been systematically studied in pregnant women with urticaria, it should be pointed out that the possible negative effects of increased levels of histamine receptor binding occurring in urticaria have also not been studied in pregnancy. Regarding treatment, no reports of birth defects in women having used modern 2nd generation H_1-antihistamines during pregnancy have been reported to date. However, only small sample size studies are available for cetirizine[153] and one large meta-analysis for loratadine.[154] Furthermore, as several modern 2nd generation H_1-antihistamines are now prescription free and used widely in both allergic rhinitis and urticaria, it must be assumed that many women have used these drugs especially in the beginning of pregnancy, at least before the pregnancy was confirmed. Nevertheless, since the highest safety is mandatory in pregnancy, the suggestion for the use of modern 2nd generation H_1-antihistamines is to prefer loratadine with the possible extrapolation to desloratadine and cetirizine with a possible extrapolation to levocetirizine. All H_1-antihistamines are excreted in breast milk in low concentrations. Use of 2nd generation H_1-antihistamines is advised, as nursing infants occasionally develop sedation from the old 1st generation H_1-antihistamines transmitted in breast milk.

The increased dosage of modern 2nd generation H_1-antihistamines can only be carefully suggested in pregnancy since safety studies have not been done, and with loratadine, it must be remembered that this drug is metabolized in the liver which is not the case for its metabolite desloratadine. 1st generation H_1-antihistamines should be avoided.[83] The use of omalizumab in pregnancy has been reported to be safe, and to date, there is no indication of teratogenicity.[155–158] All further steps should be based on individual considerations, with a preference for medications that have a satisfactory risk-to-benefit ratio in pregnant women and neonates with regard to teratogenicity and embryotoxicity. For example, ciclosporin, although not teratogenic, is embryo-toxic in animal models and is associated with preterm delivery and low birth weight in human infants. Whether the benefits of ciclosporin in CU are worth, the risks in pregnant women will have to be determined on a case-by-case basis. However, all decisions should be re-evaluated according to the current recommendations published by regulatory authorities.

Should the same treatment algorithm be used in pregnant women and during lactation?		
We **suggest** using the same treatment algorithm with caution both in pregnant and lactating women after risk-benefit assessment. Drugs contraindicated or not suitable in pregnancy should not be used.	↑	Strong consensus[1] Expert consensus

[1]≥90% agreement

TABLE 12 Areas of further research in urticaria

Global epidemiology, in adults and children
The socio-economic consequences
Identification of mast cell/basophil activating factors
Identification of new histological markers
Identification of serum biomarkers of urticarial activity/mast cell activation
Clarification of the role of coagulation/coagulation factors in CSU
Development of commercially available *in vitro* tests for detecting serum autoantibodies for anti-IgE and anti-FcεRI
Evaluation of IgE-auto-antibodies
Clarification of associated psychiatric /psychosomatic diseases and their impact
Pathomechanisms in antihistamine-resistant urticaria/angioedema
Double-blind control trials comparing different modern 2nd generation H_1-antihistamines in higher doses in CSU and different subtypes of urticaria
Safety profile of available treatments, long term pharmacosurveillance
Multicenter studies on the possible effect of anticoagulants (oral and heparin derivatives) on CSU
Controlled multicenter trials on the possible effect of add-on of H_2-antihistamines, montelukast, sulfones (dapsone/sulfasalazine), methotrexate, azathioprine
Development of better treatment options
Trials and licensing of 2nd generation H_1-antihistamines for the treatment of children below 6 months of age

6 | NEED FOR FURTHER RESEARCH

The panel and participants identified several areas in which further research is needed. These points are summarized in Table 12.

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Endorsing societies: AAD, American Academy of Dermatology; AAIITO, Italian Association of Hospital and Territorial Allergists and Immunologists; ACAAI, American College of Allergy, Asthma and Immunology; AEDV, Spanish Academy of Dermatology and Venereology; APAAACI, Asia Pacific Association of Allergy, Asthma and Clinical Immunology; ASBAI, Brazilian Association of Allergy and Immunology; BAD, British Association of Dermatologists; BSACI, British Society for Allergy and Clinical Immunology; CDA, Chinese Dermatologist Association; CMICA, Mexican College of Clinical Immunology and Allergy; CSACI, Canadian Society of Allergy and Clinical Immunology; DAAU, Deutsche Akademie für Allergologie und Umweltmedizin; DDG, German Society of Dermatology; DDS, Danish