

## SELF-INJURIOUS BEHAVIOUR: A CASE STUDY

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Self injury in children is one of the most distressing problems. It is not just the damage to the child but the enormous problems it imposes for parents or others caring for the child (Podvoll, 1969). It has been suggested by Carr (1977) and Ross & McKay (1979) that the divisions and manipulations arising with self-injurious behaviour could be instrumental in exacerbating and prolonging the problem. Because of these stresses, treatment of the child can become fragmented amongst different personnel and disciplines. Corbett (1975) concluded that responsibility for treatment must be a team one, shared between the physician, responsible for the patient's overall care, the psychologist who is responsible for devising the behavioural programme and monitoring its progress and the nurses and other personnel who carry out the programme.

This case study shows how various treatment approaches initially failed, but when a programme had been agreed and adopted by all those caring for the child the self-injurious behaviour (S.I.B.) declined. The study additionally shows some effects that self-injury has on staff morale.

Maria had been admitted to a mental handicap hospital in June 1976 when she was aged 8 because of her S.I.B. She had banged her head with hands, knees, furniture, walls, floor, doors or windows with such ferocity that she had open wounds on her head. In the local education authority school which she had attended and in hospital she displayed additional problems. These had lasted for several months before being supplanted by others c.g. attacking other children or staff, over-eating, stealing swill, throwing plates and food, over turning furniture and breaking windows.

These problems were alarming and disruptive because a nurse or teacher had had to prevent Maria harming herself and others. These problems also had hidden effects on staff morale. The one night staff in the ward was so often pre-occupied with Maria that she had had to leave some of her work for the day staff. This created resentment which could not be directed at any one night staff because it was the policy to move them frequently to different wards. Maria's turning out of drawers had had a subtle effect too. Staff began to lose interest in folding clothes neatly and would just bundle them into the drawers until later when they might be forgotten or become a chore at a busy time.

Besides some short lived and inconsistently applied behaviour modification including forced arm exercises and 'time out' she had been cuddled, taken for walks, bathed and restrained. A soft seclusion room had been proposed but uncertainty about its efficacy (Baumeister & Rollings, 1976) precluded it. Prolonged restraint was considered inappropriate because in addition to restricting the patient's opportunity for normal activity it has also been found that patients become addicted to the restraining apparatus seeking it out and demanding more restraint (Corbett, 1975). A protective helmet had been tried, but Maria began to throw herself backwards so that there was a danger to her spine. Splints too had been ineffective.

It had become apparent that she was retarded as her speech and motor development were delayed. At about age three she was banging herself and as she persisted she spent periods in various children's units for investigation. Usually the move brought a reduction in S.I.B. which suggested that family interactions might have been exacerbating the behaviour. The reverse might also have held true; that the child's S.I.B. was straining the family interactions.

Soon after she had been admitted to this hospital a local education authority teacher was seconded to the ward and began working with her and the 11 other children. The teacher initiated a behaviour modification programme and established such a good relationship with the child that the S.I.B. diminished in the teacher's company. Some of the ward day staff adopted the teacher's programme but in July 1977 the teacher gave up teaching. In February 1978 the Charge Nurse left the hospital and seven other staff left around the same time. Staff changes are inevitable so that at that time these events had little significance but in retrospect they became important.

There were myriad obstacles to tracing the course of the child's behaviour. Her behaviour varied from day to day and with different staff. It varied from place to place; she was good on holiday or out on trips and could be good at school or in the ward. Some staff felt they could handle her and others not. Her tantrums were unpredictable and not coincident with periods of staff duty. Staff might go off duty just as Maria had commenced a prolonged episode of difficult behaviour. When they resumed duty two or three days later her behaviour might have come under control. Staff recording characteristics varied. Some behaviour can be so commonplace that it goes unreported. This applies to both good and bad behaviour. Staff have different tolerances for problem behaviour so that reports may have reflected that rather than changes in the problem.

In Maria's case head banging was reported because she had injured herself with new severity or in some unusual way or because someone new was making the report or because she had been good for a couple of days and head banging had recommenced. These variations in her behaviour and the staff's experiences hid the persistence of her disorder.

### **MEDICAL INFORMATION**

Maria was born with bilateral hare lip and cleft palate. The first repair of lip required two operations when Maria was 5 months and 7 months old. Two further lip operations were carried out at 23 months and 33 months. A palate operation was carried out at 23 months and 33 months but had not been successful. Maria had bilateral congenital colobomas which might have limited her visual acuity though this did not appear to be a problem to Maria.

She had fixed inter-digital joints of both thumbs and some spindling of the fingers.

The series of physical abnormalities suggested a chromosome abnormality, and this was found to be the case. She had a 46 XX 13p + karyotype. This abnormality is rare and it seems that in the cases that have been described the extra portion of 13 chromosomes may have different origins, consequently the physical abnormalities described with this chromosome abnormality are not likely to be identical and make any comparisons between cases in respect of behaviour difficult to interpret.

Maria showed no significant E.E.G. abnormalities.

### **DRUG TREATMENT**

In her early years when Maria was restless and would not settle to sleep a variety of minor tranquillisers and various sedatives had been tried of which Triclorol at night had been for a while the most effective.

Since the age of 7 years there had been several months at a time when one or other of the major tranquillisers had been tried including chlorpromazine, thioridazine, promazine, haloperidol and for a brief period, droperidol. The haloperidol was given for the longest time and in the maximum recommended dose per kilogram body weight. Often Diazepam was given at the same time and at one time Ospolot was given on a trial basis.

No medication dramatically improved matters and doses of medication sufficient to make Maria drowsy and unsteady on her feet did not prevent her self injuring behaviour.

The changes in medication were probably more an index of staff anxiety and frustration rather than a reflection of the severity of Maria's self injuring behaviour.

### NON-REINFORCEMENT PROGRAMME

In March 1979 Maria's S.I.B. had reached the stage where the night staff were complaining that they could only cope if there were extra staff to hold her. The school too felt that they could no longer cope with her for the same reason. Additionally her head had the two open wounds which were not healing as she tore the dressings off and picked or banged herself. By June 1979 her behaviour was so difficult that a case conference was convened in response to the mounting anxiety amongst the staff. In preparation for the conference an examination of the ward report books completed each day by night staff and day staff was made.

This was to see if there were periods of good or bad behaviour which could be matched with particular staff, diet, drugs etc. Two people independently went through the ward report books searching for reports of headbanging and temper tantrums (hereinafter called HB and TT). Table 1 shows what was recorded and what was ignored. Their independent records were in close agreement (the Spearman Rho rank order correlation between them for number of incidents per month was +.95).

**TABLE 1**  
INCIDENTS OF HB & TT from WARD REPORTS

<b>Recorded:—</b>	<b>Ignored:—</b>
"..head banging.."	"..overactive.."
"..knocking her head.."	"..noisy.."
"..striking head.."	"..turning out lockers.."
"..throwing herself thro' window.."	"..disruptive.."
"..knocking herself.."	"..bad period.."
"..hit head on floor.."	"..bad temper.."
"..aggressive towards herself.."	"..“upset, outbursts of temper”.."
"..self-destruction.."	
"..violent towards herself.."	
"..throwing herself around.."	
"..mild head banging.."	
"..mutilating herself.."	
"..head thro' window.."	
"..bumping head.."	
"..opened wound on scalp.."	

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**Ignored:—**

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 “..noisy..”  
 “..turning out lockers..”  
 “..disruptive..”  
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This analysis revealed that August 1977 was outstanding in that there were no incidents of HB and TT (Fig. 1). Corroboration for this was in her case notes where the Charge Nurse had written that her behaviour for August had been “absolutely super”. As her behaviour since then had deteriorated it became important to see how the nursing staff and teacher had dealt with her at that time. Fortunately the teacher had left clear instructions for her successor and a copy of these were in Maria’s case notes. These said:—

- “(a) restrict physical contact with her as much as possible;
- (b) ignore her, — try not to let her realize you are following her;
- (c) if she is endangering her own, or another’s safety, catch hold of her, change her direction, then let go;
- (d) if she stops her temper (including any form of head banging, grizzling etc.) even if only for a few seconds to begin with, make a fuss of her or give her what she is wanting (if you know) until the temper starts again.”

In learning theory terms this assumed that the behaviour is maintained by the positive reinforcement of attention and that if S.I.B. is ignored, lacking reinforcement it will extinguish.

The case conference was held in June 1979, 23 people attended, this included psychiatrist, psychologist, Senior Nursing Officer, Nursing Officer, night staff, day staff, Maria’s mother and school teachers. People representing different disciplines voiced their views and ideas and everybody was encouraged to say their ‘bit’. The various problems Maria had been causing were discussed, these were

1. Violence to herself and the question of permanent injury, this included the two large ulcerations, one on each side of her head caused by head banging which she would pick and had become infected. The risk of brain injury was discussed and the possibility of injury to the base of her spine due to her “dropping” down on it.
2. Her lack of appetite and loss of weight.
3. Her attacking other children and her generally disruptive behaviour eg. stripping beds, emptying lockers and refusing to wear clothes.
4. That one member of staff day or night was engaged solely in restraining Maria.

The meeting concluded that the non-reinforcement policy drawn up by the teacher would be followed. A meeting would be held every month to review progress. Her head banging and temper was to be recorded hourly. The ward was also to have a permanent night staff as over a 3 month period beside the 11 day staff there had been 27 night staff on the ward.

For the monthly reviews a careful monitoring of the child's behaviour had to be made. Previous detailed record forms devised by psychologists had fallen into disuse or been maintained inconsistently so a simpler method was devised. The nurses and school staff completed a chart which covered every hour of the day. It was headed "On the hour recall if Maria had a temper tantrum or banged her head in a temper tantrum. If you do not know leave it blank. If she did, put a tick. If she did not put a cross". These records have been kept for over two years with less than 1% omission. Furthermore the percentage of hours in which HB & TT occurred per month correlated significantly with the number of entries per month in the ward report book in which HB & TT were mentioned, ( $+ .74 p < .01$ ) and hence increased the validity of the ward reports.

Besides monitoring, these hourly reports permitted the examination of hypotheses. The data showed that on no day of the week had she been worse, that music had had no lasting effect, that she had not been worse when staff were short, that certain foods had had no greater effect and that when men were on duty she had been no better. A positive finding was that she was worse at times when staff were busiest, just after meals. This finding strengthened the view that there was some underlying attention seeking mechanism involved.

The progress of the programme can be seen in Fig. 1 which shows the number of entries per month in the ward report book which included HB & TT. It can be seen that as soon as the programme commenced there followed a period of severely disturbed behaviour. One assumes that the child's usual HB & TT were not receiving attention so she increased their frequency and severity. As the staff held firm, her HB & TT were not reinforced and diminished. This can be seen more graphically in Fig. 2.

It was decided to remove all Maria's maintenance medication and leave her with Trychlorol susp 10 mls PRn nocte and Diazepam susp 10 mls (4mgm) tds PRN for the day time and for the 2 year duration of the non-reinforcement policy she received no regular medication.

For the two weeks preceding the second monthly meeting Maria's behaviour was extremely disturbed and continued for a few days after. This was followed by two weeks of very withdrawn behaviour. She would stay wrapped up in bed all day refusing to have any contact with people. Maria, because her behaviour was ignored, now started to use "critical times" to play up eg. dressing, changing, dining or when out walking; these were times when it was most difficult for staff to cope with her. Maria's sleep and eating pattern had become inverted; she was very restless at night and was continually looking for food. It was decided by the ward staff that Maria should keep the "Rules of the House" to some degree e.g. she would be changed in the bathroom, eat at the table and walk from place to place because if Maria had had her way she would have remained on the bed all day and would have been carried everywhere. She was allowed to return to bed after the procedure had been completed. The staff were instructed to be firm with her and not give in but at the same time cause as little fuss as possible. Sometimes it took 3 or 4 staff to change Maria as she would wrap herself up in a ball or entangle herself in a chair or bed case.

The second monthly meeting on Maria was held in July. Confidence in handling Maria was growing and staff morale was now fairly high. There was also a new understanding developing between the day staff and the now permanent night staff and because of the involvement of the senior nursing staff, the ward staff felt that the decisions reached at these meetings had more than usual authority.

The third meeting was held in August. There had been significant change since the last meeting. Maria had tended to become very withdrawn when not in a temper. Her appetite had slightly improved, but she was still very disruptive at critical times especially meal times. Maria was frequently wrapping herself up in a wheelchair and it was decided to leave her. She stayed for 3 days and 2 nights tangled in the chair before abandoning it. The head banging charts were investigated for any significant pattern and they continued to show that most of the head banging was corresponding with the critical times. Overall Maria appeared to be a little happier. It was decided at this time to try to break her inverted sleep and eating patterns; no food was given at night, but she could have as much to drink as she wanted.

At the fourth meeting in October, Maria's head banging incidents were becoming less frequent. Eating and sleeping patterns had now been re-established, night medication was required less frequently and it was rare for Maria to have medication during the day. She had just returned to school which she had not attended since July because of the school holidays and then because the ward was in isolation due to chickenpox. At this October meeting the school decided they had insufficient staff to cope and she was excluded even though her behaviour was considered by the ward staff to have generally improved.

The fifth meeting was held in November, improvement continued but her behaviour was still very unsettled. She was now tending to climb on the less able children as a method of causing the staff to react. This they obviously had to do but still continued the "with least fuss" approach (i.e. non-reinforcement). The habit of eating at night had now stopped, but Maria still had long withdrawn periods when she would remain wrapped up in the sheets on her bed. There was no progress regarding a return to school.

The sixth meeting in December noted further improvement. Maria was starting to come out of her withdrawn state. She was becoming more talkative, responding to people more and wanting to be involved with people. She required less supervision and was not using "critical" times to play up as much as before. The school could still not offer any time for Maria to attend and because of this stalemate and the general improvement in her behaviour, the monthly meeting were discontinued. She would be discussed at the multi-disciplinary ward meetings which occur every 4 months. If her behaviour deteriorated the monthly meetings could recommence.

In the early part of 1980 the school agreed to take Maria for swimming once a fortnight and once a week horse riding in the afternoon depending on staff being available.

A new problem arose in January 1980. Maria was noticed to have a dark brown vaginal discharge which was found to be blood. She was seen by a general practitioner who thought that although Maria's secondary sexual characteristics has not begun to appear, she may have started to menstruate. She was seen approximately one month later by a specialist who was unable to examine her so arrangements were made for examination under general anaesthetic. These arrangements took 4 months and during this time bleeding was noted at 2-4 weekly intervals. The head banging charts were looked into to see if there was any relationship between the "periods" and the tantrums but nothing consistent was found. Examination found the bleeding to be caused by a cervical polyp. This was partially removed in August 1980 and no bleeding has been noted since.

During 1980 attempts were made to return her to school. Because of her continued improvement, reorganisation of the school and a new teacher, Maria returned to school for 2 days per week in October of 1980.

Maria has now, August 1981, been stable for over 12 months. During this time she has become progressively more vocal and outward going; her personal relationships with staff are developing although there are no signs of her making any relationship with the other residents or children at school. Maria has also become very aware and interested in what is going on around her, she has also developed a primitive method of communication, so that now she can let you know her needs, where before this may have resulted in a tantrum. She

still however dislikes prolonged hugging or cuddling. In retrospect the problems such as not eating, wrapping up in chairs, not walking, being very withdrawn have disappeared as the overall behaviour of temper tantrums and head banging has diminished yet none of these problems were directly tackled during the non-reinforcement programme. She still has occasional tantrums, these last no more than 15 minutes and occur on average once a fortnight.

It is possible that the improvement in this child's behaviour was spontaneous. To see if this was so another long standing case of S.I.B. is being treated with the same programme as Maria. As with Maria it is anticipated that the child's behaviour will deteriorate before it improves, that a change is unlikely to be discernible for a year and that support to and for the nursing staff is vital.

## SUMMARY

A case of self-injurious behaviour is described which presented extreme problems in management. A method of monitoring the behaviour was established which over two years permitted the examination of possible causes for the S.I.B. Once it seemed certain that the S.I.B. was maintained by the attention it received, a programme of non-reinforcement was introduced and after two years a significant reduction in the frequency and severity of S.I.B. took place.

## References

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Fig. 1

Number of Reports per month of Temper Tantrums and Headbanging in Temper Tantrums (HB & TT)

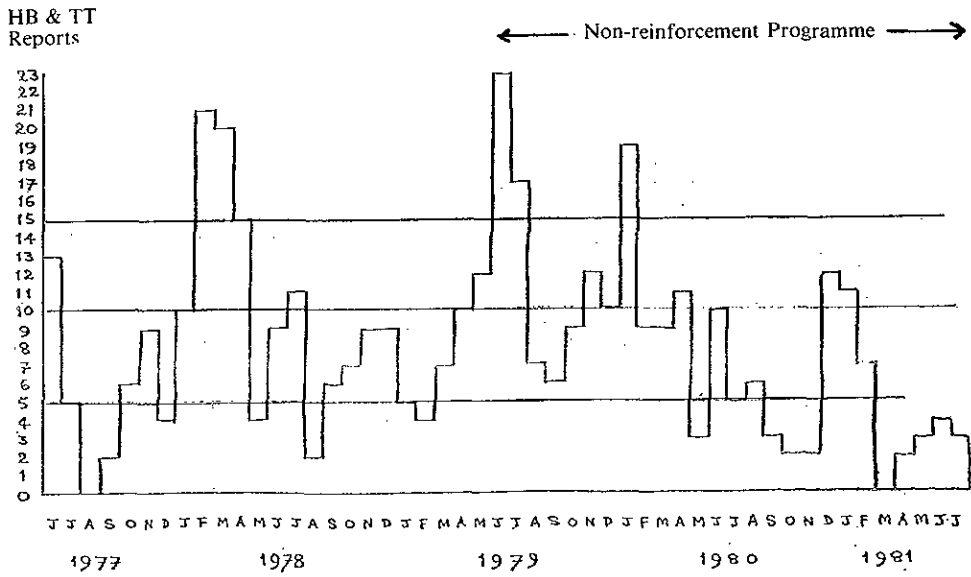


Fig. 2

Percentage of hourly observations which included Temper Tantrums and Headbanging in Temper Tantrums

