

## **Title: Teddy Bear Hospital (TBH) – reducing children’s fear of doctors and hospital environment**

Amanda Victorine ZY Wong, Jalal Geilani – University of Sheffield, Dr. Andrew Charters – Barnsley Primary Care Trust, Child and Adolescent Unit.

### **Abstract:**

**Aims:** To study the effect(s) of Teddy Bear Hospital (TBH) in helping reducing young children’s fear of doctors and hospital environment.

**Introduction:** Teddy Bear Hospital (TBH) is a project by the European Medical Students’ Association (EMSA) aimed at helping young children between ages of 3-12 to lose their fear towards doctors and hospital environment using simple role-play where a child brings his poorly teddy (the patient) to see a teddy doctor (medical student). The child act as teddy’s parent and takes charge, making the decision to see a doctor. Children are encouraged to talk about their fears and place them in a pyramid using methods similar to systemic desensitization with relaxation and breathing exercises. Different sections of Teddy Bear Hospital includes Talk of Fears, Hygiene Talk, TBH Consultation, TBH Surgery, TBH Ward, TBH Dentist, TBH Pharmacy, ER Sessions and visit to the inside of an ambulance.

**Methods:** A Teddy Bear Hospital was organized in Barnsley on 31<sup>st</sup> May 2004; children were invited from all 98 primary schools in Barnsley area. Approximately 120 children attended the event. All children were asked to fill in a questionnaire pre and post Teddy Bear Hospital. Of all the questionnaires filled in, only 57 questionnaires were deemed adequate and legible for the purpose of this study. Of the 57 samples, there are a total of 26 boys and 31 girls with age ranging from 2-12 years, mean age being 6.5; median age being 7 and mode is 7 as well.

**Results:** Children were asked about the fears towards doctors and hospital pre and post TBH, children tick a smiley face best represent how they feel (Likert scales scores) from 1-7 (1 being most afraid and 7 being most comfortable).

Likert scales scores	1	2	3	4	5	6	7
Pre-TBH doctor fear	09	23	10	13	02	0	0
Pre-TBH hospital fear	11	22	12	10	0	02	0
Post-TBH doctor fear	0	0	0	0	03	22	32
Post-TBH hospital fear	0	0	0	1	06	18	32

**Conclusion:** Results shows significantly that Teddy Bear Hospital does help children reduce their fear towards doctors and hospital environment.

### **Background:**

Teddy Bear Hospital is a project organized by the European Medical Students’ Association (EMSA). Teddy Bear Hospital aims at helping young children between ages of 3-12 to lose their fear towards doctors and hospital environment using a

simple friendly role-play. In this role-play, children pretend to be teddy's parent bringing a poorly teddy (the patient) to see a teddy doctor (medical student).

Teddy Bear Hospital (TBH) main aims are to reduce young children's fears of doctors and hospitals as well as to increase medical students' understanding of young children.

In April 2002, we organized a Teddy Bear Hospital in Sheffield with more than 300 children attending. 200 of the children (mean age of 8, age ranging from 4-12, 98 boys and 102 girls) filled in a very simple questionnaire. Of the 200 participants, 198 said they would attend TBH again but 2 not. Before Teddy Bear Hospital, 199 expressed fear in doctors and 185 expressed fear in hospital. After Teddy Bear Hospital, 3 expressed fear in doctors and 197 not anymore. Of the 200, 4 expressed fear in hospital post TBH and 196 expressed not anymore.

Fear of Doctors

	Yes	No
Pre TBH	199	1
Post TBH	3	197

Fear of Hospitals

	Yes	No
Pre TBH	185	15
Post TBH	4	196

With Dr. Andrew Charters from the Child and Adolescent Unit in Barnsley Primary Care Trust, we produced a poster for a presentation at the Royal College of Psychiatrists meeting in York, September 2003. The poster received tremendous interest from other participants of meeting as well as the media, several magazines and organizations.

The main idea behind this is to continue our research in how Teddy Bear Hospital can help children reduce their fears as well as understanding and knowing how children react and respond when attending Teddy Bear Hospital.

With my colleague, Jalal Geilani and Dr. Andrew Charters supervising us, we started officially working on Teddy Bear Hospital for Barnsley from 26<sup>th</sup> April 2004.

### **Materials and methods:**

Early work and preparations:

As EMSA is non-profit making organization, we do not have much funding for organizing the project, therefore we started working on getting sponsors for the venue, food and refreshments for the event. Sponsorship letters were sent to potential sponsors including the Barnsley Football Club, Barnsley Metrodome, Brooklands Hotel and several other places for the venue. After several weeks, Brooklands Hotel then offer to sponsor us the O'Hara Suite – the main function room on 31<sup>st</sup> May 2004 (Monday – bank holiday). Armed with the venue and dates, contacts were established with Procter and Gambler, ASDA Supermarket, Early Learning Centre, McDonalds, Silkstone Pharmacy and a few others. Procter and Gambler gave us 300 Charmin Bears and some Charmin t-shirts, ASDA Supermarket gave us 200 plastic cups, few bottles of juices and some crisps for the children, Early Learning Centre gave us 300 balloons, some face paints and loaned us 10 doctors and nurses uniform for the

children, McDonalds gave us 65 medium sized meals for the teddy doctors, Silkstone Pharmacy gave us some bandages, plasters and gloves.

Teddy doctors were recruited from the medical school via MedSoc. As EMSA Sheffield is now part of MedSoc Sheffield, recruiting medical students as volunteers for the day became easier. Emails were sent to all medical students in the University of Sheffield. Students were told the dates and venue; they were also required to attend two teaching and training sessions prior to the event to ensure that they are capable of dealing with children. All medical students were given an information pack and a polo shirt with their names on the back as their uniform on the day. Each student paid £20.00 for registration. We recruited a total of 61 volunteers – 3 from London Guys, King and St. Thomas Medical School, 1 from Leeds University, 2 from Liverpool University, and 54 from University of Sheffield and a specializing doctor from Italy.

Training sessions were arranged for the 4<sup>th</sup> May 2004 and 24<sup>th</sup> May 2004. Lectures and teachings were given by child psychiatrist, CPN in adolescent and child unit, specialist registrar in paediatrics from Barnsley District General Hospital. Talks were focussed on communication with children, common illnesses in children, child growth and development and basic life support.

Invites to school were made using Barnsley Primary Care Trust headed paper and sent to a total of 98 primary schools in Barnsley. The letter indicated the aims, dates and venue. Along with the letter, we included a colouring competition with details of Teddy Bear Hospital. Letters were posted to all 98 schools about a month prior to the event. Colouring competition sheets were given out at the hotel, Living Well premier club, Metrodome Swimming Pool and at the town centre. Phone calls were made to schools to remind them of the event. Personal visits were also made to a few of the schools.

Contacts were also established with local media including Barnsley Chronicle, Sheffield Star, Yorkshire Post, Dearne FM, Radio Hallam, BBC Sheffield, Radio Five Live, and BBC Look North for the promotion of the event.

Questionnaires were prepared using previous experiences and with the help of Dr. Andrew Charters and Beverly McGeorge from Hilder House, Barnsley Primary Care Trust.

We also contacted the South Yorkshire Ambulance Services to ask for an ambulance to be there for children to visit on the day. Clinical Skills Centre at the Northern General Hospital assisted us with the simulated environment by providing us with drip stands, drips, syringes and sphygmomanometers.

On the day:

Medical students arrived at 7.30am to help set-up the place. The event will take place at 10am-4pm.

Teddy Bear Hospital was divided into several areas. As a child comes in, a teddy doctor in the reception area will register the child and help them fill in part one of the questionnaire. Questionnaire available in Annex I. The child will then wait in the waiting area where there are some colouring pencils to keep them occupied and face-painting. The child will be taken through to Hygiene Talk where they are taught about cleanliness, hygiene and hand-washing. After that, they will then attend the 'Talk of Fears' – where in a group of 5-6 children, they talk about their fears and group them in a pyramid. Working from the bottom of the pyramid, we talk around the fears using methods similar to systemic desensitization with relaxation and breathing exercises in between exposure. Children are encourage to think about their fears, then relax, imagining themselves there, then relax, seeing a picture of what the child fears, relax

and eventually going through it and being able to talk about it and feel less scared about it.

From there, the child is then taken through to 'TBH Consultation' where the role-play begins. Teddy doctor will take a history from poorly teddy and teddy's parent (the child), then decide to perform some examination – inspection, palpation, percussion, auscultation, taking teddy's temperature, blood pressure, x-ray and CAT scan. Depending on the child's capability, the consultation can be modified to involve the parents – i.e. child taking mum or dad to see teddy doctor, role-play swap where teddy doctor becomes the patient and the child becomes the doctor to allow them hands-on experiences with medical equipments etc.

After the consultation, teddy may be referred to the teddy surgeons, TBH ward for hospitalization, dental clinic or to the pharmacists to collect their prescriptions. At the TBH Surgery, some teddy surgeons and some children are part of the operating team and will perform some operation for teddy – especially those who had some fractures. Children are shown what happens in an operating theatre from putting teddy to sleep to performing the surgery, stitching up and recovery. At the TBH Ward, children are shown the hospitalization issue in this simulated ward environment. Teddy doctors will come and do their ward rounds, children are also told that teddy will not stay alone but they can stay with teddy. TBH dentist shows children oral hygiene, they are taught about brushing their teeth, food that good and bad for their teeth. At the TBH pharmacy, children are given a prescription to take home for teddy to make teddy better. To avoid misconception of sweets = medicine and medicine = sweets, we decided to make a prescription sheet with pictures of a medicine bottle, tablets and capsules, with a box next to it for teddy doctors to tick on.

After all this, some children will then participate in the ER session – where the on-call team – consisting of medical students and children rushes off to an emergency scene to perform some basic life support. The visit to Teddy Bear Hospital ends after the visit to the inside of an ambulance and a treat to some juices, crisps and chocolate. Each child was given the Charmin teddies given by Procter and Gambler.

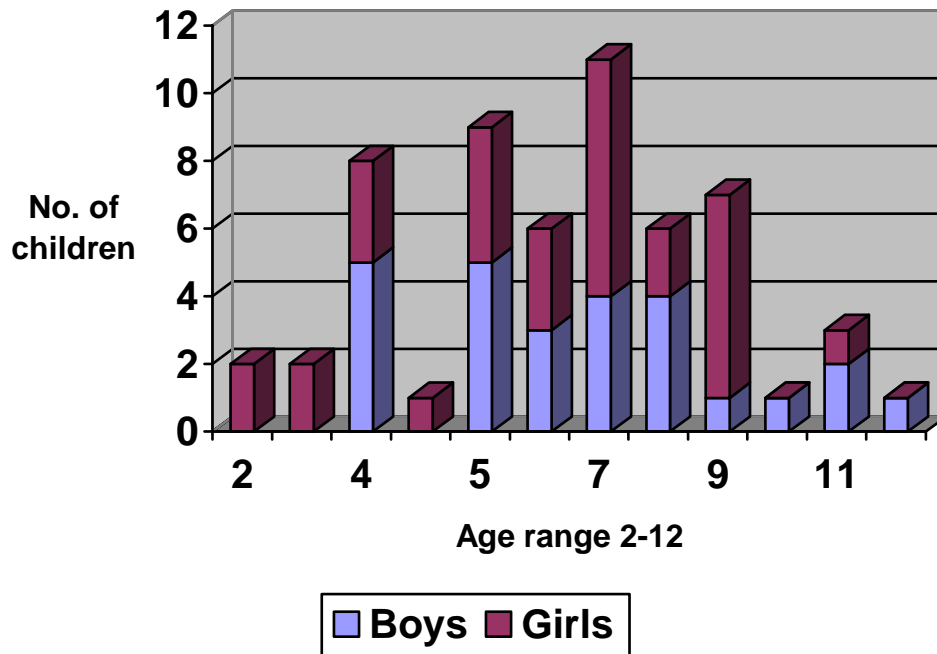
#### Sample:

As the event took place on a bank holiday Monday, the number of children attending could not be confirmed and it will be down to the parents to take their children to the event.

We estimated a total of about 124 children attended this Teddy Bear Hospital. Every child was given a questionnaire to fill-in prior to attending Teddy Bear Hospital and after the experience. All the questionnaires are numbered, unfortunately questionnaires numbered 86-124 were not found. Thus we have only 85 filled questionnaires. Out of the 85 questionnaires, 28 of the questionnaires were not filled in fully, some only completed part 1 and not part 2 while others were scribbled on. Therefore, only 57 fully completed questionnaires were considered for this study.

Of these 57 children, the age ranges from 2-12 years of age, a total of 26 boys and 31 girls.

## Teddy Bear Hospital participants based on age and sex distribution



The questionnaire specifically included questions about the child’s fear towards doctors and hospital. In the questionnaire, a Likert scale is used where appropriate based on smiley faces with a score of 1-7 (1 being most afraid and 7 being most happy and comfortable).



1      2      3      4      5      6      7

Children were asked mainly about their previous experiences with doctors and hospital and how they feel about doctors and hospital before attending Teddy Bear Hospital.

After attending Teddy Bear Hospital, the children then filled in part two of the questionnaire which included how they enjoy Teddy Bear Hospital, how teddy enjoyed Teddy Bear Hospital, was the child happy with what teddy doctors do to treat teddy, what they like about Teddy Bear Hospital, what they feel about doctors and hospital now and if Teddy Bear Hospital helped them at all to feel less scared.

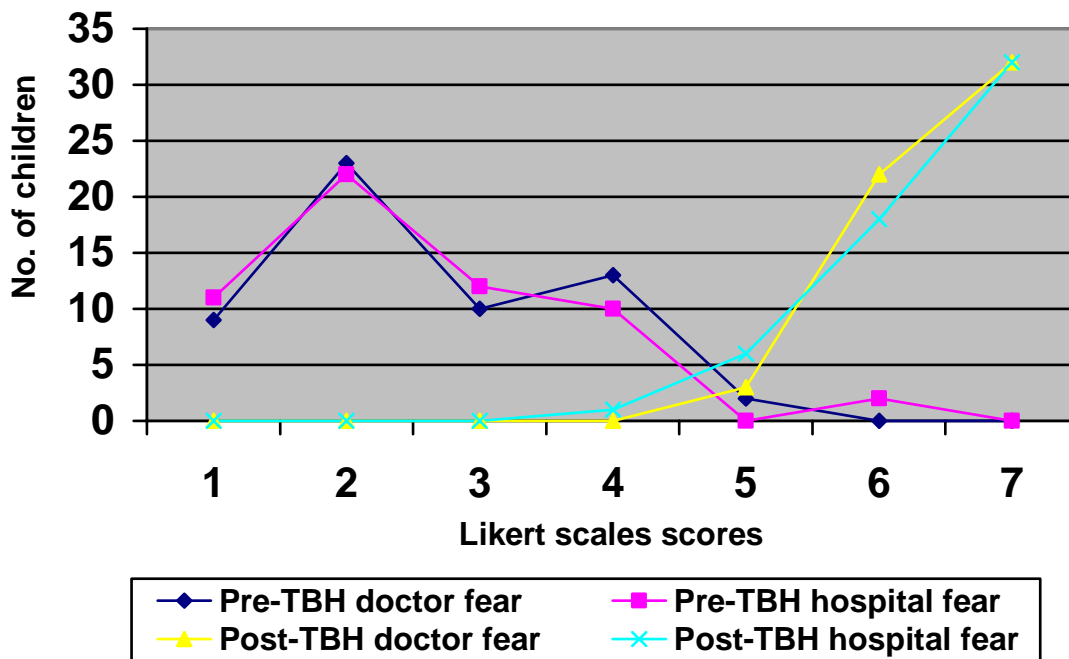
### Results

57 children filled in the questionnaire and were used as sample in this study. Age ranges from 2-12 years of age, mean age being 6.5, median = 7, mode = 7 with a total of 26 boys and 31 girls.

Of the 57 questionnaire, the following results were found by comparing the scores from part one and part two of the questionnaire asking them about how they feel about doctors and hospital.

Likert scales scores	1	2	3	4	5	6	7
Pre-TBH doctor fear	09	23	10	13	02	0	0
Pre-TBH hospital fear	11	22	12	10	0	02	0
Post-TBH doctor fear	0	0	0	0	03	22	32
Post-TBH hospital fear	0	0	0	1	06	18	32

### Pre and Post Teddy Bear Hospital Results



We can see clearly from the graph the shift of the scores pre and post TBH. Of the 57 children, 13 of them gave a score of 6 on the Likert scales when asked if they enjoyed Teddy Bear Hospital while 44 of them gave a score of 7.

When asked if Teddy enjoyed Teddy Bear Hospital, 4 of the children gave a score of 5, 19 children gave a score of 6 and the balance 34 gave a score of 7.

Of the 57 children, when asked if Teddy Bear Hospital have helped them to reduce their fears, 55 of them answered yes and 2 not. Of the two that said not, both expressed no fear of doctors and hospital at all from the beginning. All the children answered yes when asked if they would attend Teddy Bear Hospital again, if teddy would attend Teddy Bear Hospital again, if the children will invite their friends to Teddy Bear Hospital and if teddy will bring teddy's friend to Teddy Bear Hospital.

In the questionnaire, children were asked to rate their favourite section in Teddy Bear Hospital, among younger children, the favourite is talking to teddy doctors and using teddy doctor's things (medical equipment; stethoscope etc.) while in older children they preferred the ER session and TBH surgery.

Children were also asked about what they are most afraid when going to the doctor's or to the hospital and most replied needle or injection and the pain.

### **Discussion:**

The results from the Barnsley Teddy Bear Hospital showed similarity with the results found in Sheffield Teddy Bear Hospital in April 2002. Both results show strikingly that Teddy Bear Hospital do help the children to reduce their fear towards doctors and hospital environment. Of the two children that replied Teddy Bear Hospital did not help them reduce their fears, they explained that were not afraid of doctors or hospital at all, but still found Teddy Bear Hospital enjoyable.

Children also expressed that they enjoyed Teddy Bear Hospital and all 57 samples said they would attend again. When asked about why they think doctors and hospital are less scary now, most answered because the teddy doctors are very friendly, nice, kind and explained what they were doing before they do it and that teddy bear hospital made them see what it is like in a hospital hence prepare them better, allowing them to know what to expect when they go see their doctor or go to the hospital.

In previous Teddy Bear Hospital in Sheffield, children were asked if they were scared of doctors or hospital – and were asked to reply either yes or no – but in the Barnsley Teddy Bear Hospital, we modified the questionnaire and included the smiley face Likert Scale to allow children to give their fear a score of 1-7 with 4 being neutral. This will thus give us a better scale and interpretation of the results.

However, in the Sheffield Teddy Bear Hospital, 200 children filled in the questionnaire while in Barnsley only 57 questionnaires were used as samples in this study. More care and cautions should be exercised when helping the children fill-in the questionnaire and to ensure both parts are filled-in. The questionnaire should then also be kept safely to avoid being misplaced – as the place could get a little chaotic with medical students and children running around.

In Sheffield, more than 300 children attended the event, while in Barnsley we estimate only about 120 odd children attended. This may be due to the bank holiday. As well as that, publicity with local media could be improved. We also realized that most schools did not inform their students of the event and the colouring competition were not given out to the students. Some schools did explain that they lack resources and they could not photocopy 300 copies of the colouring competition for the children. Some schools also explained that they are not keen in charity event although we did explain that this is not a charity event. Some schools then explained that they are too busy with the curricula and there is too much work within the school, therefore it was put aside. Perhaps, a way to tackle this issue is to organize it in partnership with the schools – to go into the schools to organize the event. Of the 98 schools, 2 schools rang us up to organize at a later date for us to go into the school to do a Teddy Bear Hospital in the school.

Children's comment: Most commented that it was great; it was fun, enjoyable and interesting. Some expressed that more games should be incorporated into Teddy Bear Hospital.

Parent's comment: Most thought it was a good idea, useful, educational, good insight into medicine and good for the children. One parent commented that there should be opportunities for parents to do first aid while children are occupied. Another parent

commented there should be better publicity next time. Others were amazed that their children stayed on and played for such a long time.

Medical student's feedback: Most enjoyed the day and thought it was great fun. Some expressed that there were far too many teddy doctors in comparison with children attending. It was difficult to gauge the number of participants unfortunately. Others thought it should be organized in a city to get more participants rather than a town. Structurally, all thought that it was very well planned, Teddy Bear Hospital has much diversity to occupy the children and it was very well simulated. They also commented that they are more confident in communicating and handling a child now.

Most of the questionnaire filled in included contact numbers and we plan to follow-up the samples in 3 months to see if the effect of Teddy Bear Hospital remains. There also plans to organize more Teddy Bear Hospital in near future within UK and Europe. We are also intending to organize another Teddy Bear Hospital in Sheffield in October this year.

### **Conclusion:**

Teddy Bear Hospital increased young children's knowledge of their bodies and gives them some insights into medicine. Teddy Bear Hospital also helped reduced children's fear of doctors and hospital environment. Medical students gained knowledge of working with young children and handling sensitive discussion. Teddy Bear Hospital was enjoyed by children, parents, teddies, students and professionals.

### **References:**

1. Koster E, Crombez G, De Vlieger P. - Anxiety in the dental office: theoretical aspects and treatment strategies - *Rev Belge Med Dent.* 2003;58(2):77-87.
2. De Jongh A, van den Oord HJ, ten Broeke E. - Efficacy of eye movement desensitization and reprocessing in the treatment of specific phobias: Four single-case studies on dental phobia. - *J Clin Psychol.* 2002 Dec;58(12):1489-503.
3. Moore R, Brodsgaard I, Abrahamsen R. - A 3-year comparison of dental anxiety treatment outcomes: hypnosis, group therapy and individual desensitization vs. no specialist treatment. - *Eur J Oral Sci.* 2002 Aug;110(4):287-95.
4. Hirosawa I, Hirosawa M. - Social anxiety disorder of childhood - *Ryoikibetsu Shokogun Shirizu.* 2003;(40):45-7.
5. Noble S. - The management of blood phobia and a hypersensitive gag reflex by hypnotherapy: a case report. - *Dent Update.* 2002 Mar;29(2):70-4.
6. Ventis WL, Higbee G, Murdock SA. - Using humor in systematic desensitization to reduce fear. - *J Gen Psychol.* 2001 Apr;128(2):241-53.
7. Paquette V, Levesque J, Mensour B, Leroux JM, Beaudoin G, Bourgouin P, Beauregard M. - "Change the mind and you change the brain": effects of



cognitive-behavioral therapy on the neural correlates of spider phobia. -  
Neuroimage. 2003 Feb;18(2):401-9.

8. Chadwick BL. - Assessing the anxious patient. - Dent Update. 2002  
Nov;29(9):448-54.