

I was a cannula - Methods of habituation prophylaxis -

Thomas Buchholz, Anke Gebel-Schürenberg, Peter Nydahl, Ansgar Schürenberg
Publicised in German in "Die Schwester, der Pfleger" 6/98

Introduction

Various studies have examined the effects of supersoft anti-decubitus mattresses on the perception and movement of bed-ridden patients. This article considers this nursing problem from the point of view of basic stimulation. It introduces the term "habituation prophylaxis" to emphasise the risks of excessive or insufficient stimulation through nursing and medical actions.

"My hands and arms disappeared, my legs and pelvis were a formless pulpy mass, and I felt myself empty. At the same time, I had the feeling of being carried upwards, in a rhythmic movement."

"The gurgling sound next to me reminded me of my last holiday, on the coast. If I had not known better, I would have thought that I was floating out to sea."



These, and similar statements, came from participants of an advanced training course for practical coaching in basic stimulation after lying still on supersoft mattresses for 30 minutes. The present trial tried to show the extent of the somataesthetic changes due to constant stimulus conditions. What is the meaning for the patient? Which nursing possibilities exist for the prevention and treatment?

Physical self-awareness

The body is part of the ego. According to Fröhlich, it is the body-ego, the materialisation of our identity (Fröhlich 1996). Within our personal biography, we develop a precise and corresponding picture of our physical body, a picture that is actualised and adjusted with every movement. We experience ourselves and the environment through our body, we can move, express ourselves, and communicate. Continual movement facilitates the capabilities involved. The ability to move allows us to repeatedly experience our physical body as a whole. We receive differentiated information about our physique through movement, and the changes caused by movement. Physical inactivity reduces the flow of information, physical perception and self-awareness, and the environmental contours that can be perceived. It can lead to dysaesthesia, loss of orientation, and even to a severe identity crisis. Fröhlich called this process degenerative habituation (Bienenstein and Fröhlich 1997, Fröhlich 1997). Most medical and nursing staff have known patients who, without obvious cause, complained of tingling in the legs, were disorientated, or mistook staff members for other persons. The patients appear to be in another world, talk of things that cannot be related to our factual and action orientated information ("You are in hospital."). Misunderstandings and communicative difficulties occur. These begin in the institutional chaos, and end in an interpersonal chaos.

How does it feel to lie still?

How do the physical borders change?

Which methods of orientation are available?

The trial

To answer these questions, 20 participants of an advanced training course for practice coaching in basic stimulation in Essen simulated the problem. The participants were all female, aged between 25 and 47 years, and healthy.

Basic and advanced courses in basic stimulation are given by certified trainers. These trainers have absolved a one-year course by Bienstein and Fröhlich. Since 1997, the one-year trainer course is performed by five authorised groups of trainers spread over the German speaking area. It is the course "Practice coach for Basic Stimulation ® in nursing care", equivalent to the trainer course, but now very practically orientated.

The method

The participants were asked to draw their physical outline on a sheet of paper. They then lied down with the feet together and their hands next to the body. Ten participants lay on blankets or thin mats on the floor, the other ten on supersoft or positive-negative pressure mattresses.

The subjects were told not to move at all for 30 minutes. Following this period they drew their physical outlines again. They walked around in the room for a short time and then lay down with a change of positioning: Those who had been on the soft mattresses lay on the hard mats, and vice a versa. Following another period of inactivity of 30 minutes, the participants drew their contours a third time. The participants were told to concentrate on their perceptions and physical experience during the test periods. There were 60 pictures at the end of the test: 20 from the mobile phase, and 20 from each of the two simulated immobile phases.

Results

Although the drawings were very individual, there were several common features:

Different views (from the front or back)

Changes in the fine body forms (fingers, hands, toes, feet, and head)

Changes in the coarse body forms (proportions, extremities, physical integrity)

Portrayal of the body using pressure points (back of the head, shoulders, buttocks, heels)

General differences between soft and hard positioning

Viewpoints

All the subjects drew themselves from the front at the beginning of the test. Ten drew themselves from the back following the hard positioning and eleven from 19 after the soft positioning, without being asked to do so. (One of the participants did not correctly follow the instructions and was excluded from the evaluation.)



Left-mobile phase; middle-following soft bedding; right-following hard bedding

Changes in the fine body forms

Fifteen subjects had a distinctly reduced perception of their toes, feet, fingers, hands, and the head on the hard surface, and 17 after the soft positioning. These were either single points of pressure (fingertips), undifferentiated (the whole hand as an unformed mass), or could not be felt at all.

Changes in the coarse body forms

Five subjects had difficulty with the body perception on hard mattresses, on soft mattresses the number was 10. Proportions were distorted, shortened, or lengthened, or could not be felt at all. Whole extremities were sometimes missing. Perception of the trunk was usually

retained, although sometimes unreal. The perception of the own specific physical body was sometimes completely lost.

Pressure points

As expected, 16 participants described their bodies according to pressure points after lying on hard surfaces, whereas only 8 did so following soft positioning. Certain regions, such as the back of the head, the shoulders, buttocks, and heels, were especially perceivable, when in a distorted manner. They were hot, enlarged, molten with the mat, or did not belong to the body.

Hard and soft positioning

Due to the low number of participants, there is no significant difference in changed picture perspective (hard 10, soft 11) or in perception of the fine body structures (hard 15, soft 17) between hard and soft positioning. Significant differences were observed in the statement of pressure points (hard 16, soft 8) and the course body forms (hard 5, soft 10).

Exceptions

One subject experienced changes in physical perception on the soft matters but not during hard positioning, by another participant it was the other way around.

Interpretation

Lying still for a long time changes physical perception. The body is experienced as an "undifferentiated mass" and "vague" (quotations from participants). Certain areas were perceived in a distorted way: "Tingling fingers, cold toes, the calf indistinct, only 2 real pressure points." The physical entity was by some of the participants only a memory, without perception. The phenomenon appears to start at the periphery (hands, feet, skull cap) and develop towards the centre. Some parts, such the elbows or heels are perceived in isolation, without reference to the rest of the body: The heels are present, but not the legs. The body appears to be fragmented, a puzzle from which important pieces are missing. The perception of proportions (length of arms and legs, etc.) is also distorted. Orientation and communication within the body can be completely disturbed.

The type of matters plays a role. A firm surface offers pressure points allowing a cranial-caudal orientation. Soft bedding leads to difficulties in orientation within the own body. Prolongation of this state may cause massive reality and identity disturbances.

That half of the subjects drew themselves from the back following bedding suggests that the front of the body is poorly perceived. Only those parts with contact to the matters provide incomplete information about the condition of the body. The height of the body cannot be discerned. It can be assumed that clothing or a quilt, lying over the body without movement, also cannot be perceived.

Perception of the surroundings is altered. One subject had the feeling of "melting with the floor", another experienced sounds as "bothersome" and the ceiling as "boring". All senses (not only physical, but the hearing, vision, and, to a lesser extent, smell and taste) were affected by lying still. This can lead to impairment of orientation: One subject experienced her holiday at the coast again. The changes in perception, and degenerative habituation, were very individual.



The immobile patient

Immobile patients have experiences similar to those of the participants in our trial. In a study with 180 patients on an ICU, with mean duration of stay of 4 days, we observed significant feelings of insecurity and strain through the interaction of immobility, reduced physical awareness, and disturbance of orientation (Nydahl, Bartoszek, 1997). Knobel (1996) described similar results (n=5). Neander demonstrated by 31 patients that 10 days of immobility cause significant impairment

of physical self-awareness, and especially of the co-ordination of movements (Neander et al., 1996).

Considering these results, it is not difficult to understand the following observations by immobile patients:

- Patients lift the beaker to the throat, and not to the mouth
- Patients often suffer from misprehension
- Patients hang onto nursing staff
- Patients try to grasp in the air
- Patients fidget, tap rhythmically, or scratch themselves
- Patients integrate tubes or cannulas into their physical self-awareness (Smith, 1989)
- Patients misinterpret sounds and voices
- Patients see things not present (spiders on the ceiling)
- Patients regress emotionally and/or become confiding (hospitalism)
- Patients feel bored or uneasy
- Patients mistake their own identity, or the identity of others

"Mrs. S., you look at your arm in a peculiar way. Do you have the feeling that the vein catheter and the bandage belong to your body, the way the fingers belong to the hand?" She looked at me and nodded. Mrs. S. had suffered a left-sided cerebral infarct, and was on the ICU for 22 days. The central vein catheter had lain in the basilic vein of the non-paralysed arm for 15 days. Nydahl, 1997 Patient interview.

Common by all these patients is a considerable disturbance of perception with resulting misinterpretation of the perceived information. They are considered "crazy", receive sedation, with further impairment of movement. A vicious circle leads to "degenerative habituation". This prolongs the stay in hospital. The starting point is a lack or excess of sensorial stimulation. Habituation can have the following results:

- Disturbance of the physical self-awareness and bodily perception
- Impairment of the physical identity
- Asynchronism
- Misinterpretation of the environmental stimulation
- Spatial disorientation and loss of perception of time
- Communicative difficulties
- Abnormalities in behaviour
- Decrease in mental powers
- Emotional disturbances
- Loss of identity

The state of degenerative habituation is seldom considered in daily nursing care, or as a cost factor for the hospital. The most serious consequence for the patient is the prolongation of the stay in hospital, with all the possible complications involved.

Habituation prophylaxis

We would like to introduce the term habituation prophylaxis here to emphasise the meaning of this problem. Habituation is the degenerative process by which the individual perception adjusts to a situation of constant under- or overstimulation. The consequence is an undifferentiated subjective reality that is in contradiction to the actual situation of the patient. Habituation prophylaxis means all nursing methods capable of maintaining, improving, or restoring the patient's perceptive abilities. These can be somatic, vestibular, vibratory, auditory or olfactory-oral in nature. The following considers, exemplarily, habituation prophylactics by immobile patients using basic stimulation.

What can we do?

There are many nursing activities that, when aimed and individual, are excellent for habituation prophylaxis:

Basic contact

Bedding

Washing



Basic contact

Direct contact is a form of non-verbal communication in which "how" is more important than "what". The patient, with his reduced physical feeling, can then understand the meaning and content of the contact. Basic contact can be duplicated and is promoting. The concentration is on the "experiencing" of the own body.

Bedding

Immobile patients are either bedded in 2-4 hourly intervals, or have a supersoft anti-decubitus mattress. Soft bedding leads more rapidly to a habituation than a firm mattress due to the lower amount of information from the body and the surroundings. If medically acceptable, patients should have normal to firm mattresses. Neander suggests that the consideration of time-saving through supersoft bedding should be critically examined against the additional efforts required later to correct the side effects (Neander et al., 1997). Frequent bedding is recommended. This must not always be complete, sometimes it is adequate to move an arm, leg or the head. The patient's favourite position, as far as known, is especially suitable.



Bedding material

Various materials can be used here. Firm and soft pillows should alternated. Fur, silicone pads, hard boards, or mats with wooden pearls are suitable. A further possibility is to place a mouldable item, such as a silicone pad, on top of the patient for a short while.

Bedding with borders

Two covers are placed along the sides of the patient and the ends crossed underneath the head. This position gives a feeling of security, and each movement gives information about the physical borders of the body.



Washing

The concept of basic stimulation offers multiple methods of washing that are very suitable for allowing the patient a differentiated physical self-awareness. The interactive moulding and following of contours through intensive and systematic contact with the hands of the nurse is more important than the cleansing effect, that is still considered. The communicative aspect advances patient orientation.

Conclusion

The state of degenerative habituation through immobility has been increasingly examined in the last few years. Especially the aspects of confusion and depersonalisation should be reconsidered. Hospital patients do not slide into this condition, they have no other choice! The consequences for immobile patients, not just in hospital, have become very apparent. The increasing age of the patients and the question of rentability, with reduction of the nursing staff, lead to an increase in the risk of habituation, with an increase in costs for sedation and the treatment of complications. Is this what nursing care, or the responsible bodies, want? Is this health and economical efficiency?

Literature

Bienstein,C., Fröhlich,A.: Basale Stimulation in der Pflege. Verlag Selbstbestimmtes Leben, Düsseldorf 1997

Buchholz, Th.: Ambulante Pflege - Möglichkeiten und Grenzen der Basalen Stimulation. In: Fröhlich, A., Bienstein, C., Haupt, U.(Hrsg.): Fördern - Pflegen - Begleiten. Verlag selbstbestimmtes leben, Düsseldorf 1997

Fröhlich, Andreas: Basale Stimulation. Verlag selbstbestimmtes leben, Düsseldorf 1997

Gebel-Schürenberg, A.: Basale Stimulation bei Früh- und Neugeborenen. In: Aßmann, Christa: Pflegeleitfaden alternative und komplementäre Methoden. Urban & Schwarzenberg München 1996

Flohr, H.J.: Auswirkungen und Komplikationen der Immobilität. DGF mitteilungen 1/97, S. 8-11, Deutsche Gesellschaft für Fachkrankenpflege Gütersloh 1997

Fröhlich, A.: Basale Stimulation. Pflege aktuell 7/8 '95, Fachzeitschrift des Deutschen Berufsverbandes für Pflegeberufe Eschborn 1996

Knobel, S.:Wie man sich bettet, so bewegt man. Pflege 2/96, P. 134ff, Verlag Hans Huber, Bern 1996

Neander, K.-D. et.al.: Der Einfluß von Weichlagerung auf die Körperwahrnehmung und -haltung. Pflege 4/96, P. 293-299, Verlag Hans Huber, Bern 1996

Nydahl, P., Bartoszek, G.(Hrsg.): Basale Stimulation - Neue Wege in der Intensivpflege. Ullstein Mosby, Wiesbaden 1997

Sieveking, C.: Beziehungsqualitäten in der Berührung, Berührungsqualitäten in der Beziehung. In: Fröhlich, A., Bienstein, C., Haupt, U.(Hrsg.): Fördern - Pflegen - Begleiten. P.57-65, Verlag selbstbestimmtes leben, Düsseldorf 1997

Smith, S.A.: Extended body image in the ventilated patient. Intensiv Care Nursing (1989) 5, P. 31-38, Longman Group UK Ltd. 1980

Schürenberg, A.: Basale Stimulation in der Fflege alter Menschen. In: Fröhlich, A., Bienstein, C., Haupt, U.(Hrsg.): Fördern - Pflegen - Begleiten. Verlag selbstbestimmtes leben, Düsseldorf 1997

The authors are male-Nurses and instructors for Basic Stimulation. They lead the cours for "Practice coach for Basic Stimulation® in nursing care" in Essen

[back](#)