Summary

Video games are interactive distraction technique through which the child engage the and utilize more attentional resources than passive tasks, which involve active problem solving, may be more likely to interfere with pain exacerbating maladaptive thought processes, it can used to prepare children for procedures and enhance their cooperation during the process.Video and electronic games are multisensory toys involving audiovisual, kinesthetic, and tactile senses, requiring a child's active cognitive, motor, and visual skills ***(Zeroth et al., 2019).***

This study aimed to evaluate effect of using video games for reducing pain among children during invasive procedures.

Research hypothesis:

Children who are used video games distraction are expected to have less intensity of pain than those are not used video games distraction during invasive procedures.

Subjects and Method

The subjects and method of the current study was discussed under the following designs:

I- Technical design.

II- Operational design.

III- Administrative design.

IV- Statistical design.

I- Technical Design:

The technical design of the current study was included; research design, setting, subject as well as tools of data collection.

Research Design

A quasi-experimental design was utilized in this study.

Setting

This study was conducted at Pediatrics Medical Departments of Benha University Hospital. It is allocated at 4th floor, divided into three units. Each unit consists of 2 rooms, the first unit contain 12 beds, second unit contain 11 beds and third unit contain 14 beds.

Subjects

A Purposive sample composed of 100 hospitalized children and their mothers, were selected from the previously mentioned setting in the current study.

Inclusion criteria

1. Both sex male and females included.
2. Thire age 6-12 years.
3. Children under going invasive procedure.
4. Conscious and able to communicate.

Exclusion criteria

1- Hearing or vision impairments and mental retardation.

2- Fainting, seizures and heart conditions.

3- Motor disability that would interfere with using the video game equipment.

4- Children requires immediate treatment.

5- Child who received analgesics at last 6 hours before invasive procedure.

Tools of Data Collection:

Data were collected through the following tools:

Tool (I):A structured interviewing questionnaire sheet

It consists of five part.

Tool (II): Face rating scale for pain (Appendix II):-

It was adopted from ***Wong baker (1998),*** to assess child pain intensity, the scale contains six faces aligned in increasing pain intensity at equal intervals, children had to indicate the face corresponding to their pain during and post invasive procedure. This information was transformed into a numerical value from zero for no pain to 10 for sever pain.

Tool (III): Visual analog scale for measuring child' self-report of video game distraction (Appendix III):

It was adapted from visual analogue scale for pain ***Newell, (2018),*** it was modified by the researcher to assess how much child distracted. Immediately after invasive procedure ask participant child to mark the place on the line that indicates the level of his or her distraction right know.

Field work

- The actual fieldwork was carried out over 3 months' period, from beginning of June (2019) till end of August (2019).

- The researcher was available at the study settings, three days per week.
- Throughout the morning shift for data collection from 9 am to 2 pm for constructive 3 days and started by introducing herself to the child and his mother then informing them about the aim of the study.
- The time consumed for completion of questionnaire ranges from 10-15 minutes. Time consumed for compelet assessing child pain during invasive procedures in previously mentioned setting takes from 15 to 30 minutes.

Statistical design

Finding of the current study can be summarized as the following:

1. more than half (52.0% & 64.0%) of both the study and control groups were age between 6 ≤ 8 years, with mean of age of the study was 8.77±1.90 and in the control group was 8.28±1.81.
2. Male were equal females in the study group, while, more than half (52.0%) of the control group were males.
3. More than half (58.0 % 56.0 %) of the study and control group respectively had satisfactory level of knowledge about pain.
4. There were a highly statistically difference between the studied children in both the study and control groups in relation to their vital signs pre and post invasive procedure.
5. There were highly statistically significant difference between the studied children in both the study and control groups in relation to their pain intensity score during and post invasive procedure after playing videogames.
6. Almost (96.0 %) of children in the study group had extreme distraction.

7. There were statistically significant differences between studied children's pain intensity and their age.

Conclusion

- **Based on the current study findings, it were concluded that:**
- Video games are effective method in decreasing children intensity of pain.
- There were statistical significant difrrence between study and control groups regarding effect of video games distraction on children's vital signs.
- There were statistically significant relation between children's pain intensity and their age, where children's pain tolerance increased with ages.

Recommendations

In the light of findings of the current study, the following recommendations were suggested:

For Children

- Video games distraction should be applied on large group of children during invasive medical procedures for to generalize the results.

For nurse

- Provision of training program for nurses about effectiveness of video games distraction should be conducted during providing care for children during painful medical procedures.

For research

- Replication of such study on a lager and different age group of children to be able to generalize the results of current study.