PRODUCT AND METHOD FOR EDUCATION ON MEDICAL PROCEDURES

FIELD OF INVENTION

The present invention is related to a product and method for educating patients, such as young children, on the various medical procedures that he/she or someone close him/her may have to undergo as part of their medical treatment or as part of general education. Primarily, it can assist in breaking down the communication barrier between the child and his/her guardian and/or medical practitioners. In addition, it may also be used by the general schools to engage their students on medical-related topics.

BACKGROUND

Children, especially young patients are often affected by a sense of immanent justice, which is a sense of self-reproach that their falling ill is a form of punishment for their misdeeds. Such unhealthy mindsets and the resulting stress could potentially cause young patients to reject medical treatment as a form of rebellion. In the case of blood-taking, some children are mistaken that blood taking is very painful or the drawing of blood will make them die. Medical practitioners have highlighted the importance of preparing children psychologically for the impending treatment.

Traditionally, this problem is resolved by hiring play specialists, who utilizes common toys to explain these medical procedures to them. The problem is also sought to be resolved by having volunteers bring cheer to these young patients by engaging them in games. However, these traditional methods are either expensive or are temporary fixes to the problem. The present product and method, on the other hand, would allow the play specialists, nurses and doctors to better communicate the medical procedures to the children at a lower cost. Furthermore, such a method would be more appealing to the child, allowing the child to overcome his/her psychological barrier in relation to medical procedures.

A child is also often confused when placed in a situation wherein someone close to him/her is now lying in a hospital bed and has tubes extending out of his/her body. The proposed product and method would allow parents/guardians/medical practitioners to engage the child and effectively communicate to him/her in their discussion on the present scenario and draw the child into discussing his/her fears.

The prior art in this field indicates that there is a strong desire to better engage the child in explaining the procedures that they or someone close to them are going to be subjected to. It should also be noted that huge amount of research and thought has been spent in this field over the years. Presently, the technology has culminated into various toys and/or methods for the purposes of educating these children.

However, most of the present inventions are usually unappealing or scary looking. Current prior art are bulky in design, scary with a choice of human-like face and expensive.

However, in the opinion of the inventor, most of the present inventions are either too expensive or are unappealing to a child. This implies that the demand for a better method with a more aesthetically pleasing toy with tactile properties which can engage the child more effectively is required to better educate the child on the various medical procedures. Hence, it is the inventor's goal that this method will provide a more cost-effective and time-efficient method of educating the child on the various medical procedures.

In addition, it should be noted that predecessors of this invention tend to utilize human-like features for the accompanying toy, which may result in creating fear in a child instead. This defeats the very purpose of engaging the child in educating him/her on the various medical procedures that he/she or someone close to him/her may be facing soon.

OBJECTS OF INVENTION

It is a primary object of this invention to provide a toy which is aesthetically pleasing and engaging to the young child.

It is a further object of this invention to provide a method to educate the young child on the various medical procedures that he/she is likely to undergo.

It is a still further object of this invention to provide a toy which has tactile properties to give it an intuitive touch, and which can enable the child to develop their social and motor skills.

It is a still further object of this invention to provide a mechanism which may be used to create a more realistic representation of the medical procedure(s).

It is still a further object of this invention to provide a method of storing the necessary instruments, which may be used as another form of engagement of the child.

It is still a further object of this invention to provide a more direct approach for demonstrating medical procedures with physical tools particularly to young children who are pre-verbal.

It is still a further object of this invention to encourage children to take ownership of their health care by educating them from an early age.

It is still a further object of this invention to utilize travelling and waiting time to prepare children for the medical procedures.

Still other objects and advantages of this invention will become clear upon review of the following description and the appended drawings.

SUMMARY OF INVENTION

According to a first aspect of the invention, aesthetically pleasing toy is proposed for education on medical procedures, the toy comprising:

a detachable set of model medical instruments and model human organ features securely accommodated within the toy for enacting out the medical procedures.

According to a preferred embodiment, the toy comprises:

a torso element further comprising:

a head element;

a pair of hand-like elements; and

a pair of leg-like elements.

According to a preferred embodiment, the toy further comprises a detachable backpack for further accommodating the set.

According to yet another preferred embodiment, the toy further comprises a magnetic/ metallic element disposed within the toy; and

a model stethoscope included in the set, the stethoscope further comprises:

a flexible tubing;

a pair of earpiece elements disposed at one end of the tubing;

a sensor element disposed at the other end of the tubing; and

a circuit board between the two ends such that when the sensor element is placed over the magnetic/metallic element, a heartbeat-like sound is triggered by the circuit board, the sound being perceivable with the earpiece elements.

According to yet another preferred embodiment the set comprises a model human blood circulation system. The blood circulation system further comprises a re-fillable container for holding a blood-like liquid to simulate the blood circulation system in humans.

According to yet another preferred embodiment at least a part of the hand-like elements is soft for enabling easy insertion of needles.

According to yet another preferred embodiment the toy further comprises printed transparencies or stickers that are stackable within the toy to represent human organ features.

According to yet another preferred embodiment the model human organ features are made with stuffed cloth elements.

According to yet another preferred embodiment the set further comprises an illuminating source to simulate medical procedures such as x-rays or to illustrate the model human organ features.

According to a second aspect of the invention, method of educating children on medical procedures comprising the step of employing the toy is proposed.

More details about these features will become apparent to those skilled in the art in the following detailed description of the illustrative embodiments exemplifying the best mode for carrying out the disclosure as presently perceived.

BRIEF DESCRIPTION OF DRAWINGS

In the following drawings, same reference numbers generally refer to the same parts throughout the different views. The drawings are not necessarily to scale, instead emphasis is placed upon illustrating the principles of the invention. In the following description, various

embodiments of the present invention are described with reference to the following drawings, wherein:

Figure 1A shows a front-side planar view of the toy according to an embodiment of the invention.

Figure 1B shows a side planar view of the toy at Figure 1A.

Figure 1C shows a back-side planar view of the toy at Figure 1A.

Figure 1D shows a planar view of a rear portion of the toy with the slots in the puzzle-like middle to accommodate the set.

Figure 1E shows a planar side view of Figure 1D.

Figure 1F shows a planar view of a front portion of the toy with the slots in the puzzle-like middle to accommodate the set.

Figure 1G shows a planar side view of Figure 1F.

Figure 2A shows a perspective view of the backpack according to an embodiment of the invention, when the cover flap is closed.

Figure 2B shows a perspective view of the backpack with the cover flap open.

Figure 3 shows planar views of a few model medical instruments according to an embodiment of the invention.

Figure 4 shows front views of transparencies or stickers that are stackable within the toy to simulate the human organ features.

DETAILED DESCRIPTION

The following description presents several preferred embodiments of the present invention in sufficient detail such that those skilled in the art can make and use the invention.

An embodiment of the invention provides a rabbit toy, which has a puzzle-like middle to contain the various instruments that can be used along with the toy to enact out the medical procedures. In situations where the medical instruments vary in its sizes and the puzzle-like middle is not a feasible option for storing them, a backpack is also provided to contain the instruments instead.

The medical instruments may include a toy stethoscope which provides an audio sound similar to that of a heartbeat. The "heartbeat" sound will be played when the stethoscope's ~~senor~~ sensor end presses against the rabbit's chest / heart area. This process allows the child to engage further in the process by playing the role of a doctor. The toy stethoscope consists of a pair of earpiece, a circuit board hidden in the middle and a sensor at the end. A magnet / metal piece is hidden within the Rabbit's chest area (either within the body or on the clothing itself) – this metal / magnet piece will trigger the sensor to play the "heartbeat" sound at the earpiece.

Further, the rabbit toy features a hidden re-fillable ~~bag~~ container, which can be used to simulate the imagery of "blood" flowing through the veins and/or tubes. The hands of the rabbit toy will be kept soft to allow the easy insertion of needles.

Despite the conscious choice to keep the doll's face non-human, i.e. a rabbit, the basic human anatomy of 2 hands, 2 legs and 1 torso is kept in the doll. This is to facilitate communicate between child patients and caregivers or medical professionals – allowing the child to physically point out where their body hurt when they are unable to articulate sufficiently.

The internal human organs are created in 2 ways. First, printed in various layers of transparency or stickers to reflect different groups of organs. Eg. Digestive organs transparency layer, respiratory organs transparency layer. Second, the cloth stuffed with cotton is sewed together to create colourful renditions of the organs. It is a soft, playful and children can familiarize themselves with the organs by arranging them.

Additionally, the human anatomy will be made and printed on stickers, which can then be used on the rabbit toy to illustrate the positioning of these organs. The rabbit toy can also feature an illuminating source to simulate medical procedures such as x-rays or act as an

additional tool used to illustrate the position of the human anatomy with the use of transparency sheets.

The invention aids in explaining medical procedures to a child and guides them to ask questions on the same, preparing them psychologically for procedures that they may need to undergo. It is also an effective way to prepare the child for an injection, as the invention allows the child to have sight of the needle and understand how it would be used. It similarly assists in getting the child to effectively communicate their ailments to the medical practitioners, such as indicating on the toy (with the basic human anatomy of 1 torso, 2 hands + 2 legs) physically where the pain is felt on which part of the body specifically, etc.]

A rabbit-like embodiment of the toy 100 for educating children on medical procedures is shown in Figures 1A to 1G. The torso element 130 has a rabbit-like head element 110, a pair of hand-like elements 120 and a pair of leg-like elements 140. A set of model medical instruments 180 and model human organ features 170 are securely accommodated in a slotted puzzle-like middle 165 or a cavity 160 within the toy 100 for enacting out medical procedures. In this embodiment, the puzzle-like middle 165 or the cavity 160 is provided within the torso element 130 and extended to the head element 110. The slotted puzzle-like middle 165 or the cavity 160 may be opened and closed by operating a zip 190 as shown. The puzzle-like middle 165 may be accessed by opening the toy 100 in two portions. A front portion is illustrated with a planar front view in Figure 1F and with a side view in Figure 1G. A rear portion is illustrated with a planar view in Figure 1D and with a side view in Figure 1E. The set of model medical instruments 180 and model human organ features 170 may be securely fitted in slots within the puzzle-like middle 165. In this embodiment, as illustrated in Figure 2A, a detachable backpack 200 for accommodating additional components of the set is shown with the cover flap 210 closed. The same is shown with the cover flap 210 open as shown in Figure 2B. In this embodiment, a magnetic/ metallic element 150 is disposed in the torso element 130. The magnetic/ metallic element 150 is hidden within the toy's 100 chest/heart area either within the body or on the clothing itself. As shown in Figure 3, the set of model medical instruments 180 includes a model stethoscope 300. The model stethoscope 300 has a flexible tubing 330, a pair of earpiece elements 340 disposed at one end of the tubing 330, a sensor element 320 disposed at the other end of the tubing 330 and a circuit element 310 between the two ends such that when the sensor element 320 is placed over the magnetic/metallic element 150 an audio sound similar to that of heartbeats is triggered by the circuit board 310. This sound is perceivable with the earpiece elements 340. This process

allows the child to engage further in the process by playing the role of a doctor. In this embodiment, the toy 100 also has a model human blood circulation system (not shown) included in the set, the blood circulation system further comprising a re-fillable container for holding a blood-like liquid to simulate the blood circulation system in humans. In this embodiment, the toy 100 also has at least a part of the hand-like elements 120 that is soft for enabling easy insertion of needles. As shown in Figure 4, in this embodiment the toy 100 also has printed transparencies or stickers 410, 420 that are stackable within the puzzle-like middle or the cavity 160 to simulate the human organ features 170. The model human organ features 170 may also be made with stuffed cloth elements not shown to give a 3-dimensional feel. An illuminating source not shown may be included in the set to simulate medical procedures such as x-rays or to enhance illustrating the model human organ features 170.

As to further discussion of the manner of usage and operation of the present invention, the same should be apparent from the above description. Accordingly, no further discussion relating to the manner of usage and operation will be provided.

While the foregoing description presents preferred embodiments of the present invention along with many details set forth for purpose of illustration, it will be understood by those skilled in the art that many variations or modifications in details of design, construction and operation may be made without departing from the present invention as defined in the claims. The scope of the invention is as indicated by the appended claims and all changes that come within the meaning and range of equivalency of the claims are intended to be embraced therein.

CLAIMS

1. Aesthetically pleasing toy (100) for education on medical procedures, the toy (100) comprising:
   a detachable set of model medical instruments (180) and model human organ features (170) securely accommodated within the toy (100) for enacting out the medical procedures.

2. The toy (100) according to claim 1 comprising:
   a torso element (130) further comprising:
   a head element (110);
   a pair of hand-like elements (120); and
   a pair of leg-like elements (140).

3. The toy (100) according to claim 1 further comprising a detachable backpack (200) for further accommodating the set.

4. The toy (100) according to any one preceding claim further comprises:
   a magnetic/ metallic element (150) disposed within the toy (100); and
   a model stethoscope (300) included in the set, the stethoscope (300) further comprises:
   a flexible tubing (330);
   a pair of earpiece elements (340) disposed at one end of the tubing (330);
   a sensor element (320) disposed at the other end of the tubing (330); and
   a circuit board (310) between the two ends such that when the sensor element (320) is placed over the magnetic/metallic element (150) a heartbeat-like sound is triggered by the circuit board (310), the sound being perceivable with the earpiece elements (340).

5. The toy (100) according to any one preceding claim further comprises:
   a model human blood circulation system included in the set, the blood circulation system further comprises a re-fillable container for holding a blood-like liquid to simulate the blood circulation system in humans.

6. The toy (100) according to claim 2 wherein at least a part of the hand-like elements (120) is soft for enabling easy insertion of needles.

7. The toy (100) according to any one preceding claim further comprising a plurality of printed transparencies or stickers (410, 420) that are stackable within the toy (100) to represent human organ features.

8. The toy (100) according to any one claim 1 to claim 6 wherein the model human organ features (170) are made with stuffed cloth elements.

9. The toy (100) according to any one preceding claim wherein the set further comprises an illuminating source to simulate medical procedures such as x-rays or to enhance illustrating the model human organ features (170).

10. Method of educating on medical procedures comprising the step of employing the aesthetically pleasing toy (100) according to any one preceding claim.