docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and at least 130 mg/L of vitamin C.

[0009] Some embodiments are directed to a method for enhancing brain development in an infant. The method comprises administering to an infant an infant formula comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and at least 130 mg/L of vitamin C.

[0010] Some embodiments are directed to a method for improving cognitive performance in an infant. The method comprises administering to an infant an infant formula comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and at least 130 mg/L of vitamin C.

[0011] Some embodiments are directed to a nutritional composition comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, and at least 110 mg/L of arachidonic acid.

[0012] It has now been found that nutritional compositions, such as infant formulas, including specific combinations and amounts of RRR-alpha tocopherol, DHA, and ARA provide improved central nervous system maturation and cognitive development, functioning and/or performance to an infant due to the enhance brain accretion of the RRR-alpha tocopherol. Further, the addition of vitamin C to the combination of RRR-alpha tocopherol, DHA, and ARA provides protection against oxidation of DHA and ARA, thereby further protecting RRR-alpha tocopherol from degradation and allowing RRR-alpha tocopherol, DHA, and ARA to be better absorbed by the gut of the individual.

[0013] Accordingly, the nutritional compositions and methods of the present disclosure offer an alternative therapeutic or nutritional intervention option that may contribute to the enhancement of brain development, enhanced central nervous system development, and improvement of cognitive performance, in individuals, and particularly in infants, toddlers, and children.

docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and at least 130 mg/L of vitamin C.

[0009] Some embodiments are directed to a method for enhancing brain development in an infant. The method comprises administering to an infant an infant formula comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and at least 130 mg/L of vitamin C.

[0010] Some embodiments are directed to a method for improving cognitive performance in an infant. The method comprises administering to an infant an infant formula comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and at least 130 mg/L of vitamin C.

[0011] Some embodiments are directed to use of an infant formula comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and at least 130 mg/L of vitamin C, in the manufacture of a medicament for enhancing brain development in an infant.

[0011a] Some embodiments are directed to use of an infant formula comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and at least 130 mg/L of vitamin C, in the manufacture of a medicament for improving cognitive performance in an infant.

[0011b]Some embodiments are directed to a nutritional composition comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, and at least 110 mg/L of arachidonic acid.

[0012] It has now been found that nutritional compositions, such as infant formulas, including specific combinations and amounts of RRR-alpha tocopherol, DHA, and ARA provide improved central nervous system maturation and cognitive development, functioning and/or performance to an infant due to the enhance brain accretion of the RRR-alpha tocopherol. Further, the addition of vitamin C to the combination of RRR-alpha tocopherol, DHA, and ARA provides protection against oxidation of DHA and ARA, thereby further protecting RRR-alpha tocopherol from degradation and allowing RRR-alpha tocopherol, DHA, and ARA to be better absorbed by the gut of the individual.

[0013] Accordingly, the nutritional compositions and methods of the present disclosure offer an alternative therapeutic or nutritional intervention option that may contribute to the enhancement of brain development, enhanced central nervous system development, and improvement of cognitive performance, in individuals, and particularly in infants, toddlers, and children.

Claims:

1. A nutritional composition, preferably an infant formula, comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and preferably comprising at least 130 mg/L of vitamin C.

2. A nutritional composition according to claim 1, further comprising less than 7 mg/L of gamma tocopherol.

3. A nutritional composition according to either one of claims 1 and 2, further comprising a carotenoid, preferably wherein the carotenoid is selected from the group of lutein, zeaxanthin, and combinations thereof.

4. A nutritional composition according to any one of the preceding claims, wherein the weight ratio of docosahexaenoic acid to RRR-alpha tocopherol in the infant formula is from 5:1 to 15:1, preferably from 7.5:1 to 10:1.

5. A nutritional composition according to any one of the preceding claims, wherein the weight ratio of arachidonic acid to RRR-alpha tocopherol in the infant formula is from 12:1 to 24:1, preferably from 12:1 to 18:1.

6. A method for enhancing brain development in an infant, the method comprising administering to an infant an infant formula comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and at least 130 mg/L of vitamin C.

7. A method according to claim 6, wherein the weight ratio of docosahexaenoic acid to RRR-alpha tocopherol in the infant formula is from 5:1 to 15:1.

8. A method according to either one of claims 6 and 7, wherein the weight ratio of arachidonic acid to RRR-alpha tocopherol in the infant formula is from 12:1 to 24:1.

9. A method according to any one of claims 6 to 8, wherein the infant formula further comprises less than 7 mg/L of gamma tocopherol.

10. A method according to any one of claims 6 to 9, wherein the infant formula further comprises a carotenoid preferably selected from the group of lutein, zeaxanthin, and combinations thereof.

11. A method for improving cognitive performance in an infant, the method comprising administering to an infant an infant formula comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and at least 130 mg/L of vitamin C.

12. A method according to claim 11, wherein the weight ratio of docosahexaenoic acid to RRR-alpha tocopherol in the infant formula is from 5:1 to 15:1.

13. A method according to either one of claims 11 and 12, wherein the weight ratio of arachidonic acid to RRR-alpha tocopherol in the infant formula is from 12:1 to 24:1.

14. A method according to any one of claims 11 to 13, wherein the infant formula further comprises less than 7 mg/L of gamma tocopherol.

15. A method according to any one of claims 11 to 14, wherein the infant formula further comprises a carotenoid, preferably selected from the group of lutein, zeaxanthin, and combinations thereof.

Claims:

1. A nutritional composition, preferably an infant formula, comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and preferably comprising at least 130 mg/L of vitamin C.

2. A nutritional composition according to claim 1, further comprising less than 7 mg/L of gamma tocopherol.

3. A nutritional composition according to either one of claims 1 and 2, further comprising a carotenoid, preferably wherein the carotenoid is selected from the group of lutein, zeaxanthin, and combinations thereof.

4. A nutritional composition according to any one of the preceding claims, wherein the weight ratio of docosahexaenoic acid to RRR-alpha tocopherol in the infant formula is from 5:1 to 15:1, preferably from 7.5:1 to 10:1.

5. A nutritional composition according to any one of the preceding claims, wherein the weight ratio of arachidonic acid to RRR-alpha tocopherol in the infant formula is from 12:1 to 24:1, preferably from 12:1 to 18:1.

6. Use of an infant formula comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and at least 130 mg/L of vitamin C, in the manufacture of a medicament for enhancing brain development in an infant.

7. Use according to claim 6, wherein the weight ratio of docosahexaenoic acid to RRR-alpha tocopherol in the infant formula is from 5:1 to 15:1.

8. Use according to either one of claims 6 and 7, wherein the weight ratio of arachidonic acid to RRR-alpha tocopherol in the infant formula is from 12:1 to 24:1.

9. Use according to any one of claims 6 to 8, wherein the infant formula further comprises less than 7 mg/L of gamma tocopherol.

10. Use according to any one of claims 6 to 9, wherein the infant formula further comprises a carotenoid preferably selected from the group of lutein, zeaxanthin, and combinations thereof.

11. Use of an infant formula comprising at least 7 mg/L of RRR-alpha tocopherol, at least 60 mg/L of docosahexaenoic acid, at least 110 mg/L of arachidonic acid, and at least 130 mg/L of vitamin C, in the manufacture of a medicament for improving cognitive performance in an infant.

12. Use according to claim 11, wherein the weight ratio of docosahexaenoic acid to RRR-alpha tocopherol in the infant formula is from 5:1 to 15:1.

13. Use according to either one of claims 11 and 12, wherein the weight ratio of arachidonic acid to RRR-alpha tocopherol in the infant formula is from 12:1 to 24:1.

14. Use according to any one of claims 11 to 13, wherein the infant formula further comprises less than 7 mg/L of gamma tocopherol.

15. Use according to any one of claims 11 to 14, wherein the infant formula further comprises a carotenoid, preferably selected from the group of lutein, zeaxanthin, and combinations thereof.