might change according to working environment, type of patients, type of activity and organizational mission.

Healthcare companies taking part to this trial were located in 4 representative cities of Northern, Central and Southern Italy.

- Milan Niguarda Ca' Granda Hospital: large city hospital, the main regional Hospital in Lombardy. Focus groups took place respectively with Cardiology Recovery Unit staff and Emergency Unit staff;
- Parma University Hospital a medium-large city hospital, the second largest in the region based on number of admissions. Focus groups took place at Cardiology Recovery Unit and at Intensive Coronary Care Unit.
- Ancona INRCA Scientific Institute recognized in the area of Geriatrics and Gerontology. Focus groups took place in the Cardiology Recovery Unit and Emergency Unit;
- Catania Cannizzaro Hospital: city hospital in the main town of a Southern Italy Region. The staff taking part in the focus groups belonged to Cardiology Recovery Unit and at Intensive Coronary Care Unit

Participants were selected through a stratified non-probability sampling, based on gender, professional role and hospital Unit. On the whole, 69 health professionals participated in the focus groups: among them, 38 physicians (25 men and 13 women) and 31 nurses (11 men and 20 women).

Table 1 shows the distribution of participants in the focus groups, according to organizational context, gender and professional role.

On the whole narrative, an analysis of content was performed, in order to spot themes and key-concepts related to gender peculiarities connected to clinical-therapeutic treatment of myocardial infarction.

By making use of the Grounded Theory Model (12), each significant selected text was summarized in

**Table 1.** Participants in Focus groups

	Physicians	Nurses	Men	Women	Total
Ancona Recovery Unit	6	6	6	6	12
Ancona Emergency Unit	2	4	3	3	6
Catania Recovery Unit	4	5	6	3	9
Catania Emergency Unit	4	5	5	4	9
Parma Recovery Unit	4	3	2	5	7
Parma Emergency Unit	4	3	4	3	7
Milano Recovery Unit	6	1	2	5	7
Milano Emergency Unit	8	4	8	4	12
Total	38	31	36	33	69

*codes* which point out the main narrative points. Later codes are combined according to consistency and conceptual affinity (*family codes*) thus allowing an interpretative-theoretical model to emerge starting from narrative.

In a second phase, a quantitative analysis of the features of narrative was performed by counting the reiteration of family codes and their connection to regional and organizational frameworks and to participants' professional role and gender.

## Results

### Codes

Quantitative analysis of the whole narrative made up by 8 focus groups allowed to spot 25 codes, which express equivalent emerging topics from participants' narratives. The categorization into codes happened only for text parts which refer to gender differences, in connection to myocardial infarction. Moreover, each category was labeled in connection to female peculiarities.

In the code named "*low skills in describing own symptoms*", 5 text portions were included which refer to a lower ability by women to report the perception of one's symptoms in a clear and appropriate way:

*"As they describe many other things, I'm inclined to think of women, because women are more digressive in their descriptions, even reporting inconsistent events. On the other hand, men – I agree with that – are more explicit, they focus on the main ailment (physician, woman, Parma, Cardiology Recovery Unit)"*

Code "*prevention campaign and trials on mainly male population*" (two text portions) express the idea that the men are the main target of preventive interventions, both clinical-therapeutic ones and those promoting health behaviours.

*"We must stress that all trials made until now had male population as sample; basically they are all trials on men population (physician, woman, Milan, Cardiology Recovery Unit)"*.

Category "*comorbidity and other symptoms*" includes 9 interventions:

the resulting idea is that a diagnosis of myocardial

infarction in women is made particularly difficult by other organic and/or psychiatric disorders:

*"This is a common case; an elderly woman is showing signs of delirium, thus a psychiatric symptom, and is sent to the psychiatrist. But, on the contrary, an infarction is currently occurring (nurse, woman, Ancona, Cardiology Recovery Unit)."*

*In men, chest pain is typical symptom of infarction; very often, it may be disguised in women: women for instance may present with nausea, vomit, all symptoms which should not be connected to infarction. It shows other symptoms, other signs if compared to infarction in men. A man suffers his typical chest pain with a sensation of oppression, while a woman often suffers epigastric symptoms (nurse, man, Ancona, Emergency Unit)"*.

Three quotations refer to the code "*inequality in decision making*" which emerges between men and women even in medical and healthcare contexts; it could be the reason behind a different treatment procedure which proves detrimental to female patients:

*"For a series of reasons, women are disadvantaged from a cultural point of view. For the same reason, women earn on average less money performing the same job as men. We live in a society where all decisions are taken by men. (physician, man, Parma Emergency Unit)"*.

Two interventions defined as gender specific a "*different treatment efficiency due to genetic differences*":

*"Coronary collateral circulation in women is less obvious than in men.....perhaps thanks to the study of genome that I'm carrying out and taking part in, there really are genetic differences, so it is not taken for granted that there is the same treatment (physician, woman, Milan Cardiology Recovery Unit)"*.

Some participants (3 quotations) state that, if compared to men, older aged women who suffered myocardial infarction would be a factor which could complicate diagnosis and therapeutic treatment. Reference code is therefore "*older age*":

*"Probably, it happens because women are older, they have comorbidities when they suffer the first episode, so it is much more difficult to treat them (physician, man, Milan Emergency Unit)"*.

Another code concerns "*protective factors*", such as, for instance, estrogens, which allow women not to suffer from infarction in fertile period. 4 interventions underline this topic:

*“Men are genetically more vulnerable, they are less protected by estrogens and perhaps by other factors and so they are .. we have younger patients too (nurse, man, Catania, Recovery Unit)”.*

3 interventions highlight specific “risk factors” in women, mainly related to distress:

*“This kind of infarction appears mainly in women and it is often connected to strong emotional distress: women who are hospitalized because of an infarction during their husband’s funeral ceremony, or they suffer a lot... we visited a woman because of a robbery and in acute phase... it is difficult to make a diagnosis (physician, man, Catania Emergency Unit)”.*

“Distress” comes out as independent code. Besides being a specific risk factor in female patients, it can contribute to neglecting one’s health conditions and delaying the treatment times (8 interventions):

*“Very often these women take care of disabled persons, they take care of sisters with worse disabilities compared to theirs. They have a particular disability coming above all from old age. They take care of their husband, their grandchildren, as their children have to work: so the grandmother becomes mother twice: she tends to neglect herself. (nurse, man, Ancona, Emergency Unit)”.*

Women can have “myocardial infarction with normal coronary arteries” (5 interventions), and this makes the situation less understandable during diagnosis:

*“Why? I know the reason why: because we know the majority of these women have normal arteries so it is not about real infarctions. In men, on the contrary, this event makes patient a serious coronary patient (physician, woman, Parma, Recovery Unit)”.*

A factor which is highly stressed by professionals (12 interventions) is female “higher pain tolerance” which could lead her to underestimate symptoms:

*“According to me, women tend to underestimate. Anyway, we experience other harder pains. So, according to me, a so light pain (nurse, woman, Ancona Emergency Unit)”.*

Many narratives show a “symptoms underestimation by women” (16 interventions):

*“Thinking about women, typical or atypical patients, they are prone to under estimate their symptoms, so they don’t describe their symptoms in details (physician, woman, Milan, Emergency Unit)”.*

Underestimation of one’s health condition is sometimes accompanied by an attitude of “resistance to

the treatment” prescribed by physicians and nurses (3 interventions):

*“Yes, when I think about cases of patients who refused treatment, because they considered it invasive, when I think about patients who asked for hospital discharge because they refused heart surgery etc, women come to my mind, for sure women. More often women (physician, woman, Parma, Recovery Unit)”.*

Likewise, it is possible to find an attitude of “resistance towards the use of invasive diagnostic equipment” (7 interventions) among physicians and nurses as well:

*“You don’t expect it, even if you consider her in the right way, you consider her as a very weak 80-year old woman. For this reason, you don’t assume a hostile attitude and treat her in a very conservative manner (physician, man, Catania, Recovery Unit)”.*

If some women underestimate pathology and treatment, according to healthcare professionals (11 interventions) other women emphasize symptoms: according to them, this attitude is due to “psychological problems”:

*“From a statistical point of view, women are more prone to anxiety-depressive disorders in comparison to men. Let’s consider the quantity of benzodiazepin tranquillizer taken by women in comparison to men. The result is very clear. As a consequence: according to my opinion, that percentage of women, a huge group of women belonging to this category and suffering anxious-depressive disorders, because of this main disease, whatever symptoms they should feel, they tend to overstate and express it in a hectic and overestimating manner, so that later, in some way, they have this kind of problem: the physician doesn’t pay attention to them anymore (physician, woman, Ancona, Recovery Unit)”.*

4 interventions by healthcare professionals report that an exaggeration of symptoms by female patients does not only result in frequent complaints, but also in “shorter times of help request”:

*“Women are a bit scared before, even if they don’t think about infarction, but they ask for help as they don’t know what it is happening (nurse, woman, Parma, Emergency Unit)”.*

This exaggeration of symptoms by women is sometimes connected to an attitude of “underestimation of symptoms by healthcare staff” (9 interventions):

*“I speak based on my experience in the cardiology*



*department: if I saw a 30–40 year old woman, I would never think immediately about infarction. This woman is currently having a heart infarction, but although I work in the cardiology department, I wouldn't think too much about it. In a young person, though, I would immediately think about an infarction (nurse, man, Catania Recovery Unit)*”.

Sometimes, in female patients symptoms are not overstated but they are too much detailed or described in an abstract and broad way. This “*Low skills in describing own's symptoms*” (9 interventions) implies a vagueness which brings to physicians and healthcare staff difficulties in diagnosis.

*“Accompanying symptoms are perhaps more frequent in women, I think ... as they describe many other things, I think more often about women, as in our descriptions we are redundant, we are prone to tell about things which have nothing to do with infarction (physician, woman, Parma Recovery Unit)*”.

Some interventions describe “*a-typical symptoms*” (7 interventions) in women arranging infarction symptoms very close to symptoms belonging to other pathologies:

*“The patient didn't suffer a very typical pain, nevertheless she complained about retrosternal pain, it didn't last long. The woman had been visited by the nurse, she had been given a yellow code, not a white one. Then – this happened many years ago – I don't remember why we arrived, but I remember the nurse, she came close to me and asked me: “Is she really having an infarction?” and I answered “Yes, but do not worry: if she had stopped me on street telling me her symptoms, I would have suggested her to take 10 drops of Lexotan and go home”. Given her age, and the total absence of risk factors, symptoms were not particularly typical, so I was very surprised too (physician, woman, Milano, Recovery Unit)*”.

Basic vagueness, which seems to distinguish symptoms in women, creates also a “*Lower availability to structures treating acute problems*” (2 interventions):

*“In cases where a patient must be transferred to another hospital in order to perform interventional treatment, I'm deeply convinced that in the case of women, the decision takes longer time. Patients coming in from other hospitals are more frequently men, because there is a more rigorous selection, because cases which are less doubtful are taken care of, and we know that in women there is always*

*a degree of uncertainty; we are scared by the fact that perhaps the woman didn't really have that specific pathology (physician, male, Catania, Recovery Unit)*”.

Some interventions (3 quotations) underline a difference between typical infarctions, which occur more frequently in men, and atypical infarctions, which occur more frequently in women. This difference marks a “*different mortality profile*”:

*“ST depression infarction, I mean classical infarction, subendocardial infarction – from a statistical point of view – strikes more often women and statistically older patients in comparison to ST elevation infarction, that is an infarction which strikes younger patients and above all males. So, according to me, as these two types of infarction have a different mortality rate and one strikes more frequently women, the other strikes more frequently men, this clearly justifies this kind of result (physician, woman, Ancona, Recovery Unit)*”.

In the end, unlike code categories as described above, other interventions stress the absence of gender peculiarities, both with reference to female explanation of symptoms and to the diagnostic and/or therapeutic treatment performed by healthcare professionals.

One single intervention declares that there is *no difference* in the “*way symptoms are explained*” by female population:

*“From the moment in which the symptoms appear until they reach the doctor, in my opinion the ways of explaining things ... there is no difference in terms of recognizing the symptoms, but rather in the capability of explaining them (nurse, woman, Milano, Recovery Unit)*”.

11 interventions state that there is “*no different attitude by healthcare staff*”, whether the patient is a man or a woman:

*“According to me, in our hospitals, which are 24 hours Hospitals with Haemodynamics etc, men and women are offered the same service; we have the same attitude towards men and women (physician, man, Catania, Recovery Unit)*”.

The different interventions (6 quotations) in this category underline a significant change in decision-making, which has occurred over the past years, mostly due to the progress made in medical engineering, which has led to the introduction of new equipment in the clinical pathways. According to the participants, the use of instrumental diagnostics allows a higher

degree of standardization and therefore a more equal treatment compared to the past.

*“Perhaps this didn’t happen in the past, when strategies with those patients were much more arbitrary compared to the current methods. That is, a large part of patients were treated with medical therapies and only a small part of patients later underwent a coronary angiography. It is clear: as there were no absolute parameters in order to decide whether or not to administer drugs, against this background, even gender could play a role (physician, man, Parma, Emergency Unit)”.*

#### Code families

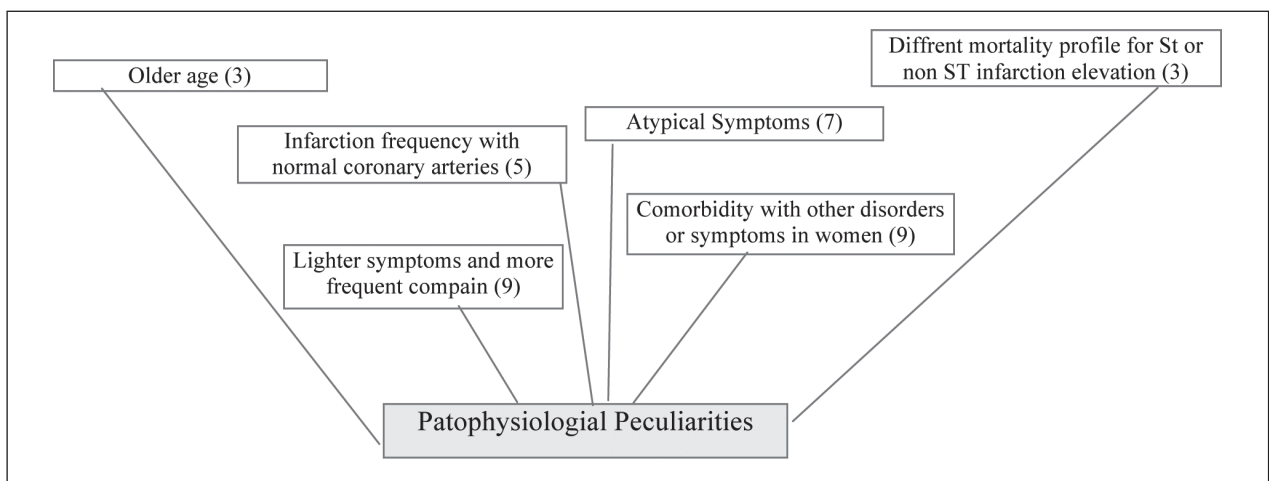
At the end of the analysis, codes were combined into code families, allowing to summarize the information in the texts and to produce an abstract model. 5 different code families were determined:

- *“Pato-physiological peculiarities”* associated to codes which give an image of gender differences related to myocardial infarction, such as differences related to physiology, organic and biological problems, and symptoms of pathology: comorbidities with other pathologies, lighter symptoms, atypical non-specific symptoms, frequency of infarction with normal coronary arteries, different mortality profile, older age (Fig. 1).

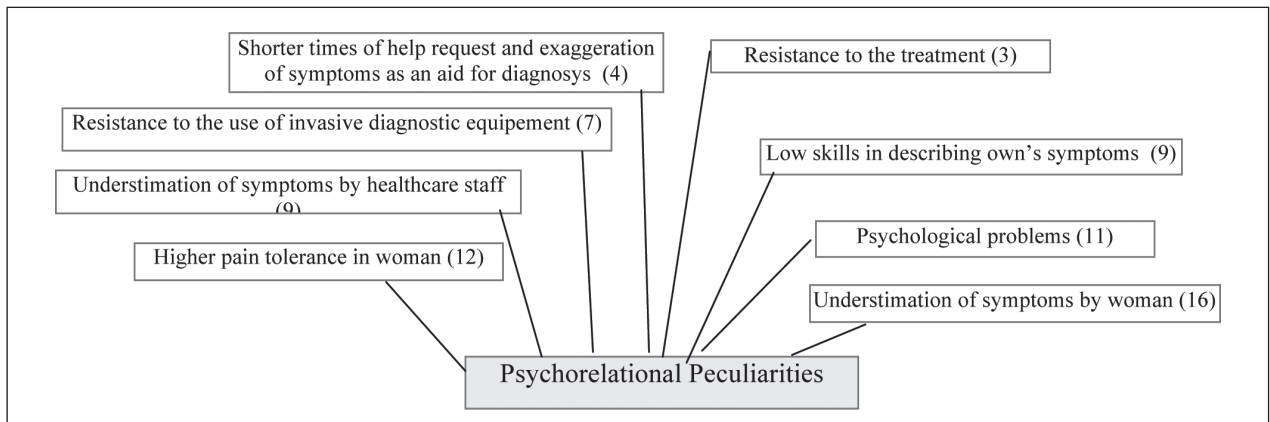
- *“Psycho-relational peculiarities”*. This code family contains codes which identify gender peculiarities in psychological attitudes of female patients or healthcare staff who are treating female patients during myocardial infarction, or codes describing peculiarities in therapeutic relationship between healthcare staff and female patients: underestimation of symptom by women, underestimation of symptom by healthcare staff, higher pain tolerance, psychological issues, resistance to treatment, resistance to the use of invasive diagnostic equipment, low ability in describing own symptoms, shorter times in help request (Fig. 2).

- *“Therapeutic problems”* collecting codes giving the idea of peculiar problems raised by female patients during diagnosis, by physician and clinical research: inequality in decision-making power, different treatment effectiveness due to genetic differences, communication prevention campaigns and studies on male population, reduced willingness to the transfer to hospital for acute (Fig. 3).

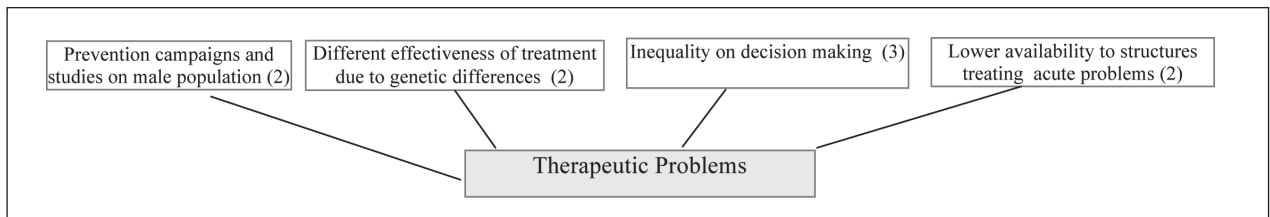
- *“Protection and risk factors”*, including narratives referring to peculiar protective situations or situations which are potentially dangerous in the female population: distress – more frequent commitments for women, protective factors in women, risk factors in women (Fig. 4).



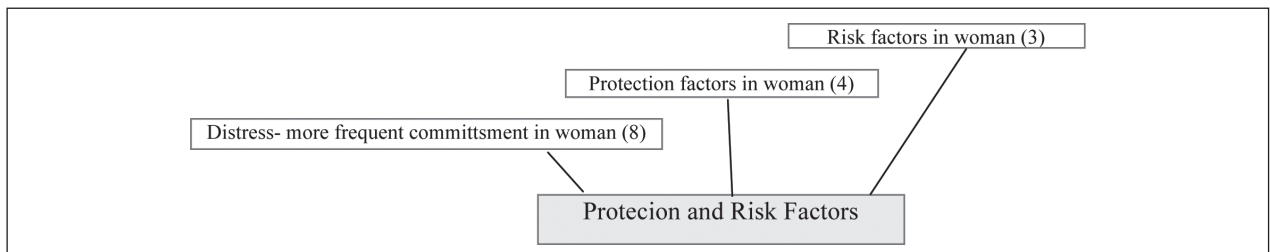
**Figure 1.** Code family “Patophysiological Peculiarities” (for each code n. of quotations and possible co-occurrences with other codes are indicated)



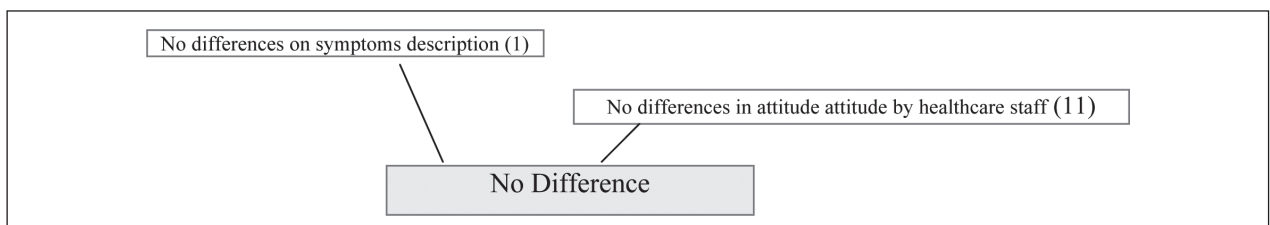
**Figure 2.** Code family “Psychorelational Peculiarities” (for each code n. of quotations and possible co-occurrences with other codes are indicated)



**Figure 3.** Family code “Therapeutic Problems” (for each code n. of quotations and possible co-occurrences with other codes are indicated).



**Figure 4.** Family code “Protection and risk factors” (for each code n. of quotations and possible co-occurrences with other codes are indicated).



**Figure 5.** Family code “No Difference” (for each code n. of quotations and possible co-occurrences with other codes are indicated).

- “*No difference*” a category which includes codes denying the existence of gender peculiarities related to clinical-therapeutic treatment of myocardial infarction:

no different attitude by healthcare staff, no difference in the description of symptom (Fig. 5).

**Table 2.** Distribution of occurrences of narratives according to code families, regional contexts and organizational environments: N (%)

	Psycho-relational peculiarities	Patophysiological peculiarities	Protection and risk factors	Therapeutic problems	No difference	Total
Ancona	21 (60)	11 (31.4)	3 (8.6)	0 (0)	0 (0)	35 (100)
Catania	7 (43.8)	1 (6.3)	5 (31.2)	1 (6.3)	2 (12.5)	16 (100)
Parma	21 (42)	15 (30)	3 (6)	3 (6)	8 (16)	50 (100)
Milano	15 (40.5)	9 (24.3)	3 (8.1)	5 (13.5)	5 (13.5)	37 (100)
Recovery Unit	40 (48.2)	22 (26.5)	7 (8.4)	6 (7.2)	8 (9.6)	83 (100)
Emergency Unit	24 (43.6)	14 (25.5)	7 (12.7)	3 (5.5)	7 (12.7)	55 (100)
Total	64 (46)	36 (25.9)	14 (10.1)	9 (6.5)	15 (10.8)	138 (100)

*Differences according to organizational contexts, professional roles and gender*

This section describes recurrent different narratives and code families in different organizational contexts, among physicians, nurses and technicians, and between males and females.

**Regional and organizational environments**

As Table 2 shows, the main topic in the whole samples concerns psycho-relational peculiarities (46% narratives). This turns out to be the main result in all regional and organizational contexts taken into account, but in Ancona Units the rate of interventions attributed to this code family (60%) is higher than in other regional contexts<sup>1</sup>.

As far as the two organizational contexts are concerned (Cardiology Recovery Unit and Emergency Unit) the rate of narratives attributed to the family of “psycho-relational peculiarities” is slightly higher in Recovery Units (48.2% vs. 43.6% of narratives in Emergency Units).

Narratives making reference to patho-physiological peculiarities represent 25.9% of total narratives.

Within different regional environments, the rates of narratives dealing with this category compare Ancona (31.4%), Parma (26.5%) and Milan (24.3%), where

attention to this variable seems to be particularly high, and in Catania (6.3%).

Distribution of interventions on patho-physiological peculiarities in the organizational contexts taken into account is essentially identical (Cardiology Recovery Unit: 26.5%; Emergency Unit 25.5%).

Protection and risk factors are mentioned in 10.1% of narratives of those taking part and have an important role within narratives of Catania regional area (31.2%). Moreover, the rate of narratives within Cardiology Recovery Units is higher (12.7%) in comparison to Emergency Units (8.4%).

The issue dealing with therapeutic problems concerns 6.5% of total narratives and is present more frequently in narratives of Milan Regional context (13.5% narratives). As far as organizational contexts are concerned, the rate of narratives is slightly higher in Cardiology Recovery Units (7.2%).

In the end, narratives about denying differences between male and female patients in myocardial infarction (no difference) are 10.8% of total narratives and are distributed with similar rates in the 3 regional contexts: Parma (16%), Milan (13.5%) and Catania (12.5%), while they are completely absent in Ancona. They record a slightly higher rate in Cardiology Recovery Units (12.7%).

In short, among different environments, we can state the following:

- Ancona Hospital Units stand out for a more frequent reference to psycho-relational peculiarities and a lower impact of therapeutic issues. The absence of mentioning equal treatment between men and women must be stressed;

<sup>1</sup>The choice of analysis in the distribution of narrative to 5 different code families was made on percentage counts within contexts, as each context showed different features, both as far as the number of participants in focus groups are concerned and, as a consequence, to the number of narratives.



**Table 3.** Distribution of interventions according to code families, professional roles and gender N (%)

	Psycho-relational peculiarities	Patophysiological peculiarities	Risk and Protection Factors	Therapeutic Problems	No difference	Total
Physicians	37 (39.4)	28 (29.8)	9 (9.6)	8 (8.5)	11 (11.7)	94 (100)
Nurses	27 (61.4)	8 (18.2)	4 (9.1)	1 (2.3)	4 (9.1)	44 (100)
Men	26 (36.6)	19 (26.8)	8 (11.3)	6 (8.5)	12 (16.9)	71 (100)
Women	38 (56.7)	17 (25.4)	6 (9)	3 (4.5)	3 (4.5)	67 (100)
Total	64 (46)	36 (25.9)	14 (10.1)	9 (6.5)	15 (10.8)	138 (100)

- Catania Hospital Units stand out for evidence of protection and risk factors in women and lower impact of patho-physiological peculiarities;

- Parma Hospital Units stand out for a relatively higher attention to patho-physiological peculiarities;

- Milan Hospital Units stand out for a higher attention to therapeutic aspects.

As far as organizational contexts are concerned, Cardiology Recovery Units stand out for a more frequent reference to narratives on psycho-relational aspects and therapeutic problems, while Emergency Units stand out for higher attention to protection and risk factors and a pattern of thinking about higher equal clinical-therapeutic treatment.

#### Professional roles and gender

As we can see in Table 3, both for physicians and nurses, the main point is reference to psycho-relational peculiarities. However, by analyzing distribution in each of the two professional roles, it is possible to observe how narrative on psycho-relational specificity records an occurrence rate which is much higher in nurses and technicians (61.4%) if compared to physicians' rate (39.4%).

Physicians on the contrary, in comparison to nurses, stress more frequently patho-physiological peculiarities (29.8% narratives vs. 18.2%) and therapeutic problems (8.5% narratives vs. 2.3%).

These results seem to refer to an internal organization of healthcare environments where, if attention to psychological and relational variables seems to be a consolidated result, however it plays a dominant role among registered nurses, reference staff for patients, while physicians are more often involved in the investigation of diagnostic and therapeutic issues (13).

As far as gender differences are concerned, psycho-relational peculiarities have a greater influence among female narratives: 56.7% of global narratives are classified within this code family vs. 36.6% of total narratives of male sample.

On the contrary, in comparison to women, men stress a more frequent reference to the issues given by therapeutic action (therapeutic issues: 8.5% male narratives vs. 4.5% female narratives); above all, they show a higher rate of narratives aimed at denying unequal clinical-therapeutic treatment between male and female patients (no difference: 16.9% male narratives vs. 14.5% female narratives).

This result shows that the conventional idea, which represents women as being more focused on relational aspects of healthcare while men are more focused on technical aspects, is confirmed. Moreover, an important key to understand the code family "no difference" could be that of reminding a possible attempt by male healthcare professionals to defend themselves from the accusation of an unequal treatment of women with infarction.

## Conclusions

The results of the present study help defining more clearly the contents of this socially shared belief in the Italian context.

From a *grounded* data analysis, three main thematic cores come out, and they are shared by professionals taking part in this study. These cores are related to similar female peculiarities of acute ischemic cardiopathy:

1. pato-physiological peculiarities; that is acknowledging typically female features which can in-

fluence clinical pathways. Two examples of this female specificity often stressed by focus group participants lie, on one hand, in a high comorbidity rate, in other words, in the higher rate of concurrent female pathologies, if compared to men, this due to the older age when women are at risk of infarction too; on the other hand, this is due to softer and atypical symptoms, in comparison to those occurring to men.

2. psycho-relational peculiarities, that is a female peculiarity even in the ways the pathology is dealt with, which has direct reference to psychological and relational features. The frequent underestimation of symptoms and a high pain endurance are two examples of female peculiarities, which can cause dangerous delays in medical treatment, thus compromising female patient's functional and psychological recovery.

3. therapeutic peculiarities, that is the different way female patients experience diagnosis, given their peculiarities or the way in which professionals are represented, who tend to differ treatments according to patient's gender. An example of this topic refer to traditional inequality in decision-making between men and women in Western societies, which seem to reflect in healthcare environments too.

Focus group analysis allows to run through female pathologies pathway, underlying the main passages according to gender differences.

As far as arising of symptoms is concerned, differences were found between men and women both in patho-physiologic terms and psycho-relational handling of symptoms.

First of all, symptoms disclose in more ambiguous and blurred ways, sometimes in an atypical way, which direct healthcare staff towards an interpretation which takes into account other pathologies. As a matter of fact, parameters traditionally employed to diagnose infarction are those given by scientific medical literature, which mainly studies male populations, thus contributing to build and shape disease social representation according to male specificity. This gender specificity is thus recursively nullified.

There are difference in treatment and precocious mortality rate between men and women (14, 15), as differences in the same symptom appearance are not properly taken into account. This happens because of

an integration of female and male peculiarities made by scientific research and "common sense".

This social representation of myocardial pathology as "male pathology" seem to be shared both by healthcare staff and female patients themselves; this could partially explain the trend to underestimate symptom disclosure by both sexes (16). On the other hand, the correct recognition of symptoms by woman, which leads to a delay in help request, could be connected and conditioned by more relational elements too, such as the idea of woman as an anxious patient, an idea which is shared by healthcare professionals.

If, in daily experience of physicians and nurses, this stereotype helps in transmitting the idea that it is highly complicated to reach an accurate diagnosis with female patients, likewise the perception of this image given to women could induce them to delay help request, in order not to be considered depressed or uninformed, as it has been stressed by other studies (e.g. 17). It is important to underline that gender inequality, manifesting itself in healthcare decision making, where generally men have got the power, contributes to duplicate negative preconception towards female patients.

As far as clinical treatment is concerned, two different and opposite kinds of objection turned out: on one hand, resistance to treatment by female patients; on the other hand, resistance to the use of invasive diagnostic equipment by healthcare staff. The reasons for these attitudes seem to be related mainly to age, women are older if compared to men (18). This underlines the opportunity to treat female patients in a more conservative and less invasive way by healthcare staff, but this discourages professionals from adopting more effective clinical treatment towards women too. It is obvious, we cannot ignore the idea that such diagnostic and therapeutic issues are connected to problems concerning the understanding of symptoms. This hypothesis for instance seems to clarify lower propensity to allow female patients to be transferred to structures treating acute problems, as priority is given to cases with lower margin of error in diagnosis.

"No gender difference" category, which emerged above all in Units with high intervention such as Emergency, aims at denying differences between man and women, in particular during diagnostic-therapeu-

tic treatment. According to those who share this narrative, the introduction of such standardized treatment was due to the introduction of Evidence Based Medicine, that is using a decision model based on standard data rather than on professional skills. Guidelines and operational protocols, set up by International Agencies and then used in local contexts, aim at granting compliance to standardized clinical pathways which can be universally duplicated without any difference in gender, social status and cultural level. Nevertheless, this narrative seems strange if it is analyzed jointly to a series of peculiarities of female population. The paradox lies in the fact that pursuing equality and standardization in treatments, which are important signals of the quality of healthcare services, risks to nullify the peculiarities of those who are less represented.

This scarce representativeness lies in scientific studies and echoes in data used in the setting up of guidelines and protocols.

The risk of deleting bio-clinical and psycho-relational peculiarities by adopting universal protocols seem to develop clearly from this study and it can give an explanation of ignoring or underestimating the severity of female ischemic pathology, which scientific studies have already highlighted (18, 19).

Professionals' experience seems to be the solution, in order to reduce this risk, as it is confirmed by the higher sensitivity to gender differences in organizational environments where female peculiarity is more often represented; that is, nursing homes where patients' average age justifies a higher rate of hospitalization. In nursing homes, acknowledgment of peculiarities is associated to gender differences in treatment. Those differences do not deny ethical principles of equality and standardization; on the contrary, they reflect the best representation of it, by adapting clinical pathways to the peculiar features of male and female patients.

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