



How many DNA analyses are performed on adult sexual assault victims in Milan (Italy): A ten-year review

Andrea Piccinini^{a,b,*}, Paolo Bailo^a, Giulia Vignali^c, Giusy Barbara^b, Giuseppe Gennari^d, Domenico Di Candia^c, Valentina Albertini^b, Alessandra Kustermann^b

^a Forensic Genetics Laboratory, Department of Biomedical Sciences for Health – Università degli Studi di Milano, Via Luigi Mangiagalli 37, 20133 Milan, Italy

^b Department of Women's and Children's Health and Service for Sexual and Domestic Violence (SVSeD), Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Via Della Commenda 12, 20122 Milan, Italy

^c Department of Biomedical Sciences for Health – Università degli Studi di Milano, Via Luigi Mangiagalli 37, 20133 Milan, Italy

^d Judge at the Court of Milan, Via San Barnaba 50, 20122 Milan, Italy

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ABSTRACT

The aim of this study is to evaluate the actual use of serological/DNA analyses in the investigations carried out on adult sexual violence victims in Italy during the years 2006–2015.

The victims were assisted in the largest Italian rape center, in Milan (Soccorso Violenza Sessuale e Domestica – SVSeD - Service for Sexual and Domestic Violence).

The total number of sexual violence victims examined during the years 2006–2015 (adults and minors) was 3521, in 1697 of cases, biological evidence had been collected, while the number of adult victims (> 18 y.o.) examined was 2300, in 1211 of cases biological evidence had been collected.

Biological evidence was collected from the victims' bodies using two swabs in five anogenital areas (labia maiora, labia minora, perineum, perianal and anal/rectum regions) and two swabs in all other skin areas suggested by the victims as areas of possible contact (double swab technique). Clothes were also collected on a case by case basis for the search of biological stains. Despite the proper collection, handling and chain of custody for all the swabs/items collected, serological/DNA analyses were requested in 86 cases out of 1211 only (710%). This percentage dropped to 190% when considering adolescent victims (13–19 y.o.).

The reason why Italian Magistrates make little use of the powerful tool of DNA analyses in sexual assault cases, still remains unclear. Legal and procedural aspects are therefore also discussed.

1. Introduction

Violence against women is recognised as a major public health problem and a violation of human rights, with a deep impact on our society.

Therefore, the aid to sexual assault victims is an important task for the sake of health care with the offer of full assistance to the victims with appropriate clinical and medico-legal support. The latter includes protocols for the collection, custody, and storage of biological materials collected on the victims which are routinely analysed by many institutional laboratories worldwide [1–3].

At SVSeD (Soccorso Violenza Sessuale e Domestica) Rape Centre in Milan (North Italy) the victims are routinely approached by gynecologists, nurses, and psychologists. The admission protocol is carried out by forensic pathologists and includes the search of biological traces

(when appropriate), the description of injuries and other medico-legal actions. Later, biological evidence can be analysed only upon the prosecutor's request or, in a later phase, during the trial upon a judge's provision. Police or Carabinieri (another Police force operating in Italy) officers and University experts can be requested by Prosecutors or by judges to perform laboratory analyses. It is well reported that biological evidence is collected by medical personnel in 54–91% of the cases [4–7], but little research is available on the protocols and judicial practices that follow the collection of evidence from the victims of sexual violence and the actual forensic use of genetic analyses performed in such cases, despite their relevant role in legal processes.

Therefore, we focused our attention on the clinical records of sexual assault examinations performed on adult victims of sexual abuse (> 18 y.o.) collected by SVSeD Milan Rape Centre during the years 2006–2016 in order to find a correlation between the number of cases

* Corresponding author at: Sezione di Medicina Legale, Università degli Studi, Via Luigi Mangiagalli, 37, 20133 Milano, Italy.

E-mail address: andrea.piccinini@unimi.it (A. Piccinini).

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where biological evidence had been collected and the actual number of serological/DNA analyses performed in forensic genetic laboratories.

2. Materials and methods

3521 medical records of female victims of sexual violence (adults, adolescents and minors) were analysed from January 1st, 2006 until December 31st, 2015, 2300 of which were adults (> 18).

Biological evidence had been collected in 1697 cases out of the 3521 total number of victims (all ages), in 1211 cases out of 2300 adult victims and in 473 cases out of 599 adolescents (age 13–19).

The evidence collection protocol consists of swabs taken from the victims' external genitals (labia maiora and minora), vagina, cervix, perineum-perianal region, anus, and rectum within the first 72 h from the assault and occasionally within 7 days.

Oral and skin swabs (e.g. neck, breast, thighs, etc.), nail scraping and pubic hair combing are performed on a case by case basis; skin swabs are performed using the "double swab technique". Blood and urine samples for possible toxicological analyses and other non-biological evidence are collected when appropriate.

The collected evidence is transferred under a chain of custody to the Institute of Legal Medicine of the University of Milan for long term storage (data not shown).

3. Results

In the period analysed (2006–2015), 3521 medical records for victims of sexual violence of all ages were filed at SVSeD, 2300 of which were adult females (> 18 y.o.).

In 1357 cases biological evidence was collected, 1211 of which were swabs (anogenital or skin swabs).

During the period investigated, inquiring Magistrates or judges requested serological and/or DNA analyses in 86 out of 1211 cases (7,1%).

During the same period the total number of analyses requested on victims of all ages ($n = 1697$), including minors was 94 (5,54%), while the number of DNA analyses performed on adolescents (age 13–19, $n = 473$) was significantly lower (9 cases out of 473 or 1,90% - $p < 0,001$).

4. Discussion

In a previous study [8] we analysed the number of cases where serological/DNA analyses were performed on victims of sexual assault aged 13–19.

The present study was performed on the data collected during the same ten-year period (2005–2016) on adult victims only (> 18 y.o.) with the aim of comparing the results.

The percentage of serological/DNA analyses performed on teen victims was very low (1,90%), while the results obtained in this study was significantly higher on adults (7,10%). The overall percentage of serological/DNA analyses performed on victims of sexual assault of all ages was 5,54%.

The data collected in this study are in agreement with those published by other Italian Authors [9] and reveal that very little attention is paid to serological/DNA analyses in Italy at least in this survey.

It must be considered that the study was conducted in the largest Italian rape center, located in Milan (North Italy), and therefore it can well be considered as a good representation of the national situation.

Possible reasons explaining these results have been discussed in detail elsewhere [8], and they can be summarised as follows.

The different results obtained for adult victims and adolescents cannot be explained by procedural rules which are the same for both types of victims. Rather, the crime committed on minors is an aggravating circumstance, which should prompt the inquiring Magistrate to investigate this kind of crimes in more detail. It has to be pointed out

that this is not an unexpected result, as it is in line with the relevant literature [10–12].

The different results obtained for adult victims and adolescents cannot be explained by procedural reasons also because sexual assault (rape) is a crime prosecutable *ex officio* in Italy when the victim is a minor of age (and in other aggravated circumstances).

"Prosecutable *ex officio*" means that the public prosecutor may start the criminal proceeding by his own initiative. The Italian criminal law outlines two kinds of offences: prosecutable *ex officio* or prosecutable upon request of the victim. In these cases, the medical personnel assisting the young victims has the duty to report the crime to the police. The crime is therefore kept at its highest severity level. No negotiation of the criminal charge by the suspect is admissible. In other words, no "plea-bargain" is possible under the Italian criminal procedure. Therefore, this is not a situation that could reduce the number of DNA tests performed.

A possible explanation of the limited number of DNA analyses performed could be found in magistrates' "cultural factors". This means that the investigative practices magistrates have in use for a long time rely mostly on search and seizure, oral witnesses, wiretappings and so on rather than on other techniques.

Another possible explanation of the limited use of DNA evidence is the cost of the analyses, which in many instances is perceived as the main reason for not requiring a DNA test.

It is advisable that the implementation of the National DNA Database could improve the use of DNA technology in the fight against these crimes.

5. Conclusion

Since its beginnings, SVSeD rape centre multidisciplinary team has refined strategies and protocols aimed at implementing the chances of making available reliable evidence in terms of proper collection, handling, chain of custody and long-term storage. Despite these efforts, it is clear that very little use of forensic DNA evidence is made by Italian magistrates.

It is advisable that this negative trend will be overturned by the implementation of the use of the National DNA database.

Declaration of Competing Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this paper.

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