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A CLINICAL STUDY TO EVALUATE THE EFFECT OF SUVARNA PRASHANA IN NEONATES

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ABSTRACT

Suvarna Prashana is a formulation mentioned in Ayurveda which is widely used now a days so as to achieve significant manner of growth and development and immune booster for children. Unless proper documentation and standardization, such noble traditional practices may not pick the limelight in modern scientific era. With this insight in mind, a trial was undertaken to evaluate the effect of Suvarna Prashana in neonates. For this, neonates were selected and randomly allocated into two groups (Trial group and adjuvant group). The neonates in study group were administered Suvarna Prashana while another neonates in adjuvant group were administered madhu ghrita for twenty eight consecutive days. Haematological and biochemical tests were done before and after the treatment for observation of therapy. A Performa was prepared with all the points of history taking, growth and development assessment and episodes of attacks of infection. The results were drawn thereafter.

KEYWORDS: Ayurveda, Suvarna Prashana, Honey, Growth and development.

INTRODUCTION

In the journey of life from birth to death, various Samskaras are mentioned and of these Suvarna Prashana is one of the rituals described in Ayurveda classics associated with jatakarmasamskara which is supposed to be the 1st Ayurvedic immunization. Acharya Kashyapa himself coined the term Suvarna Prashana and explained this procedure wherein pure gold should be triturated along with water, honey, ghee on a clean stone facing eastern direction and made the shishu (neonate) lick the same. Suvarna Prashana alone can be continued for a period of 1-6 months to get its specific benefits in children, as stated by Acharya Kashyapa in kashyap samhita sutra sthan lehanadhaya.[1] Suvarna (Gold) showed many medicinal properties in different activities such as Antioxidant/restorative effects[2], Immunomodulatory activity[3], nonspecific immune responses.[4]

As an immune booster, it can be administered in any age group. For the benefit as an immuno-modulator, it can be administered in children in early ages as this period until one year is considered to be the most vulnerable time for infections due to immature immune system. By considering its indication, it can be said that shaisva avastha (infantile period) is the right period from which it can be commenced. That is why; Suvarna Prashana may be accepted as 1stAyurvedic immunization of a child In this respect neonates were taken for the trial in present clinical study. Each neonate has received Suvarna Prashana in the dose of 3 drops/day (0.01mg/kg/day) for a period of 28 days. In this study, honey and ghrita was also used as an adjuvant drug. Honey is used not only as a nutritional product but also in traditional medicine and as an alternative treatment for clinical conditions ranging from wound healing to cancer treatment. Honey shows antibacterial property[5,6], antifungal[7], antioxidant and hepatoprotective.[8]

AIMS AND OBJECTIVES

- To study the concept of Suvarna Prashana in neonates.
- To assess the efficacy of Suvarnayukta Madhu-ghrita (Suvarna Prashana) and Madhu Ghrita in neonates.
- To compare the effects of Suvarnayukta Madhu-Ghrita and Madhu Ghrita in neonates.
- To observe any untoward/ side effect if any.

MATERIAL AND METHODS

40 neonates were randomly selected from OPD/IPD of Kaumarbharitya department of RGGGPG Ayurvedic Hospital, Paprola Distt. Kangra (H.P.)

Inclusion criteria

- Full term neonates (gestational age 37-42 weeks) irrespective of age, sex, caste and religion.
- Birth weight >2.5kg
- Newborn with good sucking, swallowing and coordination.

Exclusion criteria

- Preterm (Gestational Age <37 weeks) and Post term (Gestational Age > 42 weeks)
- Birth weight <2.5kg
- Newborn with poor sucking and swallowing coordination.
- Birth Asphyxia
- Neonatal Anaemia, HIV and HbsAg +ve newborn.

Grouping

Group A: Madhu-Ghrita (Adjuvant Group)
Group B: Suvarna- Madhu- Ghrita(Suvarna Prashana-Trial Group)

Time of administration of drug: Morning.
Dosage form: Drops.
Route/mode of administration: Oral.
Duration of trial: 28 consecutive days.
Follow up: 3 follow up after 30 days interval (90 days).
Total study Period: 118 days (~4 months).

Criteria of Assessment

Subjective Criteria

- Assessment based upon the pattern of growth and developmental mile stone achievement (improvement in Chesta Bala).
- Reduction in episode of illness in infants in response to the Suvarna Prashana.
- Assessment of total effect of therapy by the improvement in quality of life of newborn.

Objective Criteria

Table 1.

A. Anthropometric measurements (improvement in Deha Bala)	B. Laboratory Parameters
Weight (Kg)	Hbg%
Length (cm)	TLC
Head Circumference (cm)	DLC
Chest Circumference (cm)	Platelet Count
Mid Arm Circumference (cm)	S. Creatinine
Mid Thigh Circumference (cm)	SGOT & SGPT

OBSERVATION AND RESULTS

Total 40 neonates were registered (group A – 20 & group B – 20), amongst them all neonates were completed the treatment, no drop out. In the effect of therapy, striking similarities were observed in both the groups viz Suvarna yukta Madhu Ghrita (Suvarna Prashana) and Madhu Ghrita. Both the groups shows statistically significant result ($p<0.05$) in all the objective parameters.

Table 2 : Intergroup Comparison over body weight.

No. of Neonates		Visits	Gain weight Mean		% Diff.	SD±	SE±	't'	P	Remark
Gr.A	Gr.B		Gr.A	Gr.B						
20	20	FU_0vsFU_1	0.51	0.90	43.33%	0.226	0.050	7.796	0.086	N.S.
20	20	FU_1vsFU_2	0.88	0.98	10.20%	0.118	0.026	3.945	0.832	N.S.
20	20	FU_2vsFU_3	0.839	0.837	0.23%	0.220	0.049	0.050	0.960	N.S.

The mean gain in weight after FU1 is 0.51 kg and 0.90 kg in group A and B respectively and after FU2 it is 0.88 kg in group A and 0.98 kg in group B. Similarly after FU3 it is 0.839kg in group A and 0.837 kg in group B.

Table 3: Intergroup comparison over Length.

No. of Neonates		Visits	Gain Length Mean		% Diff.	SD±	SE±	't'	P	Remark
Gr.A	Gr.B		Gr.A	Gr.B						
20	20	FU_0vsFU_1	3.03	3.07	1.30%	0.599	0.134	0.299	0.768	N.S.
20	20	FU_1vs FU_2	3.07	3.07	0%	0.628	0.140	0.000	1.000	N.S.
20	20	FU_2vsFU_3	2.97	2.95	0.67%	0.617	0.138	0.181	0.858	N.S.

The mean gain in length after FU1 is 3.03cm and 3.07cm in group A and B respectively and after FU2 it is 3.07cm in both the groups. Similarly after FU3 it is 2.97cm in group A and 2.95 cm in group B.

Table 4: Intergroup comparison over Head Circumference (H.C).

No. of Neonates		Visits	Gain H.C. Mean		% Diff.	SD±	SE±	't'	P	Remark
Gr.A	Gr.B		Gr.A	Gr.B						
20	20	FU_0vsFU_1	1.815	1.975	8.10%	0.327	0.073	2.190	0.058	N.S.
20	20	FU_1vsFU_2	1.840	1.925	4.41%	0.246	0.054	1.548	0.138	N.S.
20	20	FU_2vsFU_3	1.665	1.725	3.47%	0.623	0.139	0.431	0.061	N.S.

The mean gain in H.C after FU1 is 1.81cm and 1.97 cm in group A and B respectively and after FU2 it is 1.84 cm in group A and 1.92 cm in group B. Similarly after FU3 it is 2.97 cm in group A and 2.95 cm in group B.

Table 5: Intergroup comparison over Chest Circumference (C.C).

No. of Neonates		Visits	Gain C.C. Mean		% Diff.	SD±	SE±	't'	P	Remark
Gr.A	Gr.B		Gr.A	Gr.B						
20	20	FU_0vsFU_1	1.90	2.05	7.31%	0.358	0.080	1.876	0.076	N.S.
20	20	FU_1vsFU_2	1.85	1.95	5.13%	0.384	0.085	1.165	0.258	N.S.
20	20	FU_2vsFU_3	1.75	1.80	2.78%	0.759	0.170	0.295	0.772	N.S.

The mean gain in C.C after FU1 is 1.90 cm and 2.05 cm in group A and B respectively and after FU2 it is 1.85 cm in group A and 1.95 cm in group B. Similarly after FU3 it is 1.75 cm in group A and 1.80 cm in group B.

Table 6: Intergroup Comparison over Mid Arm Circumference (M.A.C).

No. of Neonates		Visits	Gain M.A.C Mean		% Diff.	SD±	SE±	't'	P	Remark
Gr.A	Gr.B		Gr.A	Gr.B						
20	20	FU_0vsFU_1	0.51	0.52	1.92%	0.127	0.028	0.529	0.603	N.S.
20	20	FU_1vsFU_2	0.53	0.49	7.55%	0.135	0.030	1.161	0.260	N.S.
20	20	FU_2vsFU_3	0.43	0.50	14.0%	0.190	0.042	1.530	0.142	N.S.

The mean gain in M.A.C after FU1 is 0.51cm and 0.52cm in group A and B respectively and after FU2 it is 0.53 cm in group A and 0.49 cm in group B. Similarly after FU3 it is 0.43 cm in group A and 0.50 cm in group B.

Table 7: Intergroup comparison over Mid Thigh Circumference(M.T.C).

No. of Neonates		Visits	Gain M.T.C Mean		% Diff.	SD±	SE±	't'	P	Remark
Gr.A	Gr.B		Gr.A	Gr.B						
20	20	FU_0 vs FU_1	0.64	0.61	4.68%	0.130	0.029	1.031	0.316	N.S.
20	20	FU_1vs FU_2	0.57	0.53	7.02%	0.204	0.045	0.878	0.391	N.S.
20	20	FU_2vsFU_3	0.55	0.64	14.06%	0.257	0.057	1.564	0.134	N.S.

The mean gain in M.T.C after FU1 is 0.64 cm and O.61 cm in group A and B respectively and after FU2 it is 0.57 cm in group A and 0.53 cm in group B. Similarly after FU3 it is 0.55 cm in group A and 0.64 cm in group B.

Table 8: Intergroup Comparison over Mean Milestone Attainment.

No. of Neonates		Based on	Mean Development		% Diff.	SD±	SE±	't'	P	Remark
Gr.A	Gr.B		Gr.A	Gr.B						
20	20	Neck Holding	2.92	2.65	9.24%	0.444	0.099	2.773	0.012	S.
20	20	Social Smile	2.05	1.80	12.19%	0.344	0.076	3.249	0.004	S.
20	20	Recognize Mother	2.68	2.60	2.98%	0.294	0.065	1.143	0.267	N.S.
20	20	Turns head towards sound	1.15	1.02	29.65%	0.183	0.041	10.37	<0.050	S.
20	20	Cooing	2.60	2.35	9.62%	0.596	0.133	1.876	0.076	N.S.

In both the groups, Personal, Language, Gross Motor (recognizes mother, turns head to sound) were achieved parallelly. In 25% of neonates, Gross motor (Neck holding) milestone and in 40% Personal (social smile) milestone were achieved a little bit earlier (before the standard age limit) under group B (Suvarna Prashana) which is suggestive of more Medhya effect of drug as compared to group A. The results were drawn purely on

basis of observation recorded during examination done in OPD visits, follow-up and information given by parents. However, this is not a standard parameter for assessment to justify the Medhya effect in neonates.

Reduction in episodes of common Illnesses: Reduction in episodes of common illnesses like URTI (common cold viz sneezing, running nose, nasal obstruction, cough), GIT (diarrheal episodes, constipation, evening colic) and other illnesses (fever, allergic and other skin problems) was observed. These problems were less frequent in group B as compared to group A and the mildness of the complaints in trial group is itself indicated SuvarnaPrashana action as vyadhibalavirodhitwam. Also, most of complaints in neonates were reported between August and November 2019 when follow-ups were taken which is time of seasonal variations. Due to this change in climate, many babies suffered from common upper respiratory tract infections. In addition to this, many diseases like discharge from umbilicus, sticky eyes, pustular rashes were due to unhygienic conditions or due to poor knowledge of handling babies which is mostly observed in rural areas.

Effect of therapy on Laboratory Parameters like Hb gm/dl, Total leucocytes count, Platelet, Differential Leucocytes count, SGOT, SGPT, S.creatinine shows that all the lab parameters were within normal limits in both the groups and the difference in the mean score values of blood investigations before and after treatment was statistically significant in both the groups($p < 0.050$).

CONCLUSION

Acharya Kashyapa coined the term Suvarna Prashana. The results in clinical study shows statistically significant effect ($p<0.05$) of trial and adjuvant on all anthropometric measurements in neonates. None of the neonate in the study reported to have any untoward adverse effect with use of Suvarna Prashana.The results of LFT and RFT were within the normal limits even after completion of treatment which suggests that drug was safe to be administered in neonates. It can be concluded that Suvarna Prashana is having significant effect on enhancing growth and development and is having immunostimulant action. Similarly, madhu and ghrita also has significant effect on growth and development. It is recommended that further studies in large samples are required to evaluate and analyze the result.

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