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Original Research Article

Assessment of the need and effectiveness for nutritional counselling through Swasthya Poushan webportal for mothers of under five in Mysuru

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ABSTRACT

Background: Child growth and development is multifactorial influenced by the environment, living conditions, socio-demography and various other demographic factors. Infant feeding practices breastfeeding practices are important components to be addressed. Therefore, online counselling provides a good service for mothers to access useful information. Objectives of the study were: to assess the need and effectiveness of an online nutritional web portal for under five mothers, and to find the barriers in the usage of the website.
Methods: It was a quasi-experimental study, for a duration of one month. It was conducted in JSS urban primary health centre, under the department of community medicine in Medhar bloc. Necessary consents from the participants were taken. An online self-structured questionnaire was assessed pre and post the intervention. Study duration was for one month.
Results: The major findings from the study shows that only the educated class of mothers, i.e. 6 of the 30 mothers went through one round of online nutritional counselling. They did find counselling useful for further practices and there was an increase in their knowledge. Among those who didn't access the website, they cited housework, not aware and discomfort with the website as their reasons not to use.
Conclusions: There is surely a need for online nutritional counselling for mothers with under five, as it will provide them quick access to valuable information regarding feeding. There are many barriers, one is awareness and education on website usage and linking it to the individual needs.

Keywords: Under five, Mothers, Online, Counselling, Weaning

INTRODUCTION

Child growth and development is multifactorial influenced by the environment, living conditions, socio-demography and various other demographic factors. In a country like India, it is even more evident, with global hunger index 2017 showing India ranked 100 of 119 countries. As of 2020, rate of stunting still stands at 38.4%.[1]

Many of the undernutrition and wasting are attributed to the infant feeding practices, and the breastfeeding practices during the first year. It has been seeing that inadequate breastfeeding or lack of exclusive breastfeeding is one of the main concerns for the growth stunting and early development, which in turn leads to a delayed development in the child. Development in the early years is always crucial and leads to either improved or stunted development in their later years.[2]

In this regard, maternal nutrition during breastfeeding plays an important role, and also maternal knowledge and their education play a vital role in the child's development. A good knowledge can prevent anaemia, vitamin deficiencies and maintain growth. Maternal knowledge seems to play an important role in this regard.[3]

It is understood that promotion of breastfeeding, behaviour change communication, complimentary feeding, counselling has shown a significant improvement in growth and development of the child. With adequate counselling and communication to the mothers, there will be support and guidance for the mothers as well whenever their queries need to be addressed.[4]

With the recent increase in technology, and its common use, child feeding guide using the internet/web is a natural way of reducing the childhood feeding problems and also helps the mothers to reduce the stress and workload. It provides for quick access, especially considering the working mothers, where they hardly have any time for themselves, and in this fast routine, it will be helpful and a guide for infant and child feeding. It could provide them the support during their busy routine till they get back to a much more relaxed routine and spend more time with their kids.[5]

Nutritional counselling to mothers is an effective tool for increasing maternal knowledge and practices on optimal child feeding. It was found that nutritional counselling had a positive role on increasing IYCF practices which might have resulted in significant reduction in stunting prevalence. With counselling, mothers will know what foods are good for their child, and what alternatives can be given. Regular counselling sessions will help guide the parents in this process and help in reducing the prevalence of stunting.[6]

It also provides easy access, affordability and regular information for the same. M-health nutritional counselling holds great potential to fill the gaps in the healthcare in our country and must be explored further.[7]

The quality of maternal counselling tells that there are many factors for the improved quality, the format, the duration, frequency and the content, training of health workers and supportive supervision all play a role in improved quality. More attention is needed to integrate the supervision mechanism, surveys and evaluations to improve the quality of the counselling. Newer mediums of access like the internet are a very useful method considering that it is a common day practise in everyday activities of the mother.[8]

Sustaining breastfeeding and infant feeding will require sustained efforts and dedication over a long term and this will require efforts by the community health worker. Regular follow ups visit by the CHWs to mothers provide support and encouragement which are needed to overcome social barriers. The barrier here is of time management for the working parents and an online presence will help overcome that barrier by giving them the information at their convenience.[9]

This study is designed to determine the effectiveness of the web portal offering nutritional counselling and information to the mothers of under-five regarding nutrition and breastfeeding.

Objectives

Objectives of the study were: to determine the effectiveness and the need of nutritional web portal for under five mothers in Mysuru, and to identify the barriers in usage of the site.

METHODS

This study is a quasi-experimental study. It was done between September 2022-December 2022 for a duration of 3 months.

The study participants were selected using convenient sampling technique. They included mothers who had children under the age of five years, irrespective of the birth order or the mode of delivery. Exclusion criteria included if the child had some genetic abnormalities.

Study setting and method of collection was in JSS Hospital, Mysuru. Study will be started after obtaining necessary permission.

After obtaining consent from residents' data was collected from them. Data pertaining to the age, type of family, birth order, number of siblings, socio economic status was collected from them through pre tested semi structured open questionnaire.

Information regarding their usage of the website was obtained through semi structured questionnaire. It included their socio-demographic variables, what was the usual child details regarding the activity of the child, then there were questions regarding the practises by the mother regarding deeding i.e. if they had exclusive breastfeeding, what were the weaning foods which they gave, what was the frequency of breast feeding. Then there was section on website usage, did they use the website or no, what were the reasons/concerns for not using the website, of they did were they satisfied and what areas would they like to have counselling regarding. It was done through interview method pre usage and post usage of website for a duration of one month.

The participants were first notified with a phone call, that they would be receiving the website to their WhatsApp numbers and they were explained the services of the site ie they would get online counselling services if they went to the website with nutritionists and could call and clear their concerns about lactation, complementary feeds and other child feeding practices. They were also told that there was

educational information available on the website which they could use for the same. The pre questionnaire was also filled during the same time. After that, the participants were only called after 15 days, just to follow up if they had used the site or reminded and if not again were told about the services available. Then the participants were called after 15 days, which would become one month.

At the end of one month, the participants were called again and asked to fill the questionnaire again. It was the post questionnaire results.

For statistical analysis, data obtained will be entered in Microsoft excel spread sheet followed by analysis using statistical package for the social science (SPSS) version 22 (licensed to JSS Medical College). The demographic characteristics such as age, gender, and occupation will be represented using arithmetic mean, standard deviation and percentages. The possible associations between the selected demographic variables (age, gender, and education) will be found out using Chi square test.

RESULTS

Out of 30 mothers, 7 belonged to age group 20-25, 15 belonged to 26-30 and 8 belonged to 31-35. They are all from the Mysuru region (Table 1).

When it comes to occupation, 27 (90%) of the mothers were housewives and remaining 3 of them worked as doctors.

Among the fathers' occupation, 20 (66.66%) were daily wagers, 7 (23.33%) were small business owners and 3 of them were doctors.

28 (93.3%) belonged to Hindu religion, one to Hinduism and one to Christianity.

Table 1: Age distribution of mothers.

Age distribution	Frequency
20-25	7
26-30	15
31-35	8
Total	30

12 (40%) have completed high school, 6 (20%) are illiterate, 7 (23.33%) are primary and 5 (16.66%) have completed graduation (Table 2).

Table 2: Education status of the mothers.

Education	Frequency
Illiterate	6
Primary	7
High school	12
Graduate and above	5
Total	30

23 (76.66%) belonged to age group 2-5 years, 5 (16.66%) to 0-6 months and 2 (6.66%) belonged to 6 months to 2 years (Table 3).

Table 3: Age groups of the children.

Age of child	Frequency
0-6 months	5
6 months-2 years	2
2-5 years	23
Total	30

The birth weight of 28 (93.33%) were normal and 2 of them were underweight.

Out of 30 mothers 12 (40%) were normal delivery and the rest 18 (60%) were caesarean section.

14 (56%) were primi, 7 (28%) were having their second child and 4 (16%) of them were having the third child.

Table 4: Activity of child pre and post intervention.

Activity of child (hours)	Pre	Post
1-3	4	4
4-6	18	18
>9	8	8
Total	30	

Frequency of feeding pre and post feeding: 5 times:6 >5 times: 21. There was no change.

Weaning foods: rice, dal, milk, vegetables, potato.

All of the mothers started weaning after 2 years and continued followed breastfeeding practices till the age of 2 years.

Table 5: Association between accessibility of the nutritional counselling with mothers' occupation, husbands' occupation and education.

Parameters	Frequency (%)	Chi-square	P value
Mothers' occupation			
Housewife	1 (16.67)	24.000	0.000
Doctor	3 (50)		
Engineer	2 (33.33)		
Husbands' occupation			
Doctor	3 (50)	19.286	0.000
Business	3 (50)		
Education			
High school	1 (16.67)	24.271	0.000
Graduate	5 (83.33)		

While all 30 mothers opened the website, only 6 (20%) of the mothers had referred to the nutritional counselling available in the website. They all were all graduates, with

three of belonging to the age group of 30-35 and three of them between 26-30. Three of them were doctors, two of them engineer and one of them was a housewife.

They accessed the website only once.

6 of them were interested in a nutritional counselling session. They accessed the website and contacted the number which was available in the session. All six of them took counselling on weaning foods with the nutritionists. Each session lasted for around 10-15 minutes each.

The main concerns which were put forward by the mothers when it came to all four of them was what nutritious complimentary foods can be given for their child. They were keen on an overview of the foods items which could be given.

There is strong association with mothers' occupation, fathers' occupation and education with the ones who accessed the nutritional counselling from the website.

Post using the website, when it came to their knowledge, there was an increase in their knowledge levels among the various categories of foods available like fruits, carbohydrates, green leafy vegetables with the nutritional content present in it. While pre intervention they didn't know green leafy vegetable had good sources of iron, post intervention they were able to tell the difference. Also, when it came to fruits, they knew vitamins K presence in banana, vitamin C in oranges post the intervention.

Their practices in child feeding however didn't show any changes.

For others who didn't use the online nutritional counselling, or 33.33% said that the website was new to their daily routine and they didn't prefer it. 37.5% of them cited they were busy with household work. 29.16% of them tried to access but they couldn't navigate the site and found it difficult to use the internet.

DISCUSSION

Our study shows that nutritional counselling is a vital tool which can be used for the working mothers, with them showing their interest in it and it has seemed to help the mothers use it in their daily routine. This is line with the study by Billah et al which shows that online counselling has significantly improved the dietary diversity among the households with a mild or moderate food insecurity. They say this method can definitely improve child feeding practices in broader programmes.[10]

But then there are many barriers to the counselling which need to be addressed. Our study shows there is a very strong education barrier for that, people who access are the ones who are highly educated. Majority are still not aware of the method. The study by Kavle shows that culturally resonant nutritional education techniques and counselling on diet during pregnancy and lactation and weight gain during pregnancy, as well as monitoring of progress in maternal nutrition are areas of needed attention.[11]

A study by Rif Wt et al is in line with the study that when it came to nutritional counselling, pregnant women had knowledge limited to general nutritional recommendation, and so a nutritionist was needed for individual nutritional counselling. Most pregnant women showed a positive attitude to the online counselling while some were reluctant or unfamiliar. Though overall it had a good impact.[12]

There is strong evidence that there will be future adoption of digital health as the education and access penetrates to the society, with the increased trust in digital information, the barriers to access will be surpassed. More importantly it will be needed as working mothers will have access to information and counselling. So, nutritional issues for the educated mothers of under-five will mainly take its lead online and with technology.[13]

Moreover, we are in the age where the customer wants what he wants, and wants it at a convenience. Health information also is becoming more personal and accessible and it is inevitable that health service including counselling will be at the fingertips of the customer. Here data is playing a much more important role, with the ease of storing and analysis in the digital sphere. Apps and websites make it easy, and it is line with our study where all the mothers who have used the website have shown positive feedback to it. This is in line with the study done by Dimitrov et al.[14]

Limitations

The small sample size may not be enough to conclude anything and further studied with larger sample size must be done. The post assessment didn't have a concrete scoring system and their response may not be significant indicators of improvement.

CONCLUSION

The study shows surely there is a need for online nutritional counselling among the young mothers, but there are barriers which need to addressed. Education and awareness about the internet are a step which must be addressed through awareness campaigns.

With online nutritional counselling, working/busy mothers can immediately connect to the nutritionists and address common lactation/weaning problems. A longer duration of study will be more effective in assessing the impact of the nutritional counselling.

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