



**PSYCHOSOCIAL ASPECTS OF THE VICTIMS OF
THE ACCIDENT WITH CAESIUM-137 IN GOIÂNIA (1987–1994)**

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Abstract

PSYCHOSOCIAL ASPECTS OF THE VICTIMS OF THE ACCIDENT WITH CAESIUM-137 IN GOIÂNIA (1987–1994).

In September of 1987 two men took possession of and violated a source containing Caesium-137, which caused the Radiological Accident of Goiânia. Besides the direct victims, a significant part of the community of Goiânia was directly involved with this accident.

The psychosocial impact in the social groups involved in this radiological accident — the population as a whole, immediate neighbours of contaminated sites, professionals and the victims themselves — gave rise to specific behaviour and attitudes which will be discussed in this paper.

1. THE POPULATION

The expected physical and psychological symptoms associated with cases of exposure to and/or contamination by radioactive material were present in five thousand, out of the 112 thousand people under monitoring at the Olympic Stadium, representing 10% of the population of Goiânia. Among them we observed nausea, vomiting, skin lesions and other psychoactive alterations which, at that time, were credited to the impact, on the population, of the perception of risk involved. These symptoms were aggravated as news of the accident and its consequences on the human body began to occupy headlines of the principal newspaper and to deserve intensive TV coverage.

Thus, the feeling of anxiety, fear and insecurity which were prevalent in this community — often interpreted by the media as panic found somatic expression in the population.

Another fact that further proved the existence of the perception of risk by the population as a whole was the thousands of phone calls received by a special information service set up by the State Government. Volunteers manning these special telephone numbers would hear people from the community, give information and orient those who called about the accident. Many called asking for investigation on other possible contaminated sites which the technicians had not yet examined.

2. THE IMMEDIATE NEIGHBOURS OF CONTAMINATED SITES

The group of neighbours of contaminated sites is made up of people who lived or worked in a region located within a 300m radius of the nine main contaminated sites by the Caesium-137. This group is formed by, approximately, five thousand people. Many of them are targets for prejudiced behaviour as indirect victims of the accident. Discrimination to these

people took several forms: from feelings of guilt to loss in real state value of their houses, even after it was proved that there had been no involvement in the accident.

When 333 neighbours of contaminated sites were approached (Curado, Costa Neto and Helou, 1990), 35 months after the accident, there still persisted a notion of risk which involved fear of developing physical (18.5%), and mental diseases (25.1%), fear of death (9%), of congenital malformation (14%), and of soil (13%), vegetal (10.2%), and water contaminated (.9%). For 10.4% of the population, there still existed the possibility that other accidents of this type could happen.

3. PROFESSIONALS AND VOLUNTEERS AT WORK

The objective of the group formed by professionals and volunteer workers was to assist the people involved in the accident and work in the decontamination of the affected areas. This group of workers, in spite of their technical activities, felt great empathy for the victims of the accident in Goiânia. Many suffered some degree of discrimination which resulted in moments of anxiety, depression, fear, irritation and occasional insomnia. Helou (1990), in a retrospective study done with 123 of the professionals who had worked with the accident, observed, that among them, there had been changes in career (36.3%), in their emotional lives (22.6%), in social roles (11.6%) and even in identity factors (13.7%). Family relationships were among the factors which least suffered from the accident with the Caesium-137 (1%). Other studies about accidents and natural disasters which had take place in the Americas (Lima and Graviria, 1989) also concluded that there was a psychosocial involvement on the part of the professionals who came to the aid of the victims. These studies showed that the people involved in the post-accident activities asked for psychological and psychiatric help years after the catastrophes had taken place.

4. THE VICTIMS

The group is composed of 249 people who were exposed to or contaminated by the Caesium-137. One hundred and eighteen of these people became, initially, clients of the Leide das Neves Foundation – FUNLEIDE and receive a life pension from the Government of the State of Goiás.

The Foundation started to assist these victims in February of 1988. From September of 1987 to January of 1988 they manifested psychological disturbances which did not, necessarily, correspond, directly, to the degree of exposition and/or radioactive contamination. Psychological alteration such as anxiety, depression, low self-esteem, guilt, self-discrimination, aggressiveness and psychiatric alterations were treated with medication and psychotherapeutic procedures.

In a retrospective analysis of the subsequent phases in the behaviour of these victims (Helou, Cardoso and Costa Neto, 1983) it was observed that dizziness (stunning), confusion and astonishment were the principal psychological factors which appeared during the first stage (a stage of threat), that is, the period just before the official divulgation of the accident.

During the stage of shock there were periods of euphoria caused by survival, periods of hope, solidarity and even of mystical behaviour.

The period comprised between the creation of FUNLEIDE and the institution of the life pensions paid by the State Government marked the beginning of the stage of readaptation. During this stage the victims started to show a greater awareness of the medium and long term effects of the radiation. That factor contributed to the creation of the Victim's Association. During this period, increased consumption of alcohol and tobacco, as well as self-distracting and suicidal ideas were observed and this behaviour was not solely attributed to the effects of the ionising radiation.

We are presently at the sequel stage, which started with the donation of houses to the victims and the institution of life pensions. Constant thoughts of death as well as fear of the development of malignant neoplasm have been observed and in the last two years after the accident, we have noticed an increase of these feelings, as they were exacerbated by the death of four of the patients.

Besides the psychological disturbances, psychiatric alterations were observed in 17 of the patients affected by the radiation with doses equal to or greater than 1 Gy. Two of these patients received a combination treatment of psychotropic medication associated with psychotherapy sessions (Table I).

TABLE I. PATIENTS WITH RADIATION DOSES EQUAL TO OR GREATER THAN 1 GY UNDER PSYCHOLOGICAL AND/OR PSYCHIATRIC COUNSELLING AND USAGE OF PSYCHOTROPICS (1990).

Patients (N=7)	Dose [Gy (rad)]	Psychotherapy Sessions	Psychiatric	Psychotropics
GGS	2.9 (290)	40	Yes	Yes
DAF	7.0 (700)	18	Yes	Yes
RSA	6.2 (620)	03	Yes	Yes
LNF	1.3 (130)	02	No	No
EBS	2.9 (290)	01	No	No
IAF	3.0 (300)	60	No	No
OAF	1.0 (100)	01	No	No
EF	4.4 (440)	01	No	No
ErF	2.1 (210)	01	No	No
WMP	2.7 (270)	08	No	No
KSS	1.1 (110)	—	No	No
LOMS	1.0 (100)	06	No	No
MGA	4.3 (430)	08	No	No
OAFJ	1.6 (160)	02	No	No
DFE	1.2 (120)	02	No	No
PRM	1.3 (130)	0	No	No
RBG	1.1 (110)	04	No	No

SOURCE: CURADO, COSTA NETO and HELOU, S. (1990). Psychological Aspects of the Radiation Accident in Goiânia: A General Overview on Victims and Population. The Medical Basis for Radiation-Accident Preparedness III. New York: Elsevier Science Publishing Company, Inc.

From 1990 on, the victims who came regularly the psychotherapy sessions developed greater emotional stability.

The behaviour disturbances verified among the children were more noticeably expressed within the family relationships. However, none of the children presented any meaningful psychomotor difficulty or adjustment problems within their school environment.

The persistency of the psychological disturbances throughout this period of time demonstrates that the psychosocial factors are chronic and, not infrequently, difficult to solve (Costa Neto, 1994).

Some social factors should be considered as elements of influence in the behaviour of the victims, during the time elapsed between 1987 and 1993 (Santana, Leal and Prudente, 1993).

We will now briefly discuss three of these:

Material Losses: These varied between loss of real state, furniture and personal objects. It was the opinion of the victims that the compensation for these losses unsatisfactory, even though they are still receiving a life pension from the State Government.

Economic Losses: There were losses for the people who worked within the context of formal and informal economy as well as for those who did not have any economic activity. These losses were characterised by an increase in unemployment up to 1990. Beginning in 1991 the picture was inverted and up to 70% of the people involved in the accident started to work again, gradually, both in the formal and in the informal sectors of the economy.

Material losses and the low purchase power after the accident forced these people to move from the more central areas of the town to the suburbs. Some of the families which had lost their homes during the decontamination process have not still been able to legally reprocess them and this is another factor that generates insecurity among them.

Change in the social role: The relationships of the victims, formed, initially, by the family group and friends were temporarily restricted at the critical moment, due to the characteristics of the accident, but later on, the victims started to be treated by FUNLEIDE and by professionals of the institutions that were involved in the medium and long term follow up of the accident. The new role taken by the group after the accident was that of victims. The group organised itself in a **Victim's Association**. Led by a group involved with them, the victims restructured their social lives and were gradually able to move away from discrimination to a more open social life which included reflections on the consequences of the accident with the Caesium-137.

Because of these material, economic and affective losses these victims felt a great need of concrete guarantees from the State Government. The State Social Service is now the target office, and has suffered an increase in demand for its services.

5. DISCUSSION

The great initial challenge in the rehabilitation of these victims was to assist them and, at the same time, to promote a greater social awareness and independence for them. The policy adopted by the institution in the assistance of these victims has helped to perpetuate their role of victims.

We have also observed great difficulty, on their part, to adhere to the treatment offered by FUNLEIDE. Among the victims of the accident there is still a prevalent feeling of mistrust in relation to the institutions which are supposed to assist them and this feeling is responsible for constant complaints to the press about their competency. These victims also look for outside help, including in their competency. These victims also look for outside help, including in their search foreign institutions, as was the case with Cuba. However, Helou and Cardoso (1993) asked 35 of the adult victims to answer a questionnaire and 54% of them manifested their trust in the services offered to them by the institution responsible for their follow up.

The diagnosis of cancer among these victims of the radioactive accident has increased the tensions among the group and has generated feelings of insecurity.

The health team that sees the victims on a daily basis must be prepared to effectively deal with the possibility — even if minute — of cancer occurring among members of the group. All the people involved are very aware of this possibility. Shavelzon (1989) suggests that when someone is worried about a certain disease, this fact can lead to a situation of psychological stress which will promote bio-chemical alterations and, possibly, the onset of the fretted disease.

6. CONCLUSIONS

In an evaluation of the behaviour of the victims, we will find important points to consider:

- The psychology team should act on the accident since its onset through the use of individual and group counselling sessions. House visits are also recommended in order to reinforce the credibility of the emergency team;
- The social Service should try to rehabilitate and reintegrate the group in their new social context, from the onset of the emergency stage;
- The health team should decide on a follow up protocol and periodically re-evaluate the findings;
- The population which was exposed to the accident should be made ware of the possibility of developing cancer as a late sequel of the exposure to ionising radiation:
- Social and assistance interventions should be able to anticipate and control the possible secondary gains of the radiological accident.

The experience with the radiological accident of Goiânia has demonstrated that the psychosocial effects do not correspond linearly to the degree of physical involvement and the exposure to radioactive material.

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