

RESTORATIVENESS OF PLAY MILIEU AFFORDANCE IN A PAEDIATRIC
WARD IN NIGERIAN HOSPITAL

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To my beloved Parent's

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ABSTRACT

Illness, medical norms and protocols in hospital ward settings cause stress especially for children. This includes confinement, routine medication and limited space for activities and movement. This causes regressive behaviours which include being fearful, boredom, anxiety and restlessness. As a result, the children functioning such as playfulness involving movement and interaction decreases. This phenomenon is common at paediatric hospital wards in Nigeria. The hospital management focus is more on the pathogenic treatment which deals with the provision of ward facilities for treatment of ailment and bodily pains. Thus, no consideration is given to children psychological wellbeing using a holistic approach involving salutogenic treatment with features and interaction in a setting. Therefore, this research employs a salutogenic concept to investigate the benefits of loose play items on children health restoration. Loose play items means moveable materials that children can use in their play. This was experimented with early and middle childhood paediatric patients aged 3 to 12 years. The study was conducted at Abubakar Tafawa Balewa University Teaching Hospital Bauchi with hospitalized children (n=17), (n=10) in control ward and (n=7) in an experiment ward and with (n=25) caregivers. The approach to the conduct of the research was phenomenological. The data were elicited through children's responses which include their physical, social and cognitive functioning. The data were gathered using video recordings, photographs, Analytical Hierarchy process judgemental scale questionnaire, and interview with caregivers and children's drawings. The analysis was carried out using interpretive content analysis and Expert Choice 11. The analysis indicates various levels of affordances such as sitting alone, feeding and fear of routines that added stress in the control ward. While the experiment ward indicates that the play milieu afforded play, interaction, and movement space that reduces stress and promote children's functioning, physically, socially and cognitively, leading to restoration. The finding confirms the theories used as research underpinning, theoretical framework and it is consistent with findings in related studies. Therefore, irrespective of different geographical location, country and culture, the restorative benefits of the play milieu can be universally applied in children hospital setting.

ABSTRAK

Penyakit, norma rawatan dan protokol di wad hospital menyebabkan stres terutamanya terhadap kanak-kanak. Ia melibatkan penahanan di wad, rutin rawatan dan kekangan ruang untuk aktiviti dan pergerakan. Perkara ini mewujudkan perilaku yang kurang baik seperti ketakutan, bosan, resah dan gelisah. Ini mengakibatkan kanak-kanak kekurangan sifatnya yang suka bermain yang melibatkan pergerakan dan sentuhan. Fenomena ini biasa berlaku di hospital kanak-kanak di Nigeria. Pengurusan hospital memfokuskan kepada rawatan patogen dengan menyediakan prasarana wad untuk rawatan kecederaan dan kesakitan fizikal. Disebabkan itu, tiada pertimbangan diberikan terhadap kebajikan psikologi kanak-kanak dalam pendekatan yang holistik menggunakan kaedah salutogenik. Oleh itu, kajian ini menggunakan konsep salutogenik untuk menyasiat manfaat bahan mainan bebas ke atas pemulihan kesihatan kanak-kanak. Kajian ini dilakukan terhadap pesakit kanak-kanak tahap awal dan pertengahan berumur daripada 3 hingga 12 tahun. Ia dijalankan oleh Abubakar Tafawa Balewa University Teaching Hospital Bauchi terhadap pesakit kanak-kanak ($n=17$) dan penjaga ($n=25$). Kaedah yang digunakan dalam kajian ialah fenomenologi. Data diperolehi daripada respon kanak-kanak yang melibatkan fungsi fizikal, sosial dan kognitif. Ia dikumpulkan menggunakan perakam video, fotografi, soalan berskala menggunakan Analitik Hirarki, temu bual bersama penjaga dan lukisan kanak-kanak. Analisa data dilakukan menggunakan analisis isi interpretasi (Interpretive Content Analysis) dan Pilihan Pakar 11 (Expert Choice 11). Hasil kajian menunjukkan penurunan kadar stres dan perubahan tingkah laku pada kanak-kanak melalui fungsi fizikal seperti peningkatan pergerakan pada tangan, anggota dan pergerakan badan dengan aktiviti bermain seperti bermain pasir dan air. Hasil kajian juga menunjukkan kanak-kanak lebih mudah bersosial semasa bermain dengan rakan sebaya dan lebih mudah berhubung dengan penjaga di dalam wad. Mengikut kognitif pula, kanak-kanak menjadi teruja dengan persekitaran mereka. Mereka belajar kemahiran membuat 'kek pasir, berkongsi permainan dan mengagihkan 'tugasan' sesama sendiri. Hasil kajian menyarankan bahawa bahan mainan bebas di wad hospital sebagai lingkungan bermain membantu dalam proses penyembuhan kanak-kanak jika dibandingkan dengan persekitaran wad hospital konvensional. Oleh itu, adalah dicadangkan kepada wad kanak-kanak di hospital dalam konteks Nigeria untuk mengadakan ruang bermain mempunyai bahan mainan bebas khas untuk pesakit kanak-kanak bagi mewujudkan persekitaran wad hospital yang memulihkan.

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LIST OF ABBREVIATIONS

AHP	-	Analytical Hierarchy Process
ART	-	Attention Restorative Theory
ATBUTH	-	Abubakar Tafawa Balewa University Teaching Hospital
CITI	-	Collaborative Institutional Training Initiative
EC	-	Expert Choice
PPA	-	Pragmatist Phenomenological approach
P-E Fit	-	Person Environment Fit
PI	-	Performance Indicator
SCD	-	Sickle Cells Disease
SCRT	-	Stress Coping Reduction Theory
TSD	-	Theory of supportive Design
UNICEF	-	United Nations Children Fund
WHO	-	World Health Organisation

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CHAPTER 1

INTRODUCTION

It was 7o'clock in the morning. The author was leaning silently by the ward door looking at the scenario in the ward cubicles. The Paediatric ward was in a complete silence. Six beds were lined in all the ward cubicles, making it looks like the usual hospital setting for medication and treatment. The floor was bare and unclean which makes it feels unfriendly. The beds are filled with sleeping children, who looks pale, unhappy and exhausted. By each of the bedside parents are sleeping on the chair, which does not look comfortable. A nurse walked into the ward, examining some medical equipment by the beds. One by one the children awake.

1.1 Introduction

In the context of children health restoration in relation to salutogenic concept involving medicine and human interaction with features in a setting that has values and provide meaning (Ulrich, 1999). Providing children space for their inert play needs will stimulate them to interact and socialize. Indeed, play is a good indicator of children's behaviour and their functioning (Strauss *et al.*, 2014). Such play provisions are an essential component in creating a child friendly setting that will offer a meaningful experience (Munier *et al.*, 2008). To address this concern, the research presented in this thesis was designed to explore the influence of loose play items affordances on children restoration. The loose play items mean moveable materials that children can use in their play. They can be bought materials, upcycled materials from recycling bin or found natural objects (Nicholson, 1972), for hospitalized

children that are in ambulatory and non-ambulatory care in the Nigerian context. Example, everything is loose item, boxes, feathers, stones, sand, wrapping papers, water, drinking straws and so forth.

The hospital ward being a recovering setting for ill children has potentials that afforded hospitalized children's stress (Dubem and Anyiekere, 2015). The degree of the stress mainly depends on the physical setting and the cultural norms with medical protocols of the hospitals (De Ridder, and De Vet, 2013). This detects child psychological wellbeing in relation to illness and hospitalization. Besides exploring ward space as a play milieu, this research seeks to promote children functioning using loose play items in the ward through children actions and activities as they are the main occupants of the setting (Estabrooks *et al.*, 2012). In essence, this research is directed at exploring the significance of the hospital wards as a play milieu cum play space using loose play items. When children are in the journey of recovering from their illness, the play provisions are meant to intercede and foster their restoration. This means that the medical norms and hospital protocol still remains while the play milieu supports the process of their restoration (Albert *et al.*, 2013; Dolidze *et al.*, 2013; Lansdown, 1996; Lau, 2002; Lindheim and Coffin, 1972). In this research context, children lacks the freedom to independently play and interact in the hospital wards, they have lost contact with their familiar wider spaces for play at home (Lansdown, 1996). This is due to over stretched hospital ward facilities such as beds that covers more space and brings them to stay closely with strangers (Dalrymple *et al.*, 2014; Lindheim and Coffin, 1972; Said, 2006).

The lack of play has also been attributed to other factors that decrease children play during their hospitalization. This includes individual differences and demographic factors relating to age and gender, where girls are found to have less autonomous play mobility than boys (Pacilli *et al.*, 2013). Place experience depending on child's familiarity with features found in their places (Castonguay and Jutras, 2009). In addition, children play preference and attitudes towards play activities also differ from one child to another (Hart, 2013). Furthermore, physical factors such as design and quality of their environment, as well as lack of facilities and accessibility to play also hinder children functioning and positive behaviour

(Barbour, 1999; Czalczyńska-Podolska, 2014). Therefore, lack of functional features and attributes in a setting deprived children the avenue for functional play (Maier *et al.*, 2009; Prieske *et al.*, 2015). Another instance, social factors such as parental restriction also denied children the opportunity to play and interact. This is because most parents are afraid of their child safety. As a result, their functioning and progressions are minimized. Such factors that add to decrease chance to play for children has a passive effect on their psycho-social development (Aziz and Said, 2012). Therefore, the hospital ward for children should not only contain situational cues such as confined space, with medical procedures, but rather a place that provides space for both medical protocols and play. Thus, to answer the need of hospitalized children play provision that is consistent in a children's hospital ward setting indoors will be the main concern in this study.

The chapter continues with the statement of the problem and the study gap in Sections 1.2 and 1.3, respectively. This is followed by the study aim and objectives with the research main question and other research questions in Section 1.4 and followed by the scope of the study in Section 1.5. The methods employed is explained in Section 1.6 while the significance of the study in Section 1.7. This was subsequently followed by an outline of the research in Section 1.8.

1.2 Statement of Problem

The hospital ward setting has been a place where children are sent to recover from their illness, but in the long run, the children end up being stressed (Lau, 2002). This was because the setting is different from their familiar environment including home and school (Pelander and Leino-Kilpi, 2010). They are introduced to diverse unfamiliar equipment, objects and strangers. On the other hand, the medical norms and hospital protocols confined them to their beds and deny them free play, including movement and running around (Lindheim and Coffin, 1972; Whitehouse *et al.*, 2001). Furthermore, they are away from their usual routine of playing at home, away from friend, staying with strangers in a setting with noise and strange smell; for a

child with a vivid imagination anything can be terrifying. The usual norms are personnel all dressed up neatly in white uniforms with hypodermic injections with needles for blood draw, temperature thermometers and weight measurement scales or posture still for scanning and X-ray test. As such, they consider the hospital environment threatening, and they can develop additional stress and fear during doctors and caregivers ward round or appointment.

This causes stress to the children. It indicates that there is a mismatch between the situational cues in the ward setting and the children needs. Therefore, the children behaved regressively, displaying negative behaviours such as fear, discomfort, anxiety, boredom, crying, and clinging to their parents (Lansdown, 1996; Lau, 2002; Albert et al., 2013). As a result, the children's functioning, particularly their physical actions, social interactions and cognition are reduced. Thus, it negatively influences children restoration process (Eisen, 2006; Gouin and Kiecolt-Glaser, 2011). This phenomenon is common in many children hospital wards in Nigeria. Presently, the hospital for children emphasises on the provision of medical equipment and facilities that added functionality to some extent. The psychological aspect of the cure is rather inefficient in supporting the process of children restoration (Eke *et al.*, 2014). This is common because the design of hospital from pre-colonization era from 1902 to date are still reflecting on early European concepts of designs that are meant to provide cure for illness, reduce infection and house medical equipment (Ulrich, 2002). This means that most present day hospital centres on biomedical treatments to cure illness without bothering on children psychological needs (Dilani, 2001). Meaning that, emphases are on pathogenic treatment that concentrated on medical protocols, while this study proposes a salutogenic concept and approach. Figure 1.1, shows related studies that have used the salutogenic approach to explore different human behaviours in a setting, as such this study uses the concept by bring the biomedical and holistic approach to create an enabling setting to restore children health.

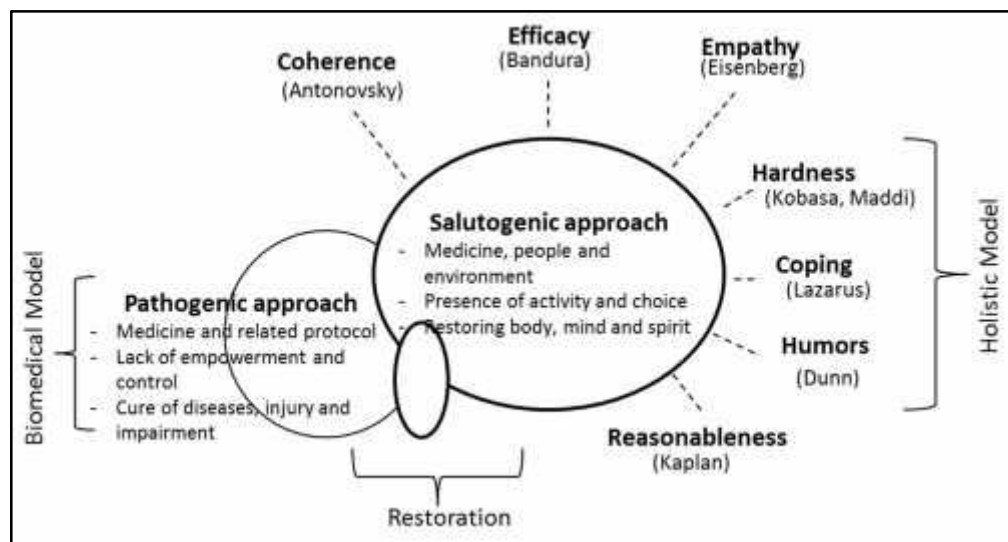


Figure 1.1: Holistic model of healthcare for bodily pain and mind

In addition, the hospital ward space arrangement in this research context allows for 6 or more beds in a cubicle, as such the children do not have space that will allow them to play. Moreover, there is no provision of features such as toys that supports the play needs of children (Adeyemi and Oyewole, 2014). Gardens play provision and other landscaping features used in advanced countries to meet children preference are often not sustainable and in most cases non-existent. The hospital wards are not provided with either play room indoors or outdoor play facilities. This is attributed to low awareness of its benefits, lack of implementing healthcare system guidelines, unbearable weather and climatic conditions (Dijkstra *et al.*, 2011). By and large, the researcher being from the field of architecture was keen to explore on how to utilise the children's hospital ward indoors to reduce the negative experiences of children to hospitalization. Studies by architects in healthcare settings focus more on privacy, impact of facilities on wellbeing, safety, sustainability, ventilation, flexibility, and innovations and so forth (Reiling *et al.*, Hughes, 2008; Schweitzer *et al.*, 2004). In order to improve hospitalized children functioning and behaviour, it is important to improvise ways to improve on the affordances of their hospital ward.

1.3 Research Gap

Studies on children health restoration that focused on setting or environmental attributes and features are mostly concentrated in the gardens outside the wards (Ivarsson and Grahn, 2012). In addition, the post-1980 literature on child's healthcare environment, acknowledged that playing in garden improves children functioning (McCurdy *et al.*, 2010). This is because the garden features fascinate and provided them satisfaction; in addition to ample play space for free movement and fresh air away from the hospital ward (Hug *et al.*, 2009). For example, study, in children's hospital and health centre in San Diego with children aged 2-17years by Whitehouse *et al.* (2001) indicates that the setting provides fascination and satisfaction to the children, reduces their stress and use their perceptions in improving the garden features. Likewise, Sherman *et al.* (2005) evaluated hospitalized children behaviour in a garden at cancer centre hospital in southern California with children aged 2-12 years. It was found that the structural features and elements made a few of the children active in their interactive activities and also reduces their stress. This indicates positive outcomes, thus shows restoration, which means a shift in physical, social and cognitive functioning of hospitalized children. The aforementioned studies conducted in the gardens have failed to notice the aspect of distance children have to walk from the ward to play outside in the garden.

Research that focuses on children values of health intervention indoors for restoration in relations to children physical engagement and interaction are less explored. Studies that use intervention measures such as artworks in relation to children emotional state, found that art is used as a resource to improve children hospital setting. Study by Bishop (2012) found artwork as a consistent drift in the design of children hospitals. It is mostly made of simple graphical expression on wall surfaces in hospital ward settings. This is being perceived by the children as a treasure that influences their experience of hospitalization (Bishop, 2012). Anes and Obi (2014) and Barkmann *et al.* (2013) also explore on the child's perception of hospital clowns as a play stimulants in children healthcare setting. In addition, studies have shown that incorporating the arts such as music can save money, improve hospitalized children experience and so forth (Gary, 2012). The research

concern of using an unstructured simulation such as artworks as an approach to reduce children, hospitalization stress is summarized in Table 1.1.

Table 1.1: Summary of studies on unstructured stimulants on children restoration

Author	Hospital	Restorative Benefits	Features
Barkmann <i>et al.</i> , (2013)	Hamburg Children hospital Germany	Clown intervention boosts morals and reduces stress in the patients Parents also benefitted from the intervention as it makes them for their worries	Hospital clowns
Anes and Obi (2014)	Beit Jala Government hospital Palestine	It offers the children needed play stimulus, self-confidence and courage	Red nurse doctors known as hospital clowns
Bishop (2012)	Children's Hospital at Westmead	Art is being perceived by the children as a treasure that influences their experience of hospitalization	It is mostly made of simple graphical expression on wall surfaces in hospital ward settings
Jennings, and Cain (2014)	University Hospital, Coventry, UK.	Natural sound and written source information were the most effective in relaxation	Converting subjective sound of hospital environment to a positive sound intervention

The studies mentioned in Table 1.1 uses the concept of unstructured stimulation where hospitalized children are not the ones directly participating. They only participate as spectators. As such, it does not have much effect on their physical activities and social interaction that may improve on their cognitive functioning (Dresler *et al.*, 2013). This is the research gap this study aim to fill. Therefore, comprehensive research study is required to explore a means of reducing children stress. This was through a pragmatist phenomenological based approach to health restoration in a setting which employs a structured stimulant such as loose play items (Mittelmark, 2014). The approach entails the direct involvement of the researcher with the children during data elicitation, subjective self-reporting on observed children behaviours and functioning (Atkin, 2005). Study of that which appears, a meaning in practical bearing, how context contributes to meaning, understanding the

lived experiences through extensive and prolonged engagement to develop pattern and relationship of meaning (Monstakas, 1994). Integrating play intervention in settings alongside the usual norms may support the children response to treatment. When a setting permits child activities at the same equilibrium with his mode, then such position is considered as a stepping point for restoration, which has been tested in gardens and artworks such as arts, music and clowns. This study will use loose play items to explore on children behaviour change and functioning in a context by converting the hospital ward cubicles to a play milieu. The phenomenon involving children experience of hospitalization has to be understood to provide a place that matches their needs and demands. Therefore, this thesis focuses on the affordances of a conventional hospital ward space and ward as a play milieu for restoration of hospitalized children in Nigerian.

1.4 Research Aim and Objectives

The aim of this research is to determine the restorative benefits of a hospital ward space affordances as a play milieu on stress reduction and the functioning of hospitalized children (aged 3-12).

To achieve the aim the following objectives are formulated:

- (i) To explore the behavioural responses of children on the affordances of the hospital wards without intervention;
- (ii) To identify the shift in children's behaviour and functioning as a result of the play milieu affordances in the ward; and
- (iii) To examine the perception of children and their caregivers on the use of the hospital ward as play milieu.

1.4.1 Research Main Question

How can a hospital ward space cum play influence children's behaviour and functioning in Nigerian healthcare setting? Other research questions are;

- (i) What are the challenges faced by hospitalized children in the wards?
- (ii) How can the ward as a play milieu influence children's behaviour and functioning during hospitalisation?
- (iii) What are the perception and preferences of children and their caregivers on the uses of loose play items in hospital ward setting?

1.5 Scope of Study and Limitations

To provide for the play needs of hospitalized children, the concept of creating play spaces within the hospital ward cubicles should be understood. However an understanding of the concept of play using loose items within a healthcare setting can be challenging. Since most hospital play settings are either outdoors or in a separate play room by the side or at a corner end of the ward. This was made clear with age appropriate toys for different age groups and gender. But, in this thesis, loose play items that were selected and approved by the research and ethical committee will be allowed into the experiment hospital ward. This includes, sandbox with sand and water in a jar, wooden and plastic blocks, writing and scribbling materials, and stones and shells of different sizes and colours. Children of age 3-12 years are the unit of analysis and the subject of the research because children in this age range are able to explore their settings by themselves. Even though hospitalized children in this research context are restricted and confined to their beds without a room to move around and play.

This thesis evaluates the indoor hospital ward space with features and attributes of loose play items in a hospital ward as play milieu. The data elicitation on children as they experience the ward space would include their overt and covert responses. The concern is to proper solution to relieve children, their stress of hospitalization in line with their plays preference as all children have the right to safe play in their settings or environment. Children right to play has been a global call by international organisations that are interested in the child's right. This is further elaborated in Article 7 of the United Nations Declaration of the right of the child by United Nations Children Fund (UNICEF), and in Article 31 of the Convention on the Right of the Child by International plays Association (IPA).

Therefore, providing play space for hospitalized children should not be based on only their needs and demands, but also as a right of a child for the opportunity to play in suitable, safe and healthy environments (Barton *et al.*, 2015). Inasmuch, the effect of the transformed indoor setting to the recovery of a sick child should be analysed depending on the right of child to have play opportunity. The provisions of formal playrooms do not satisfy the child's needs for varied play, continues playing is what they really need (Nicholson and Shimpi, 2015; Venninen *et al.*, 2013). Such approaches may only meet the demands of children in ambulatory care, but not children that are in non-ambulatory care. Early and middle childhood children play preference is related with the curiousness and creative stage of their life (Dziedziewicz and Karwowski, 2015). This can be considered as a factor why most playrooms in children's hospital wards are not fully utilized. In order to meet the kind of indoor play setting preferred by hospitalized children, their basic needs should head parallel with their settings arrangement or design, more especially the features that would provide continues and manipulative play behaviours. This research also explores and discusses hospitalized children conception of their ideal hospital ward settings for indoor play and restoration that represents their needs and preferences.

However, the scope of this study did not examine the behaviour and functioning of the hospitalized children base on gender, ethnicity, socioeconomic status, religion and cultural factors of the participants. This is because the government healthcare management sector provides equal available care and

treatment facilities for all hospitalized children. This is regardless of their gender, ethnicity, socioeconomic status, religion and cultural upbringing.

1.6 Method

The study focuses on indoor play and play space using loose play items as an important component for children behaviour and functioning for their restoration. Review of literatures in paediatric nursing, child psychology, environmental psychology, children, youth and environment, health and place, social and behavioural sciences, social science and medicine, environment and behaviour, environment and preventive health, preventive medicine and children geography. The methods to be used include interpretive analysis based on observation of children's behaviour and functioning involving video recordings and photographing. It also involves a survey questionnaire and interview with caregivers and as well as looking at children's drawings of ideal hospital wards setting. The aim is to determine the restorative effects of a hospital ward space as a play milieu with loose items on stress reduction to improve children's functioning.

The intricacy of the research concept involving play and play space with loose play items and also the evident play needs of children during their hospitalization necessitates creating and making a survey of the phenomenon. The purpose of this pragmatist research is to determine the restorative attributes of a children's hospital ward space as a play milieu with loose items. This involves stress reduction and the functioning of hospitalized children as a central phenomenon of their interaction and engagement with the ward play features. Therefore, this study focuses on the behaviour, functioning, needs and preferences of hospitalized children aged 3-12 years. This is because children at this stage can adapt to positive developmental features at their disposal, and this includes avenues for socialization and physical activities that will translate to better adulthood (Moore, 1978; Mathew, 1987).

In addition, children at this stage also have the ability to relate their preference, experience and feelings as they are able to recognise and explore the features in their settings (Chawla *et al.*, 2014). They know that the play is part of their inert behaviour that offer them joy and happiness (Collado and Corraliza, 2015). The difficulty of interviewing children, and the thought of having inconsistency in responses or a decline in response leads to proposing an observation using video recording, photographing and their drawings. In addition, survey questionnaire and interview session with caregivers. Figure 1.2 indicates the method used in the study to elicit children behaviour and function in a hospital ward setting.

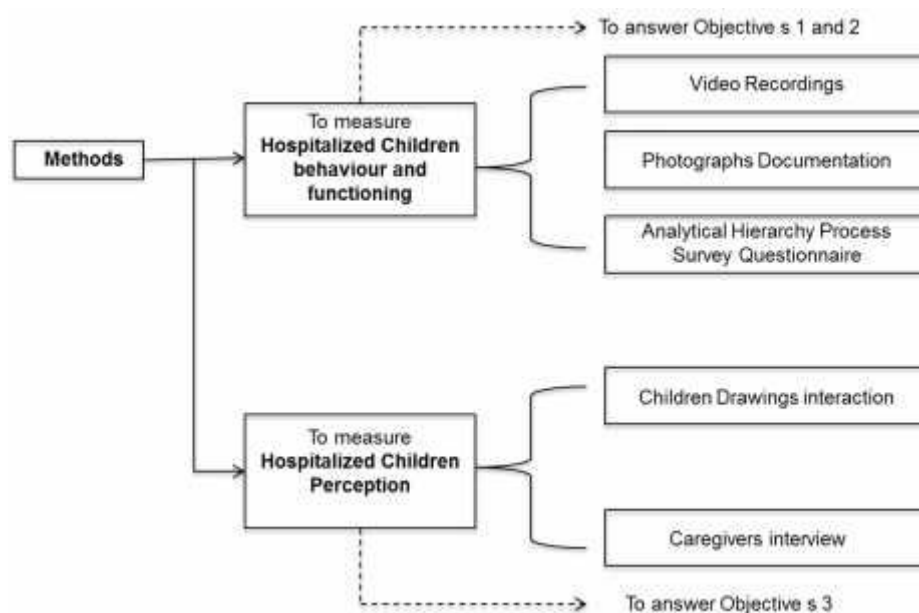


Figure 1.2: Methods used in eliciting data on settings behaviour and perception

1.7 Significance of Study

The study significance is related to findings that response to the research gap and the identified problems which children are facing in their hospital wards. The hospital serves as a place for treatment of ailments, however, the hospital setting and medical protocols causes stress for children. This is more evident in developing nations such as Nigeria that focuses more on pathogenic treatment (Ajovi, 2010).

However, creating a play space with loose play items may match the needs and demands of the children, leading to progressive behaviour and restoration. The implementation of such play intervention may reduce the hospitalized child's length of stay, as of 2012, data have shown that about 2,964,420 children between the 0-17 years are being admitted annually in Nigeria (Ezeonwu et al., 2014). Out of which 52.2% are boys and 42.8% are girls, common indicators for admission were malaria fever that constitute about 30%, typhoid fever 25%, sickle cells 20% and others 25% (Emodi *et al.*, 2014). For example, if the total length of hospital stay for this children would be reduced by 0.3%, then it means reduction in medication intake and care. As such there will be a lot of saving on the part of the government and the parents of the hospitalized children as well (Ulrich, 1984). Besides, the study is significant in addressing the statement of the problem and research gap relating to previous studies. In addition, the study would create awareness, especially in the Nigerian context, that hospital ward as a play milieu enhances children functioning which may fosters restoration.

1.8 Outline of Research Methodology

The study explores the features and attributes of loose play items on children behavioural responses involving their physical, social and cognitive functioning regarding their restoration during hospitalization. Therefore, the study is centred on early and middle childhood children within the age of 3-12 years as the unit of analysis. The study entails observing and documenting children's behaviour and functioning using video recordings and photographic documentation. This will be followed by an interview with caregivers and interaction with the children on their drawings. In addition, the caregivers' opinion will be drawn through a survey questionnaire. The study would utilize Analytical Hierarchy Process (AHP) judgment scale which is discussed in Chapter 4.

This is to establish the most expressed behaviour by children as noticed from the day to day experience of the caregivers working with children in the two hospital

ward settings. The data is analysed using content analysis and Experts' Choice II. It is anticipated that the information gained from the caregivers will lead to a better understanding of the phenomenon and the potentials that it will provide in fostering restoration. Subsequently, the caregivers are the ones postulating the hospital norms and medical protocols. As such, involving them in the research process will enlighten them to appreciate the research outcome. In sum, the research is conducted in six operational stages as shown in the summary of the outline of the methodology in Figure 1.3.

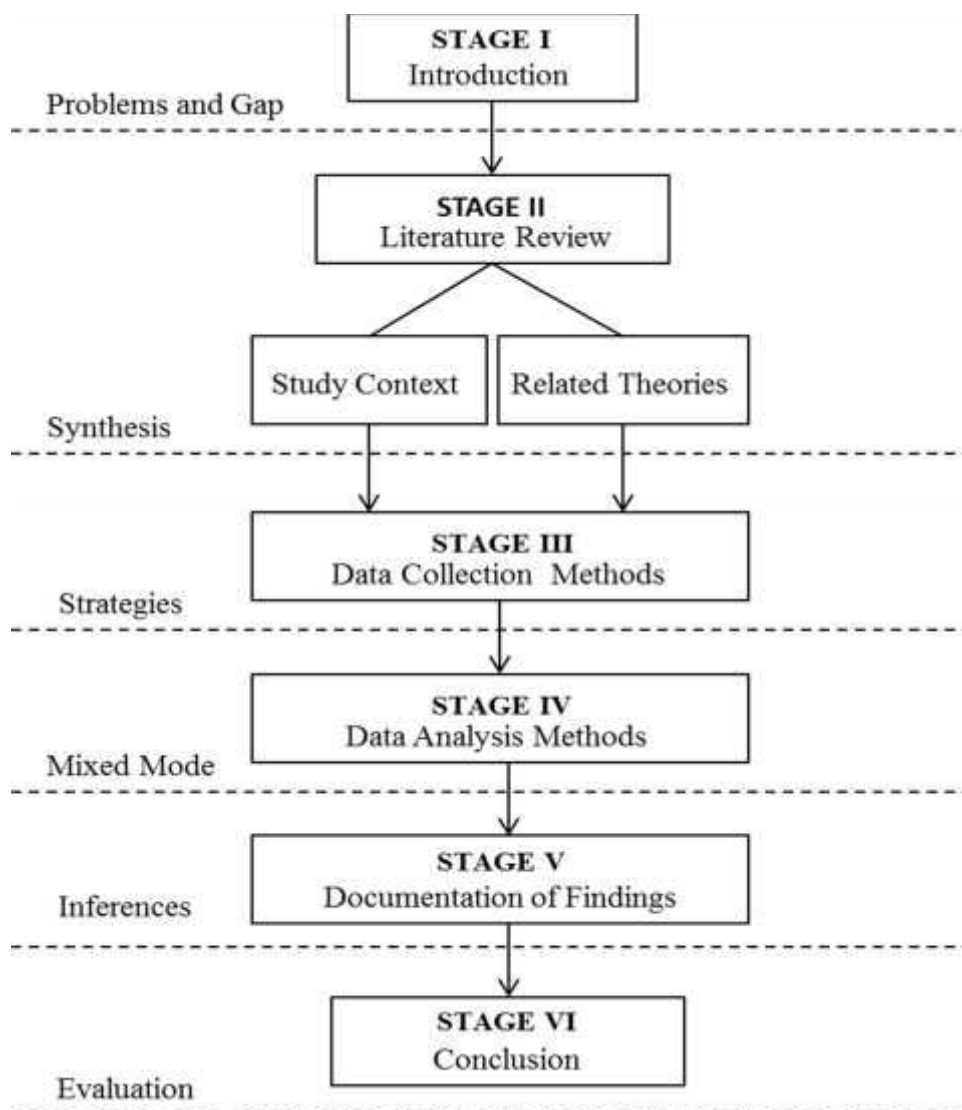


Figure 1.3: Summary of methodological research operational stage outline

1.8.1 Stage 2: Literature Review

The first phase of the literature review focuses on Nigerian healthcare setting and health provisions starting from pre-colonial period to what is obtainable at present. The review also covers the type of health institutions and health systems in relation to person environment relationship and health restoration. Children's perception and preference towards their hospital wards, their play preference and affordance due to features in the hospital ward. The second phase focuses on theories that relates to environment and settings that are found to permit restoration. This is based on the early Nightingale concept and subsequently children play as a phenomenon in their development. Implying the social ecology transaction through a pragmatist-phenomenological approach used in this study to assess children. These include their adaptation to loose play items, their coping abilities, relationship with other patients and their caregivers (Cook and Polgar, 2015). Thus, the study measures the result of events by interpreting the activities of children in a context (Goldstein, 2012).

1.8.2 Stage 3: Data Collection Method

To elicit data on children's behaviour and functioning on their response to the hospital ward settings prior to the introduction of loose play items and subsequently, five measurement strategies were employed. This includes (i) observing children behaviours and activities using video footage, (ii) taking photographs of children actions and activities, (iii) eliciting children preference and perception through their drawings, (iv) a survey questionnaire using Analytical Hierarchy Process judgemental scale, and (v) an interview session with the caregivers on their perception on the ward as a play milieu.

1.8.3 Stage 4: Data Analysis Method

The focus of the data analysis is to understand children situated freedom, actions and perception through the use of loose play items to support the evidence based hospital practice. This is to support children physical, social and cognitive functioning to foster their restoration. The analysis is to explore the usefulness of the phenomenon of creating a play space using loose play items. The data on children behaviours using video footage and photographs, that is, how the children behaved and interact prior to and after converting their hospital ward to a play milieu were analysed using interpretive content analysis. The data on children preference and their perception through drawings with that of the caregivers interviews were also analyse using interpretive content analysis. The Analytical Hierarchy Process judgemental survey questionnaire for exploring the most influential behaviour in children prior to, and after experiencing the play milieu were analyse using Expert Choice II.

1.8.4 Stage 5: Documentation of Findings

The target of the analysis is to explore the social ecology transaction using a phenomenological based approach on the benefits of ward properties and attributes on children health restoration. The findings are presented as follows:

- (i) Children's behaviour in hospital ward cubicle without play intervention in relation to their health restoration;
- (ii) Hospital norms and medical protocol influence on children coping with hospitalization in the ward;
- (iii) Features and attributes of ward cubicle with loose play items for children health restoration;

- (iv) Hospitalized children and their caregivers preference and perception regarding loose play items in the ward;
- (v) Caregiver's conception of the ward cubicle as play milieu for management and restoration of hospitalized children.

1.8.5 Stage 6: Conclusion

This is the final stage that concludes the thesis, the overall research finding including the theoretical and the practical implication of the study. It explains practical aspects that constitute the proposed model of child everyday functioning as a social ecological transaction phenomenon. Furthermore, the conclusion outlines recommendation for implementing ideal children hospital ward setting for their restoration. Finally, suggestion for future research areas on the study of hospital ward space as a child friendly setting in evidence based practice.

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