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A Study to Assess the Knowledge Regarding Telepediatrics among Staff Nurses in Selected Hospitals in Tumkur, Karnataka

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Abstract

Objective: To assess the knowledge of staff nurses regarding telepediatrics in selected hospitals in Tumkur *Methods:* In the present study a quantitative research approach was used to assess the knowledge regarding telepediatrics among staff nurses. The study is based on quantitative approach and used descriptive design. 60 samples are selected by non-probability convenient sampling technique. The tool was prepared and validated by experts in respective fields and there liability of tool was established, the tool consists of two parts. Pilot study was conducted in selected hospitals Tumkur from 04.11.2011 to 10.11.2011 from 8 am to 6 pm with the sample size of 6 subjects. The main study was conducted in selected hospitals in Tumkur city from 20th Novemberto 20th December2011 with the 60 samples. The data collection was ended, grouped, tabulated, and interpreted according to the objectives of the study. Descriptive and inferential statistics were used for data analysis. *Results:* The overall knowledge aspects 56 (93.33%) of staff nurses had inadequate knowledge, 4 (6.67%) had moderately adequate knowledge and none of the subjects had adequate knowledge regarding telepediatrics. The overall mean value of knowledge telepediatrics was 15.67; median was 16.00, and a standard deviation of 4.091. *Conclusions:* The changes in the system such as advances in telepediatrics and its applications posea great need for updating the knowledge of those who practice the profession. Initiatives should be made from both nurses and management to passout the new knowledge. Nurses should find more time from their work schedule to study regarding telepediatrics by managing the time properly. In-service education should be demanded attended if gets any such opportunities

Keywords: Telemedicine; Telepediatrics; Nurses; Knowledge; Hospital.

Introduction

With the advances in technology, the delivery of health care to even remote locations has become feasible through methods like telemedicine. Telemedicine is practicing medicine at a distance, but this simple definition does not capture the complexity of the discipline. Telemedicine spans the spectrum of health care environment; the patient home, rural health Centre, community physicians and hospitals and tertiary care centers [1].

Telemedicine generally refers to the use of communications and information technologies for the delivery of care. Care at distance (also called in absentia care), is an old practice which was often conducted via post. There has been a long and successful history of in- absentia health care which, thanks to modern communication technology, has evolved into what we know as modern medicine. In its early manifestations, African villagers used smoke signals to warn people to stay away from the village in case of serious disease. In the early 1900s, people living in remote areas in Australia used two way radios powered by a dynamo to communicate with a royal flying doctors of Australia [2].

Telemedicine in pediatrics as the use of electronic communications technology to provide and support health care for infant, children,adolescent, young's adults when distance separate the practitioners from the patients, guardian, parents, or referring practitioner. When telemedicine researchers and developers apply their efforts to pediatric applications one would expect that there would be

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significant benefit to children with special needs or children residing in underserved areas [3].

Telepediatrics, which has the potential to improve pediatric care if expert knowledge is not locally available, involves transfer of information between two or more locations, to aid diagnosis or management and/or to allow continuing professional development and education. Paediatric benefits from previous telemedicine experiment such as that gained by some developed nations with sparsely populated, remote areas, where means of communications are simple and socio economic conditions poor [4].

To certain extend,now a days there is no enough pediatric nurses in the field of telepediatrics. Children's would not like to stay in hospital environment. So they need a care at distance (in absentia care). So the pediatric nurses should know how to deal the pediatric patient and their families by means of telemedicine services. But the criticism is, even the well expert pediatric nurses also do not have enough knowledge regarding telepediatrics. So the need of the study is relevant in present days.

Materials and Methods

Research Approach

In the present study a quantitative research approach was used to assess the knowledge regarding telepediatrics among staff nurses.

Research Design

The research design is concerned with the overall framework for conducting the study. Descriptive survey design is adopted for the present study.

The purpose of a design is to achieve greater control and thus to improve the validity of the study in examining the research problems. The researcher selected Non Experimental research design for the study

Study Setting

The study was conducted at selected District hospital, Shridevi hospital, and Siddharamanna hospital in Tumkur

Population

The population of the present study comprised of staff nurses working in the District hospital, Shridevi hospital, and Siddharamanna hospital in Tumkur.

Sample Size

The sample size of the present study consists of 60 staff nurses working in the selected study settings.

Sampling Technique

In the present study non-probability convenient sampling technique was adopted to select the sample

Description of the Tool

The tool was prepared and validated by experts in respective fields and the reliability of tool was established, the tool consists of two parts.

Part–I: It consists of 10 items related to demographic data which include age, gender, professional education status, computer knowledge, experience, area of residence,spouse'sjob, in-service education related to telepediatrics, current area of working, and sources of information.

Part–II: It is again divided into 2 Sections which are related to the knowledge regarding telemedicine and telepediatrics

Section A: It consists of 13 items related to the knowledge regarding meaning, origin, and general information regarding telemedicine

Section B: It consists of 29 items related to the knowledge regarding telepediatrics

Results

Analysis is defined as categorizing, ordering, manipulating and summarizing of data and reduces it to intelligible and interpretable form so that research problem can be studied and tested including relationship between variables.

Table 1: Knowledge regarding telepediatrics

Sl. No	Maximum Possible Score	Mean	Median	S.D	Range	Mean S.C %
Section-A	13	7.081	8	2.547	2-11	54.44%
Section-B	29	5.127	5	1.868	1-10	28.43%
Total	42	15.67	16	4.091	7-23	37.30%

This area deals with the analysis and interpretation of data obtained from 60 subjects in order to assess the knowledge regarding telepediatrics. Descriptive and inferential statistics such as mean, median, standard deviation, standard error of mean, percentage, and chi-square test were used to analyze the collected data.

Depicts the Knowledge of Subjects Regarding Telepediatrics

The above table shows the level of knowledge of the subjects with regard to Telepediatrics. As per the table the staff nurses knowledge regarding telemedicine is; median 8, mean 7.081, standard deviation 2.547 and mean percentage score 54.49% where maximum possible score was 13. Considering telepediatrics; the mean is 5.127, median 5, standard deviation 1.868, and mean percentage score 28.43% where the maximum possible score was 29. The overall score displayed mean 66 of 15.67, median of 16, SD of 4.091, and a mean score percentage of 37.30% where the maximum possible score was 42.

Associate the Level of Knowledge Regarding Telemediicne, and Telepediatrics

Only 13 (21.67%) subjects had adequate knowledge regarding telemedicine with a mean score percentage of 77.51%. 26 (43.33%) and 21 (35%) of the samples had moderately adequate and inadequate knowledge respectively with 61.54% mean score for moderately adequate knowledge samples group and 31.5% for inadequate knowledge group.

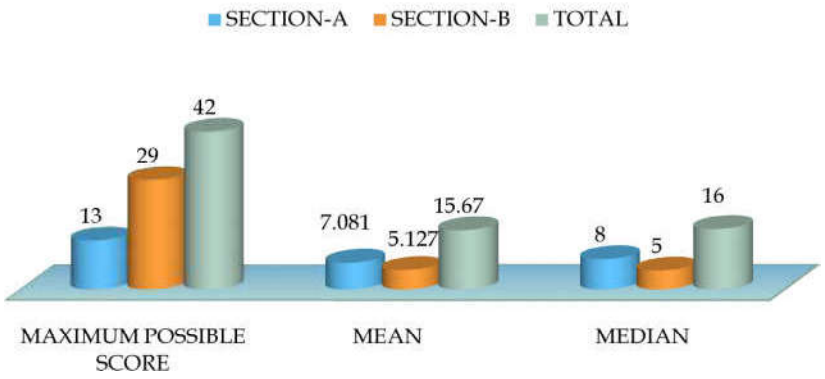

Fig. 1: Knowledge regarding telepediatrics

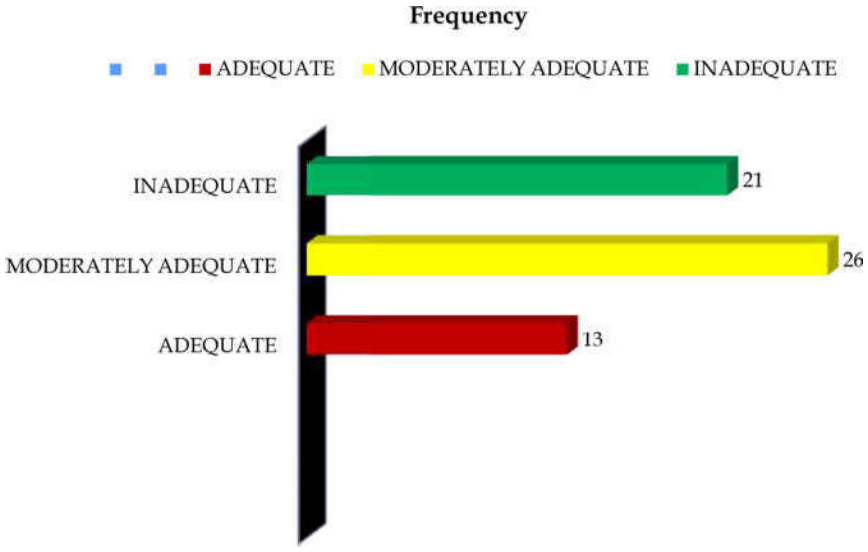

Fig. 2: Distribution of knowledge score regarding telemedicne

Table 3: Distribution of knowledge score regarding telepediatrics

Sl. No.	Knowledge Score Regarding Telepediatrics	Frequency	%	Mean score %
1	Adequate	0	0	0
2	Moderately Adequate	1	1.67%	55.56%
3	Inadequate	59	98.33%	27.97%

Table 4: Distribution of overall knowledge score

Sl. No.	Overall Knowledge Score	Frequency	%	Mean Score %
1	Adequate	-	-	-
2	Moderately Adequate	4	6.67%	52.98%
3	Inadequate	56	93.33%	36.18%

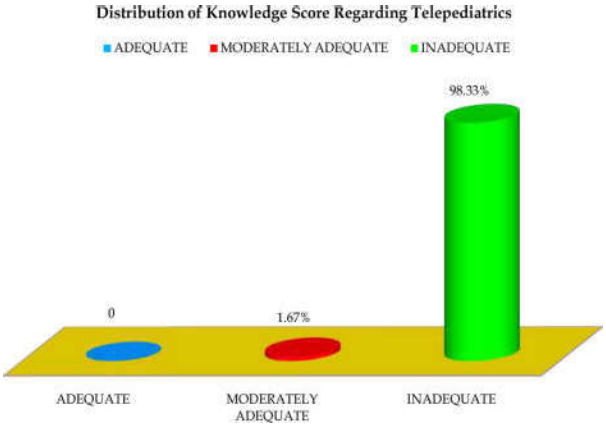

Fig. 3: Distribution of knowledge score regarding telepediatrics

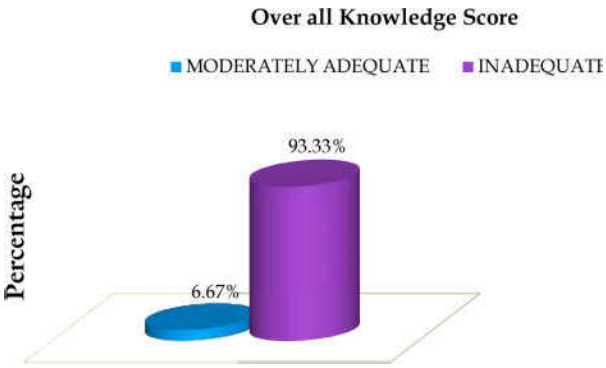

Fig. 4: Distribustion of Overall Knowledge Score

Considering knowledge regarding telepediatrics, none of the samples had adequate knowledge, whereas, only 1 (1.67%) with a score percentage of 55.56% had moderately adequate knowledge leaving all the other 59 (98.33%) in the inadequate group with the mean score percentage of 27.97%

Distribution of overall knowledge score suggest that most of the samples had inadequate overall knowledge regarding telepediatrics accounting 56 (93.33%) of the subjects. only 4 (6.67%) had at least moderately adequate knowledge and no samples had adequate knowledge. the result was almost same in the sub-divisions of the tool too, which suggest the considerable lack of knowledge among staff nurses regarding telemedicine, telepediatrics, though some nurses had an adequate knowledge regarding telemedicine, which did not reflect in related fields, the inadequate category outplayed with considerable margin.

Discussion

This study was descriptive in nature. A total of 60 staff nurses were selected by using non-probability convenient sampling technique from selected hospitals Tumkur. After the selection of sample, the structured questionnaire method was used with the help of instrument.

Knowledge of staff nurses regarding telepediatrics was assessed based on the knowledge score after the test using structured questionnaire. The data shows that the mean score regarding general telemedicine is 7.08 with a maximum possible score of 13. The mean score percentage is 54.49%. Considering the telepediatrics, the mean score percentage is just 28.43% with a mean of 5.12 on an 18 point scale. Knowledge regarding applications of Telepediatrics shows a mean score percentage of 31.51 with a mean score of 3.47 where the maximum possible score was 11. The over all knowledge gives a 37.30 mean score percentage with a mean score of 15.67 over 42. The results show that the samples knowledge regarding telepediatrics is verylow.

Based on the present study's revelations, out of 60 staff nurses, 4 (6.67%) had moderate knowledge and 56(93.33%) had in adequate knowledge regarding over all telepediatrics aspects.

But the staff nurses knowledge regarding telemedicine depicted 13 (21.67%) with adequate knowledge and 26 (43.33%) with moderately adequate knowledge.

Conclusion

Telepediatrics is not new, but, certainly, it is now. Due to the advancements in the fields of information technology and the computer science, automated devices have evolved to be an essential partinany institution. In this changing situation and competitive profession, nurses should enable themselves to deal with the changes in the field of nursing and should keep up with the emergency of telepediatrics. The present study reveals that most of the subjects are having in a dequate knowledge in this aspect.

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For Compliance with Ethical Standards

Conflict of Interest: None

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