

DESIGN ASPECTS OF A HOSPITAL PLAYROOM TO AID THE WELL-BEING OF HOSPITALISED ONCOLOGY CHILDREN – A CASE STUDY

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Abstract

The aim of this research was to identify the design aspects necessary to create an aesthetically appealing playroom environment to aid the well-being of hospitalised oncology children at a public hospital in Bloemfontein, South Africa. The methodology design is overall qualitative within the interpretivist paradigm with a triangulation methodology design with explanatory components. These components consisted of a literature review which was further explored by means of a qualitative questionnaire. The playroom was created as part of a community project according to the literature review and questionnaire after which semi-structured individual interviews were conducted with the children themselves.

Keywords: children's oncology ward, design aspects, hospital playroom

1. INTRODUCTION

Design presents the possibility to aid the well-being of hospitalised children (Bishop, 2011; Caspari, Eriksson & Nåden, 2006; Dalke, Little, Niemann, Camgoz, Steadman, Hill & Stott, 2006; Coad & Coad, 2008; Meyer, 2007; Norton-Westwood, 2012; Smith, Hager & Bajo, 2010; Swan, Richardson & Hutton, 2003). This can be achieved by designing an aesthetically appealing environment (Dalke et al., 2006) which is homely, as a cold, sterile, minimalistic and ultra-modern environment may be upsetting for young patients (Caspari et al., 2006). The ideal environment should accommodate play as play has been identified by research as a coping mechanism for hospitalised children to deal with not only their emotional stress (Chambers, 1993; Doverty, 1992; Gariépy & Howe, 2003; Savans, 2002), but their physical and physiological stress as well (Koller, 2008) and play furthermore helps to alleviate anxiety (Gariépy & Howe, 2003).

This research set out to identify the design aspects which are deemed essential and necessary to create an aesthetically appealing playroom environment that may, by means of play, aid the well-being of hospitalised oncology children at, in this case, specifically a public hospital in Bloemfontein, South Africa.

There are three factors that influence the healing potential of play, namely: (1) the environment, (2) the adult's role, and (3) materials within the playroom (Brown & Fulp-Cooke, 2008).

The first factor which had to be considered in the redesigning of the original playroom was its environment. The original playroom displayed an environment typical of hospitals with very little toys (vide Figure 1). A playroom environment should take into consideration physical, psychological and design attributes to achieve an aesthetically appealing and homely environment. Eriksen (2000) reported that there was a need for a friendly, cheerful and relaxing environment which is as home-like as possible (Sadler, 1990; Olds, 1988), but it had to be child-friendly rather than childish (Bishop, 2011; Coull & Cahman, 2004; Tryvorsak, Britto, Klostermann, Nebrug & Slap, 2004) because preference varies with age (Read & Upington, 2009). Elements that may determine an environment is colour, lighting, architectural design, artwork as well as furniture within the designated space.



Figure 1. The original playroom of the oncology ward.

Various studies reported on children's colour preferences (Bishop, 2011; Coull & Cahman, 2004; Read & Upington, 2009; Tryvorsak et al., 2004) with the norm in these studies being that warmer colours are more popular than cool colours (Bishop, 2011; Coad & Coad, 2008; Read & Upington, 2009). Norton-Westwood (2012) found that green was the most popular colour as far as the children in his study were concerned followed by blue and pink which was gender-related, whereas black and white were highly unpopular (Meyer, 2007; Read & Upington, 2009). Norton-Westwood's findings contrast the norm, but are nonetheless supported and confirmed by Meyer (2007) who reported that cool colours such as silver, light blue, teal and aqua green were the favourites. It is important to note that colour perception is, however, influenced by the different types of lighting in a room (Dalke et al., 2006; Read & Upington, 2009).

Natural light is a very important aspect in any space (Norton-Westwood, 2012; Swan et al., 2003).

As with colour, lighting has an influence on the way patients feel as well as on their speed of recovery (Dalke et al., 2006) and relates to the architectural design of the area. Glass blocks or skylights can provide closer contact between a patient and nature and may be stimulating for long-term patients (Caspari et al., 2006). Caspari et al. (2006) also highlighted that a welcoming entrance of a health care facility may lift children's spirits by taking their minds of what lies beyond the entrance. Architectural aspects such as these should be included at an early stage of the development of such a facility and a team should consist of all parties involved (Caspari et al., 2006; Smith et al., 2010).

Any environment may incorporate furniture to complement its colour, artwork and architectural design. Caspari et al. (2006) found that furniture should be soft and inviting, adding to the homely environment that hospitalised children need (Eriksen, 2000) and should accommodate all users. Furniture may furthermore be decorated with interesting textures to serve as an exploratory element for children (Caspari et al., 2006).

Bishop (2011) reported that children perceive hospitals that display children's art as child-friendly. This is an important observation that has to be taken into consideration in the design or redesign of any playroom. Art pieces should create a sense of tranquillity and harmony, and must be appealing, light, clear and simple (Caspari et al., 2006). Adolescents may prefer realistic images whereas younger children may prefer designs based on the colour or colours it displays (Tryvorsak et al. 2004). Mural paintings, i.e. artworks painted directly onto walls, may also be considered. It is important, however, to take into account the location, climate and the age of the target group when selecting a mural for a specific space (Smith et al. 2010).

The second factor that influences the healing power of play, as indicated above, is the adult's role. According to Robertson (1970), some of the stress experienced by hospitalised children is contributed to long periods away from home and being separated from their primary caregivers. Eriksen (2000) reported that parents are admitted with their children to Denmark hospitals to aid the healing process; this practice is supported by Lau and Tse (1993) who highlighted the need for parents to be at their child's side when he or she is hospitalised. Furthermore, a hospital playroom should provide an opportunity for parents and children to interact with one another (Rollins, 2009), thus acknowledging the adult's role.

The third factor that influences the healing power of play is the materials within a playroom. The original playroom had no activity corners and a limited number of toys of which most were broken (vide Figure 1). Through play, children vent their emotions, overcome disabilities, continue with their normal growth and development, combat boredom that inevitably results from prolonged hospitalisation, and friendships may be formed (Childhood Cancer Foundation South Africa, 2011).

The playroom design should take into consideration what types of play are important for hospitalised children. Providing opportunities for therapeutic play for hospitalised children should, according to Weller (1980), be recognised as an essential part of their emotional care, because the contribution made by play to children's recovery, in its broader sense, cannot be underestimated and is now generally recognised. The study conducted by Brown and Fulp-Cooke (2008) identified the essential or important types of play which should be afforded a place in a hospital playroom (n = 82), namely: quiet play (86%), active play (78%), infant/toddler play (92%), arts and crafts play (100%), dramatic play (96%), medical play (95%) and table play (100%). Wilson, Megel, Enenbach and Carlson (2010) found that less directive techniques such as drawing and storytelling can be useful as they are non-threatening and allow children to express their perceptions. Drawing and storytelling can be incorporated into arts and crafts, quiet, dramatic and medical play. The potential of stories are further emphasised by Wilson et al. (2010) as they found that stories provide effective and safe opportunities for children to explore frightening situations. The types of materials or toys present in a hospital's playroom must facilitate one or more of the above-mentioned types of play.

The types of materials in a playroom should entice and stimulate as many senses as possible of the hospitalised child (Olds, 1988; Berk, 2004).

2. AIM AND OBJECTIVES

The aim of this research was to identify the design aspects which may be deemed essential and necessary to create an aesthetically appealing playroom environment that may aid the well-being of hospitalised oncology children at, in this case, a public hospital in Bloemfontein, South Africa. To achieve this aim several objectives had first to be realised. The first objective was to identify, by means of a literature review, the elements that hospital playrooms should contain specifically taking into account children suffering from cancer. The second objective entailed an identification of those elements which are deemed as vital by the staff of the children's oncology ward at the aforementioned hospital concerning the playroom which needs to be redesigned. The third objective was to create a playroom based on the first two objectives of this investigation by means of a community project. The fourth objective entailed the documentation of the hospitalised children's perspectives on the new playroom environment regarding its aesthetic appeal by means of semi-structured individual interviews. The fifth objective was to document the observations by the matron of the ward regarding the children's interaction with the new playroom by means of an unstructured individual interview. The sixth and final objective was to apply the findings of the data analyses to the playroom in order to finalise the playroom's design so that it takes all elements into consideration to achieve the aim of this research.

3. METHODOLOGY DESIGN

The overall methodology design of this research was qualitative within the interpretivist paradigm with a triangulation methodology design with explanatory components (Cresswell & Plano Clark, 2007:73). These explanatory components consisted firstly of a literature review which was further explored by means of a qualitative questionnaire to support and enhance the literature review. The qualitative questionnaire was distributed to the staff of the children's oncology ward at a public hospital in Bloemfontein, South Africa, to identify which elements of a hospital playroom they deem as vital. Comprehensive sampling with maximum variation was done for qualitative questionnaires in order to gain sufficient data. The hospital playroom was created according to a literature review and qualitative questionnaire components as part of a community project to achieve the third objective; however, there were a number of limitations due to the limited scope of the personnel involved and the limited budget of the project. The newly completed playroom was opened by the researchers and hospital staff on 2 December 2011. The third explanatory component was to document the hospitalised children's perspectives of the new playroom by means of semi-structured individual interviews via a set interview guide with semi-structured questions (vide Table 1) to establish whether it is an aesthetically appealing environment. This type of interview guide was specifically selected to not only guide the children's responses, but also to afford them the freedom to elaborate on their answers. The interviews were conducted in the new hospital playroom in the children's preferred language and were recorded with a tape recorder, transcribed verbatim, translated into English, coded, fine coded, and grouped into themes.

Spot checks were done for verification purposes. The population sample for the interviews were children aged six years and above (comprehensive sampling with maximum variation within the criteria) and who were admitted to the children's oncology ward at the public hospital. The age criteria was later changed to children aged seven years and above because one six-year-old child was interviewed but had difficulty to express herself. These participants had to be well enough health-wise to utilise the new playroom for the purpose of the interviews and had to be fluent in Afrikaans, English, Tswana or Sotho. At least ten children had to participate in the interviews or until data saturation was reached. Children were excluded from the investigation if they had physical and/or mental abnormalities. The fourth explanatory component of this paper was a spontaneous, unstructured and individual interview on 19 April 2012 with the matron of the ward to document her observations regarding the children's interaction with the new playroom.

Table 1. Interview guide

Interview guide to document hospitalised children's views and emotions in regard to the new playroom

What do you like about this new hospital playroom?
What don't you like about this new hospital playroom?
How can we make this playroom perfect for you to play in?

4. DATAANALYSES

This section focuses on the data analyses of the three data sets, namely the questionnaire completed by the staff of the oncology ward, the interview with the hospitalised oncology children, and the interview with the matron of the ward. This section is concluded with a discussion of the analyses. The data analyses of this paper were done in the sequence of the objectives of this paper as each objective was an explanatory component for the one preceding it. Content analysis was done by means of coding, fine coding, categorising, clustering, and identifying patterns and meaning (Speziale-Streubert & Carpenter, 2003) by means of line-by-line data coding.

5. QUESTIONNAIRE PERTAINING TO THE STAFF OF THE CHILDREN'S ONCOLOGY WARD

In order to achieve the second objective of this paper, a qualitative questionnaire was compiled to document the staff of the ward's recommendations and ideas taking into account their field of expertise. The questionnaire consisted of five questions that broached their experience and involvement in hospital playrooms, their concept of the ideal playroom, important aspects for children which should be included in playroom design, recommendations on how to implement a feeling of security for the children, possible themes for the playroom, suitable toys, any developmental and emotional needs and additional ideas or comments. Fourteen questionnaires were received from the ward's staff, but one participant completed the questionnaire twice with different reflections and was subsequently labelled separately as Participant 4 and 5.

Participants identified that an ideal playroom should have several functions. One participant highlighted that "this resource in a hospital is important for play and treatment" (10-1:8-10). The functions can include the alleviation of boredom due to prolonged hospitalisation and which most of the participants identified (3-2:7; 8-1:4; 9-1:21; 11-1:4), it should be therapeutic (8-2:18; 8-3:8; 8-3:12; 11-2:20; 11-3:8), promote physical strength for rehabilitation purposes (8-1:9; 11-1:11) and "prepare children psychologically for painful procedures" (8-1:6-8). The ideal playroom should also be a stimulating (2-1:10-11), friendly (10-2:4) and non-threatening (4-2:5; 5-1:12; 5-2:21-22; 9-2:8; 13-1:17-18; 13-3:7-8) environment in which the children can express themselves and which aids in the feeling of

security and be suitable for children of all ages and level of mobility (5-2:24; 4-2:17-18; 5-3:5; 5-2:4-6). One element that stood out clearly from the questionnaires is that there should be supervision in the playroom at all times or otherwise it should be locked (2-1:18; 3-1:5; 7-2:9; 8-2:12-13 & 15; 11-2:15 & 16; 13-1:4-6) together with lockable storage for materials and toys (1-1:20-21; 6-2:24; 10-4:3-6; 9-3:7) to counter theft of these items. Furthermore the playroom should be accessible during daytime, weekends and holidays (3-1:17; 3-2:9-10), should be updated and maintained on a regular basis (3-1:7) and should consider all identified health and safety aspects (1-2:4; 2-2:15-16; 8-2:8; 11-2:10-11).

Other aspects which were identified for the ideal playroom were specific furniture requirements and include tables and chairs, electronic equipment such as a television, radio and computer, and floor covering (1-1:18-19; 1-1:22-24; 1-3:4; 6-2:18-19; 7-1:10; 8-1:16; 8-2:6; 9-3:5-6; 9-3:8; 10-1:14-16; 10-2:4; 13-2:4-5; 13-2:10-12; 14-2:1; 14-2:3-4), the playroom should accommodate play therapy by means of different types of activities including reading, skipping and rope activities, ball play, arts and crafts, and free play to name but a few (1-1:14-17; 1-3:2; 2-1:18; 3-1:18; 6-1:6-12 & 16-22; 10-1:17-19; 10-2:5; 12-1:13-17; 14-2:1). The elements identified for the ideal playroom are also the elements which are deemed as important aspects which should be considered for the playroom design.

Participants were asked to provide the researchers with recommendations on how to implement the feeling of security for the children within a playroom. They identified as the most important aspect that there should be supervision at all times within the playroom (3-2:13-14; 7-2:9; 8-2:12-13; 11-2:15). Staff of the ward recommended that the playroom environment should have a warm (7-2:8), friendly (9-2:8), non-threatening (2-2:13-14), colourful (5-2:19; 12-2:13) and inviting (7-2:8; 10-2:11) atmosphere that is non-hostile (9-2:8), safe (1-2:14; 2-2:15-16; 8-2:14; 11-2:16) and not too big (5-2:19) as “every child is dependent on the elder for protection, therefore a non-threatening environment which is danger free and health hazard free could ensure safety to the children” (2-2:13-16). The playroom should also be situated away from the procedure room as it should act as a safe zone (3-2:11-12; 4-2:13-15; 5-2:21-22; 14-3:7-8), in other words no medical procedures regarding hospitalised children may be carried out in this haven. The staff of the ward offered conflicting statements in regard to this question as the importance of safety is highlighted several times, but two participants still recommended adding mattresses and a carpet (13-2:10; 6-2:18) to the playroom to aid the feeling of security. A possible explanation for the differences is that these two participants were not involved in the cancer ward as much as some of the other participants.

Several themes were recommended by staff of the ward concerning the playroom, including different fantasy themes (7-2:11-16; 9-2:10-1; 12-2:18-19) and educational themes (6-2:21-22; 8-2:17; 11-2:19; 12-2:19-20; 13-2:15-16). The atmosphere (1-2:18) of the playroom is important and should be colourful (1-2:19; 2-2:18; 10-2:13) and therapeutic (8-2:18; 9-2:20). The use of Disney characters were highlighted by five of the participants (1-2:20; 2-2:19; 7-2:12; 8-2:19; 11-2:21) on condition that they are suitable for all ages (3-2:17; 4-2:17-18; 5-2:24). The head of paediatrics recommended a theme with “teddy bears and rainbows ... teddy bears for comfort and rainbows for hope” (9-2:10-12).

A large variety of age appropriate (4-3:1-2; 5-3:3) toys were recommended as Participant 12 highlighted that “there should be a large [variety] of toys to accommodate the learners' different likes [and to stimulate them to] use all their senses to play” (12-2:22-24). The most important aspects were that the toys should be hygienic and safe to play with (3-3:3; 6-3:3-4; 8-3:1; 11-3:1) as well as educational (3-2:20; 4-2:20; 5-3:1; 10-2:17; 10-3:4). There should be a large variety (1-3:1-4; 2-2:21; 2-3:1-2; 7-2:18-19; 10-2:17; 12-2:22; 13-3:1-2) of toys including technology (7-3:1-3; 9-3:5-6), but no teddy bears and hair dolls (1-2:22) for hygienic reasons.

The staff of the ward was also required to name the developmental and emotional needs that the playroom should take into account. They identified that it should assist in the alleviation of anxiety (8-1:5; 9-1:14; 11-1:5), fear (9:3-15), loneliness (9-3:15), stress (3-2:7-8) of being hospitalised, and prepare the hospitalised children for medical procedures (8-1:6-8; 11-1:6-10). A CHOC social worker reported that “friendly toys and environment allow the children to deal with various emotions resulting from the treatment [through being] given a space to deal with such feelings in their own time, pace, and space” (2-3:7-11).

6. INTERVIEWS WITH HOSPITALISED CHILDREN

Semi-structured interviews were conducted with eight hospitalised children according to the interview guide in Table 1. One child was excluded as a result of her age and finding it difficult to express herself as explained in the sampling section, which left a sample of seven participants. The interviews were firstly translated from Sesotho into English by the interviewer and afterwards transcribed verbatim in English. Data collection continued until data saturation was achieved and the interviewer confirmed the answers of the participants in the interviews to ensure that their answers could be transcribed in the correct context.

Seven participants were interviewed in two different interview sessions. Participant 7 was interviewed in both sessions by accident and the second data set was used as confirmation for the first.

Four of the seven participants had been in the playroom previously (3-5:17-18; 3-5:23; 4-7:14-15; 5-8:23-25; 7.1-11:3-4), the transcript concerning Participant 6 did not provide an indication on this, while the other two participants had seen the playroom for the first time during the interview session (1-2:42; 1-3:1; 2-3:23-24). Most of the interview sessions started with the question on how the participants experienced the playroom the first time they saw it and six participants responded very positive (1-3:3; 3-5:25; 3-5:27; 3-6:31-33; 4-8:14; 5-9:30-32; 7.1-11:11). Participant 1 reported that “I felt very happy, and it was the first time I saw a huge bear like that (pointing)” (1-3:3) while Participant 5 reported “it is beautiful” (5-8:29). Participant 7 asked whether he could come and play in the playroom after the end of the interview (2-4:29-32).

The first question required the participants to answer what they like about their hospital playroom. The participants identified three major elements, namely the toys, the television and the artwork on the walls of the playroom. A brief explanation will follow on how the participants responded to these three major elements.

The first element that the children identified that they liked, as indicated above, is toys. Four participants answered toys in general (1-1:29; 5-8:31; 6-10:2; 3-5:29), whereas other specified cars (1-1:34; 5-8:33), the scooter (1-1:36; 3-5:33; 1-3:9), balls (5-8:33), dolls (5-8:33; 6-10:4), the mini basketball court (1-3:9; 4-7:27), the musical instrument (1-3:9; 4-7:27), the cups of the tea set (3-5:29), and to play house in the playroom (3-5:29). Participant 3 indicated that playing house with her friend in the playroom is one of the reasons why she returns to the playroom (3-5:29).

The second element that the participants liked was the television set (1-1:31; 2-4:8) and Participant 7 indicated that she comes to the playroom to watch television (7.2-12:27). The other participants specified in more detail that they like watching movies (1-2:6; 2-4:12) and Participant 2 said that he likes action movies in particular (2-4:14) whereas Participant 1 said wrestling (1-2:8), e.tv (the fifth terrestrial television channel in South Africa) (2-4:10) and animation (2-4:12).

The third element that the participants identified were various artworks on the walls of the playroom (1-2:21; 1-2:23; 1-2:25; 4-7:21-22) that ranged from the Winnie the Pooh mural (2-4:2; 2-4:4), Noah's painting (5-8:35-39; 5-10:39) and the mosaic artwork (6-10:6; 6-10:8). Participant 4 indicated that the artwork on the walls is educational, “it is very educational and we learn a lot from them” (4-7:21-22).

Some of the other elements which were identified in the interviews are the sofas in the playroom (2-3:38), drawing in the playroom (1-2:19) and playing in the playroom (4-7:24).

The second question that the participants had to answer concerned what they dislike about their hospital playroom. Four of the participants answered that they did not dislike anything (3-6:5-7; 4-7:37; 5-9:6-10; 7.1-11:13) whereas two participants disliked elements such as the dolls because they considered them to be for girls (1-2:1-3) and the artwork of the hospitalised children (2-4:16). One participant responded to the question regarding what he disliked (with specific reference to the artwork) with “I love all of them, but the most beautiful is this one (pointing to the mosaic artwork)” (6-10:10).

The third question concerned how we as the research team could make the playroom perfect for the children to play in. The participants identified several kinds of toys that they thought would make the playroom perfect, including different kinds of balls (1-2:17; 6-10:22; 6-10:20-21; 7.1-11:29-31), cars (2-4:22), dolls (3-6:20), a Sony PlayStation® (1-2:13) and a kitchen set (3-6:12-14; 3-6:16). Some participants identified different types of movies and shows that they would like to watch like stories of Jesus Christ (5-9:22), comedies (5-9:24; 7.2-12:38-39) and action movies (7.2-13:1-2). Participant 1 said that he misses his movies and soccer on DStv (a digital satellite television service in Africa) (1-2:36-37). Other items on their wish list is a radio (3-6:10), books (5-9:12; 6-10:27-28; 7.1-11:2-3; 7.2-12:31 and 35), colouring books (5-9:12), drawing books or boards (7.1-11:2-3; 7.2-12:33), a skipping rope (7.1:11:25-27) and a computer (7.2:12:31). Participant 1 also indicated that that the playroom is beautiful, but very small (1-3:37), thereby identifying the need for a larger playroom. One very important finding of this question in the interviews was that it highlighted the need of the older children for more age appropriate toys such as bicycles and balls (4-7:40; 4-8:1-2; 7.1-12:8-11; 7.2-12:27) as the present toys are only for the “young ones” as one participant would indicate.

7. INTERVIEW WITH THE MATRON OF THE WARD

A spontaneous, unstructured and individual interview was conducted with the matron of the ward to document her experience of the children with their new playroom, her observation of the change in the children's behaviour between the old and new playroom, and how the aspects highlighted in the qualitative questionnaires which were completed by the staff of the ward were implemented and whether it led to improvements. She mentioned that her experience was that the playroom provides a different environment from the ward, “they are so excited as if there is something that is changing their mind, giving them a different opinion, a different feeling from the ward and the playroom” (1-1:3-4).

She further mentioned that the toys in the playroom accommodated all age groups (1-1:17-22), but in contrast to this and other statements (1-1:20; 1-1:25 & 27), she also indicated that there is only limited toys for the older children (1-1:20).

The children regularly ask the staff to open the playroom for them to play in (1-2:5-7, 23), “there are those that really feel, maybe make you feel that when you came on duty, just have come running, open, look for someone to come and stay with them in the playroom” as this space becomes a home for the children that are passed their intensive chemotherapy (1-2:15-17).

The aspects which we touched upon from the qualitative questionnaires were that the parents of the children were not allowed in the playroom for security reasons and issues pertaining to theft (1-2:26-29; 1-3:1-6) which were addressed by the matron by being very strict about the playroom's key (1-3:9-10). She also highlighted that items get damaged and drawn on (1-3:21), thus “spoiling the playroom” (1-3:23): “they will write in all fifteen languages, that is why I decided that this one really is just for them so we must value it and appreciate what you have done” (1-4:1-2).

7. DISCUSSION AND IMPLEMENTATION

This research used a triangulation design with several explanatory components. This section will subsequently discuss the findings of each of these components and how it was implemented into the design of the playroom. The findings from the data analyses of the qualitative questionnaires, completed by the staff of the oncology ward, identified their preferences for an ideal environment for a playroom and which is an important factor according to Brown and Fulp-Cooke (2008). An aesthetically appealing environment was designed according to these preferences which, as identified by Dalke et al. (2006) (vide Figures 2-4), should be homely and child-friendly. The architectural design of the playroom could not be altered due to available space and budgetary limitations. The current playroom is located away from the procedure room and no medical procedures are allowed in this room, the space is not too big, and have large windows to allow natural light to enter the room. The playroom contains only children's art and communicates that this area is for children only, as specified by Bishop (2011) as a necessary prerequisite, and can be seen in Figures 2 to 4.

Staff of the oncology ward reported that the environment of a playroom should be warm, friendly, inviting, non-threatening and colourful and in which children can express themselves and this view is supported and confirmed by the literature (Eriksen, 2000). These needs were addressed by using a season's theme in which we could use as many colours as possible; however, this theme was not identified by the staff of the oncology ward as a possible theme (vide Figures 2-4). The participants' recommended themes of fantasy were incorporated by painting a Winnie the Pooh and Friends mural as our summer season with a rainbow, sun and flowers (vide Figure 3). This mural was mostly in response to the head of paediatrics' recommendation to include teddy bears and rainbows in the theme for comfort and hope respectively.

Participants also recommended an educational theme which we achieved by placing English and Sesotho vinyl names above the sun, rainbow, flowers, bees, different colours and the names of the different seasons to name but a few (vide Figures 2 and 3). One child, in particular, reported on this educational attribute (1-2:19). Vinyl stickers were also placed on the floor of the playroom to make it more colourful and to show the children where activity corners in the room are (vide Figure 2).

Different activities were identified by the participants including reading, skipping and rope activities, ball play, arts and crafts, and free play to name but a few and many of these were incorporated into the design of the playroom. Brown and Fulp-Cooke's (2008) study identified essential types of play. Quiet play was addressed by means of a storytelling corner where children can play with toys on the synthetic grass floor covering; active play can be done in the free play area in the centre of the room by means of skipping, hop scotch, or riding the plastic motorcycles that were bought with the funds that were raised. Creative activities can be done in the arts and crafts section in the autumn corner. Storytelling was identified by Wilson et al. (2010) as an important activity and can be done in the storytelling corner. A large variety of toys was bought with the available funds, but with the children's interviews a need was highlighted for toys and equipment that are suitable for older children as well, such as a computer.

The furniture requirements that the staff highlighted were accommodated according to the financial resources available to the researchers. Four brightly coloured children's poufs were bought for the storytelling corner and three toy boxes were made for lockable storage that also served the purpose of adult seating (vide Figure 3). Prerequisites identified in Eriksen's (2000) findings were met by ensuring that all users of the playroom have appropriate seating. The textures of the furniture were limited to leather and plastic because the material used had to adhere to the health and safety aspects and which is one of the most important aspects of an oncology ward. The tables and chairs in the redesigned playroom was part of the old playroom and electronic equipment did not fall into the project's budget. However, a television set was donated by a local business two days before the opening of the playroom. Other health and safety aspects were also highlighted in the questionnaires completed by the staff of the oncology ward. Two conflicting statements in regard to these aspects were participants wanting to add a carpet and mattresses to the playroom. This was addressed by rather including a more hygienic floor covering as a substitute for a carpet in the form of synthetic grass. The selection of toys that were bought and donated did not include teddy bears or dolls with hair; however, an oversized teddy bear was subsequently donated and were placed out of the children's reach. Patches, the teddy bear, was made from donated clothes as part of the community project and made one child in particular very happy (1-3:3).

The staff of the ward identified that supervision would aid in the children's feeling of security, which may have been misinterpreted by participants. Participants reported that there need to be supervision at all times or otherwise the playroom would be locked. This issue has been addressed by providing a lockable door for the playroom and the key is available from the matron of the ward throughout the day. Theft of the toys and loose items in the previous playroom was a concern for the staff and was addressed by incorporating three lockable toy boxes on wheels to aid mobility in the design. Other toys can be stored on open storage shelves in the winter season corner. An important factor which was highlighted in the literature and questionnaires was the role of the adult. As specifically requested by the staff of the oncology ward and as identified in the literature, parents were accommodated in the playroom design, but in our interview with the matron, she highlighted that no parent is allowed in the playroom due to a theft problem (1-2:26-29; 1-3:1-6).

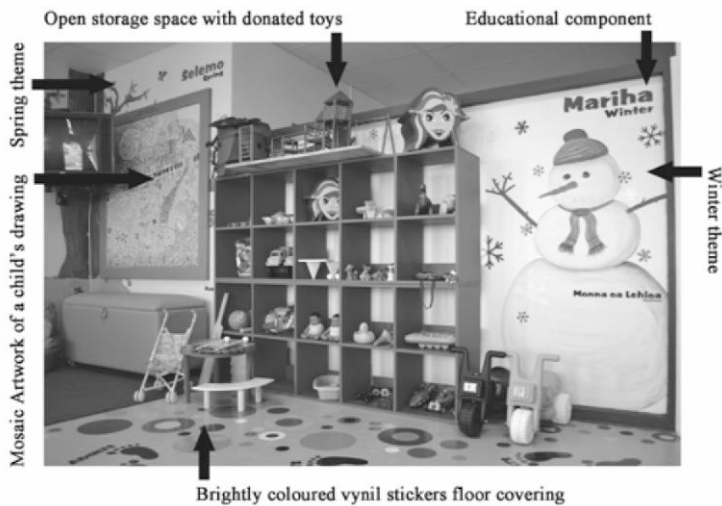


Figure 2. Spring and Winter corner of the playroom.

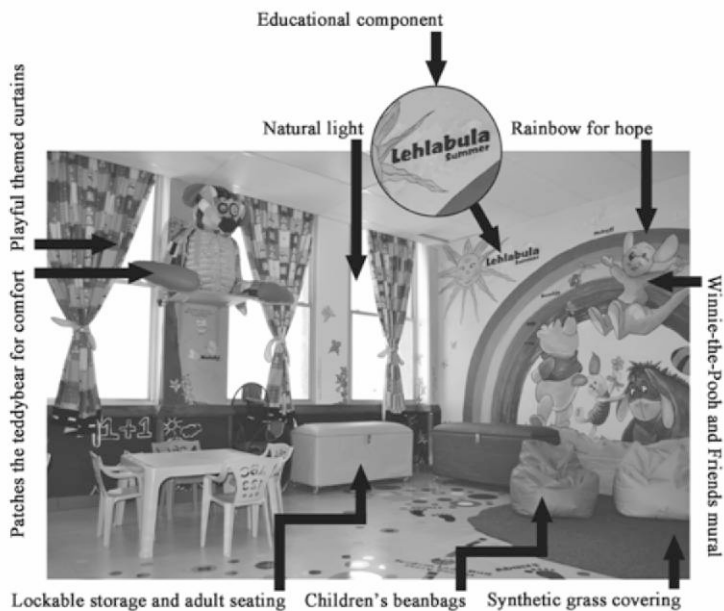


Figure 3. Summer corner of the playroom.

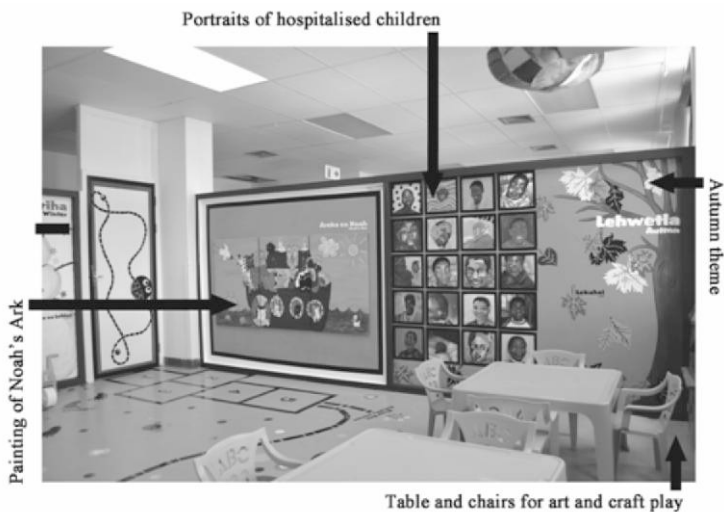


Figure 4. Autumn corner of the playroom.

9. CONCLUSION

This research started with the bold statement that design has the possibility to aid the well-being of hospitalised children and this is supported by the literature (Bishop, 2011; Caspari et al., 2006; Dalke et al., 2006; Coad & Coad, 2008; Meyer, 2007; Norton-Westwood, 2012; Smith et al., 2010; Swan et al., 2003). This was achieved by designing an aesthetically appealing environment, as identified by Dalke et al. (2006), for hospitalised oncology children at a public hospital in Bloemfontein, South Africa according to the preferences of the staff of the ward. This resulted in a specially designed playroom that incorporates play in different activity corners and allows for several kinds of play, such as quiet play, arts and crafts, and free play (to name but a few), as play is a coping mechanism for hospitalised children's emotional stress (Chambers, 1993; Doverty, 1992; Gariépy & Howe, 2003; Savans, 2002), physical and physiological stress (Koller, 2008) and helps to alleviate anxiety (Gariépy & Howe, 2003).

The aim of this research was to identify the design aspects which are necessary to create an aesthetically appealing playroom environment that may aid the well-being of hospitalised oncology children at specifically a public hospital in Bloemfontein, South Africa. The design aspects which were investigated were the architectural design of the area that included lighting, the environment, theme and colour of the playroom, suitable furniture for the users of the area, artwork, floor covering, and space allocation for the different types of play. These aspects were identified by means of explanatory components such as a literature review that formed the basis of this research, questionnaires that the staff of the oncology ward completed, interviews with hospitalised oncology children, and an interview with the matron of the ward on her experiences regarding the children and the new playroom. The methodology design of this research was overall qualitative within the interpretivist paradigm with a triangulation methodology design with explanatory components (Cresswell & Plano Clark, 2007:43).

The findings of the questionnaire were analysed before the playroom was created in order to identify specific needs that the literature did not highlight. Findings from the children's interviews found that the playroom design was aesthetically appealing, which adheres to the findings of Dalke et al. (2006). The children reported on various aspects which they liked in their new playroom, including the artwork and toys. The third question that was asked was how the playroom could be made perfect for them to play in. This question identified some shortcomings of the playroom which were addressed by means of a fundraiser, as these items are not design-orientated, but rather items that had to be bought. The literature also identified the importance of the adult's role which is addressed in the design of the playroom, but due to circumstances beyond the present researchers' control, parents are not allowed access to this room. Recommendations for future research include research on how to accommodate the parents' role in such a playroom and still countering the theft issue.

In conclusion, the redesigned playroom of the children's oncology ward, according to the preferences of the staff of the ward, at the hospital in question may contribute to the well-being of these hospitalised children as it provides them with a homely environment which is friendly, cheerful, and relaxing as indicated as of paramount importance by Eriksen (2000) and Sadler (1990). Design ultimately contributes to their physical well-being in that designing the area so that it incorporates different types of active play, it promotes their normal development and psychological well-being and serves as a coping mechanism for the emotional, physical and physiological stress which these children experience.

10. ACKNOWLEDGMENTS

The authors wish to acknowledge all individuals and sponsors who contributed to the community project and research and with a special word of gratitude to Matron Martha L. Maluke for her assistance during this research, the Ethics Committee of the Faculty of Health, University of the Free State, South Africa, for their support to include the children of the ward in the research, and the Central University of Technology, Free State, South Africa (CUT), for making this research possible by means of support and funding.

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