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Review

# CLINICAL APPLICATION OF THE GLASGOW BENEFIT INVENTORY AND GLASGOW BENEFIT INVENTORY WITH FIVE FACTORS: CURRENT EVIDENCE

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*The purpose of this review is to assess the worldwide clinical utilisation of Glasgow Benefit Inventory (GBI) and New Five-factor Glasgow Benefit Inventory (GBI-5F) for various clinical and scientific objectives, as well as to validate its application in Latvia. Numerous articles indexed in the MedLine Library (Pubmed.gov) were examined, spanning from the initial GBI publication to the present. Various applications of these questionnaires have been investigated across multiple medical specialties, including otolaryngology, ophthalmology, urology, paediatric practice, neurosurgery, gastroenterology, oncology, and maxillofacial surgery in different countries. The use of the questionnaire in Latvia, following examples from other countries, can aid in assessing factors such as* General Health, Support, Quality of Life, Self-Confidence *and* Social Involvement *post-intervention in chronic conditions. This could help compare treatment outcome data both in clinical practice within our country and within the scientific community on an international level.*

**Keywords:** *GBI, GBI-5F, Quality-of-Life, questionnaire validation, General Health.*

## INTRODUCTION

The change questionnaire, called the Glasgow Benefit Inventory (GBI), was developed by a group of scientists from Glasgow, Scotland (Robinson *et al*., 1996) as a tool of measurement of patient benefit especially for otorhinolaryngological (ORL) interventions. The questionnaire consists of 18 questions with a 5-point Linkert answering scale and evaluates three factors — *General, Social Support,* and *Physical Health.* The GBI was developed with a patient-centred approach, aiming to maximise sensitivity to ORL interventions and provide a standardised metric to compare benefits between various interventions.

For this measure, the definition of the health status is the general perception of well-being, including total psychological, social, and physical well-being. Given the importance of maximising sensitivity to change, the questions in the GBI directly address changes in health status after surgery. The questionnaire focusses solely on post-intervention assessments, without considering pre-operative and post-operative measures and their comparison. Therefore, the

GBI serves as a post-intervention tool to evaluate the effects of interventions on patient health status.

After many years of successful use of the GBI, it was simplified in use and expanded in the factor assessment (Browning *et al*., 2021) and named the New Five-factor Glasgow Benefit Inventory (GBI-5F). One of the 18 questions was excluded due to non-response by 8% of respondents. Two original factors remained *(Physical Health,* now renamed as *General Health*, and *Social Support,* now renamed as *Support*). The *General Factor* was subdivided into three new factors: *Quality of Life*, *Self-Confidence*, and *Social Involvement*, providing additional insight about areas of benefit. Despite the reduction in the number of questions, it had no significant impact on the results of more than 196 existing GBI studies in the literature.

The objective of this review article was to evaluate the clinical application of GBI and GBI-5F for its further validation for different clinical and scientific purposes in Latvia. Different articles indexed in MedLine library (Pubmed.gov) were reviewed for the period since the first GBI publication.

## MEDICAL FIELDS OF IMPLEMENTATIONS OF GBI

Although the questionnaire was initially developed for use in otolaryngology practices for adults, it has been extended to other areas of medicine and paediatric practice.

**Paediatric practice.** Based on the GBI, a Glasgow Children's Benefit Inventory (GCBI) was developed to evaluate interventions in children, capable of detecting changes after an intervention and retrospectively applicable to cohorts of previous interventions. Given the difficulties of collecting prospective data, especially of infrequent interventions, a parent-administered instrument was selected for preschool-age children who lack language skills. The proposed instrument has a wide range of applications, suitable for children of any age and in any field of paediatric medicine, not limited to otolaryngology (Kubba *et al*., 2004). The GCBI consists of 24 core questions with a 5-point Linkert answering scale and evaluates four factors — *Psycho-Social, Physical Health, Behaviour* and *Vitality*. Each question is phrased with reference to the time since a specified intervention.

Since the development and introduction of GBI and GCBI, they have found application in other areas of clinical medicine.

**Urology.** 100 urological patients who had undergone endoscopic dextranomer/hyaluronic acid injection therapy for vesicoureteral reflux (VUR) were evaluated after surgery (Schwentner *et al*., 2007). 78 parents (as patient proxy) of children who had undergone open or robot-assisted laparoscopic pyeloplasty were surveyed and assessed by GCBI (Freilich *et al*., 2010), and the GCBI was assessed as a well-validated tool used to determine patient satisfaction in children in numerous medical conditions.

**Gastroenterology.** The results of endoscopic stapling of the Zenker's diverticulum were retrospectively evaluated by GBI (Leong *et al*., 2012). According to the findings of this study, the analysis of GBI data should enhance the capacity to advise patients on significant therapeutic decisions and manage their expectations regarding surgical outcomes. The treatment of obstructive salivary gland disease by flexible sialendoscopic method was assessed by GBI and it was observed that GBI was a useful measure of patient-oriented outcomes that allowed a generic quantification of perceived benefit or harm of a particular ORL procedure (Ianovski *et al*., 2014; Meier *et al*., 2015).

**Ophthalmology**. Correlations between change in visual acuity after routine cataract surgery and improvement in quality of life assessed with the Glasgow Benefit Inventory were explored (Katta *et al*., 2018) and a significant correlation was observed. This further reaffirms the validity of this self-assessment tool.

**Neurosurgery.** This study assesses postoperative quality-of-life outcomes via the Glasgow Benefit Inventory in patients receiving transnasal endoscopic pituitary surgery for pituitary adenoma (Green *et al*., 2022). The study findings help with preoperative counselling for patients undergoing this surgery. Those with NFA (non-functioning adenoma) and no anticipated improvement in visual loss symptoms may be advised in possible worsening physical outcomes and of the option to delay the surgery until symptoms are present.

**Oncology.** The GBI questionnaire was used to quantify the health benefits of lymphoedema treatment in patients with head and neck cancer. There were mild improvements in patient-reported quality of life using the GBI in the majority of patients, obviously due to the severe course of the underlying disease. The average improvement rates documented in other studies exceeded those observed in the present study. However, this difference might stem from a distinct one-off intervention (such as a cochlear implant) rather than a longer treatment plan necessitating continuous adherence of the patient (Halliday *et al*., 2020). This further substantiates the weakness of this instrument for evaluating long-term treatment regimens, while highlighting its effectiveness in assessing single-intervention outcomes in the management of chronic diseases.

## GEOGRAPHIC PREVALENCE

Although the GBI was developed in Scotland, it has been widely distributed geographically, from Europe to both sides around the world. It was translated and, if necessary, validated in countries where English is not primarily used, for instance, in German (Schwentner *et al*., 2007), Danish (Meier *et al*., 2015), Spanish (Sanchez-Cuadrado *et al*., 2015), Russian (Mileshina *et al*., 2016), Dutch (van Egmond *et al*., 2017), Mandarin Chinese (Fan *et al*., 2017), Swedish (Redfors *et al*., 2019), Chinese (Shen *et al*., 2020), Italy (Cantone *et al*., 2023), Arabic (Alkholaiwi, 2023),

Brazilian, Portugues (Elias *et al*., 2024) and adopted for researches in India (Dev *et al*., 2019), New Zealand (Leong *et al*., 2012) and USA (Kyrodimos *et al*., 2011; Lui *et al*., 2021).

## GBI-5F

The GBI was recently restructured into 15 questions with five subscale factors (GBI-5F) to enhance its effectiveness. This endeavour was once again undertaken by Scottish scientists, utilising pre-existing data from the Scottish ENT Outcome Study (SENTOS) database (Browning *et al*., 2021). The primary strength of the updated GBI lies in its 5-factor structure, which affords a significantly more comprehensive dataset for interpretation. It is imperative that the GBI-5F provides reliable and valuable information within its individual domains. While striving for a more robust and justifiable factor structure, there is a risk of developing an entirely new instrument that renders prior studies obsolete or incomprehensible. However, the GBI-5F mitigates this risk by preserving continuity with previous research. While psychometric rigour remains essential, it must be balanced with the relevance of the information and the ease of clinical interpretation. Another study demonstrated the compatibility of both questionnaires (Taylor *et al*., 2023).

This observation suggests the potential for the new GBI-5F to emerge as the successor to its predecessor over time.

## GBI-5F in Latvia

For our planned prospective experimental study, a reliable and valid tool was required to evaluate the quality of surgical treatment of patients. The GBI-5F questionnaire emerged as the most suitable option based on its aforementioned qualities. We applied to developers and received their permission to use it. However, phrasing and choice of words in other laguage but English, may change meaning and comparitiveness of the result. Therefore, a validation process for the translated version in Latvian language was used.

According to widely recognised guidelines (Beaton *et al*., 2000; Commission, 2017). The GBI-5F was translated using the forward-backward method. Initially, the items were translated into Latvian by two sworn translators proficient in both Latvian and English. Subsequently, the translators convened to reconcile and finalise a unified version of the questionnaire. The approved Latvian version was then back-translated into the original language by an English translator fluent in Latvian. Following this, the translators collaborated to establish a consistent back-translated version.

To assess the content validity of the questionnaire, nine highly educated medical experts were asked to participate in the study. Their role was crucial in assessing the validity of the content of the questions in the context of their experience. For the quantitative expression of the result, we used the content validity index of individual statements (I-CVI) and the content validity index of the whole questionnaire (S-CVI) (Yusoff, 2019). An I-CVI value of 0.78 or greater represents a statement that it has a good content validity (Table 1).

We additionally assessed the discrimination index (item-total correlation) for the participants in our pilot study (n = 17) (refer to Table 2). Cronbach's alpha coefficients were

*Table 1*. The relevance rating on the item scale by nine experts

| | Expert 1 | Expert 2 | Expert 3 | Expert 4 | Expert 5 | Expert 6 | Expert 7 | Expert 8 | Expert 9 | | Experts in agreement | I-CVI | UA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Item | | | | | | | | | | | | | |
| q1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 9 | 1.00 | 1 |
| q2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 9 | 1.00 | 1 |
| q3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 9 | 1.00 | 1 |
| q4 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | | 7 | 0.78 | 0 |
| q5 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 8 | 0.89 | 0 |
| q6 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | | 6 | 0.67 | 0 |
| q7 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 9 | 1.00 | 1 |
| q8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 9 | 1.00 | 1 |
| q9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 9 | 1.00 | 1 |
| q10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 9 | 1.00 | 1 |
| q11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 9 | 1.00 | 1 |
| q12 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 9 | 1.00 | 1 |
| q13 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | | 8 | 0.89 | 0 |
| q14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 9 | 1.00 | 1 |
| q15 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | | 8 | 0.89 | 0 |
| | | | | | | | | | | | S-CVI/Ave | 0.94 | |
| Proportion relevance | 0.87 | 1.00 | 0.93 | 1.00 | 1.00 | 1.00 | 0.87 | 0.87 | 0.93 | | S-CVI/UA | | 0.67 |
| Average proportion of items as relevance across the nine experts | | | | | | | | | | 0.94 | | | |

*Table 2.* Item Total-Correlation/ Discrimination Index

| Item | Mean reaction index (SD) | Median | Mode | Items Total Correlation/ Discrimination Index |
|---|---|---|---|---|
| q1 | 4.94 (0.24) | 5 | 5 | 0.43 |
| q2 | 4.94 (0.24) | 5 | 5 | 0.43 |
| q3 | 4.59 (0.71) | 5 | 5 | 0.32 |
| q4 | 4.59 (0.62) | 5 | 5 | 0.42 |
| q5 | 4.59 (0.71) | 5 | 5 | 0.53 |
| q6 | 4.47 (0.80) | 5 | 5 | 0.71 |
| q7 | 3.71 (0.92) | 3 | 3 | 0.59 |
| q8 | 3.65 (0.86) | 3 | 3 | 0.47 |
| q9 | 3.41 (0.80) | 3 | 3 | 0.61 |
| q10 | 3.53 (0.80) | 3 | 3 | 0.59 |
| q11 | 3.24 (0.75) | 3 | 3 | 0.64 |
| q12 | 3.65 (0.93) | 3 | 3 | 0.58 |
| q13 | 4.76 (0.56) | 5 | 5 | 0.38 |
| q14 | 3.76 (0.90) | 3 | 3 | 0.58 |
| q15 | 4 (0.94) | 4 | 3 | 0.58 |

computed to evaluate the internal reliability of the Intelligence Structure Test. A Cronbach's alpha value within the range of 0.7–0.8 is generally deemed acceptable for most assessments. In our study, we obtained a Cronbach's alpha of 0.87, indicating a good level of internal consistency.

## CONCLUSIONS

In this article, we aimed to emphasise the necessity of the quantitative GBI measurement tool for qualitative variables and its wide-range applicability across various medical fields. Presently, our scientific group is in the process of validating the translated GBI-5F questionnaire in Latvian.

## REFERENCES


Alkholaiwi, F. (2023). Quality of life of patients with nasal obstruction who underwent septoplasty: Assessed with the Glasgow Benefit Inventory. *Cureus*, **15** (9), e45523. https://doi.org/10.7759/cureus.45523.

Beaton, D. E., Bombardier, C., Guillemin, F., Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, **25** (24), 3186–3191. https://doi.org/10.1097/00007632-200012150-00014.

Browning, G. G., Kubba, H., Whitmer, W. M. (2021). Revised 15-item Glasgow Benefit Inventory with five factors based on analysis of a large population study of medical and surgical otorhinolaryngological interventions. *Clin. Otolaryngol.*, **46** (1), 213–221. https://doi.org/10.1111/coa.13649.

Cantone, E., Torrisi, A., D'Ecclesia, A., Massimilla, E. A., Motta, G., Motta, G. (2023). QoL following dacryocystorhinostomy: Linguistic adaptation of Italian version of GBI. *Indian J. Otolaryngol. Head Neck Surg.*, **75** (3), 1660–1664. https://doi.org/10.1007/s12070-023-03638-z.

ITC Guidelines for Translating and Adapting Tests (Second Edition) (2017). https://www.intestcom.org/files/guideline_test_adaptation_2ed.pdf (accessed 04.08.2024).

Dev, A. N., Adhikari, S., Lohith, U., Dutt, C. S., Dutt, S. N. (2019). Assessment of quality of life outcomes with the Glasgow Children's Benefit Inventory following cochlear implantation in children. *J. Laryngol. Otol.*, **133** (9), 759–763. https://doi.org/10.1017/S0022215119001555.

Elias, C. C. L., Teixeira, A. R., Souza, M. E. C., Rosito, L. P. S., Costa, S. S. D. (2024). Translation and cultural adaptation of "Glasgow Children's Benefit Inventory" into Brazilian Portuguese. *Braz. J. Otorhinolaryngol.*, **90** (1), 101353. https://doi.org/10.1016/j.bjorl.2023.101353.

Fan, X., Wang, Y., Wang, P., Fan, Y., Chen, Y., Zhu, Y., Chen, X. (2017). Aesthetic and hearing rehabilitation in patients with bilateral microtia-atresia [Article]. *Int. J. Pediatric Otorhinolaryngol.*, **101**, 150–157. https://doi.org/10.1016/j.ijporl.2017.08.008.

Freilich, D. A., Penna, F. J., Nelson, C. P., Retik, A. B., Nguyen, H. T. (2010). Parental satisfaction after open versus robot assisted laparoscopic pyeloplasty: Results from modified Glasgow Children's Benefit Inventory Survey. *J. Urol*, **183** (2), 704–708. https://doi.org/10.1016/j.juro.2009.10.040.

Green, F. R., Sanders, M. I., Davies, P., Mirza, S., Sinha, S. (2022). Quality of life outcomes after transnasal endoscopic pituitary surgery using the Glasgow Benefit Inventory. *Brit. J. Neurosurg*, **36** (6), 720–727. https://doi.org/10.1080/02688697.2022.2106352.

Halliday, E., Gittins, J., Ahsan, S. F. (2020). Using the Glasgow Benefit Inventory questionnaire to quantify the health benefits of lymphoedema treatment in patients with head and neck cancer. *Appl. Cancer Res.*, **40** (1), 9. https://doi.org/10.1186/s41241-020-00093-y.

Ianovski, I., Morton, R. P., Ahmad, Z. (2014). Patient-perceived outcome after sialendoscopy using the glasgow benefit inventory. *Laryngoscope*, **124** (4), 869–874. https://doi.org/10.1002/lary.24343.

Katta, M., Udani, P., Heemraz, B. S., Lee, C. N., Hammond, C. J., Mahroo, O. A. (2018). Exploring correlations between change in visual acuity following routine cataract surgery and improvement in quality of life assessed with the Glasgow Benefit Inventory. *Eye (Lond)*, **32** (9), 1549–1550. https://doi.org/10.1038/s41433-018-0116-1.

Kubba, H., Swan, I. R., Gatehouse, S. (2004). The Glasgow Children's Benefit Inventory: A new instrument for assessing health-related benefit after an intervention. *Ann. Otol Rhinol Laryngol*., **113** (12), 980–986. https://doi.org/10.1177/000348940411301208.

Kyrodimos, E., Aidonis, I., Skalimis, A., Sismanis, A. (2011). Use of Glasgow Benefit Inventory (GBI) in Meniere's disease managed with intratympanic dexamethasone perfusion: Quality of life assessment. *Auris Nasus Larynx*, **38** (2), 172–177. https://doi.org/10.1016/j.anl.2010.07.009.

Leong, S. C., Wilkie, M. D., Webb, C. J. (2012). Impact of endoscopic stapling of Zenker's diverticulum on patient health status as assessed by the Glasgow Benefit Inventory. *Ann. Otol. Rhinol. Laryngol.*, **121** (9), 576–578. https://doi.org/10.1177/000348941212100903.

Lui, J. T., Lee, J. J. W., Ma, Y., Dixon, P. R., Crowson, M. G., Dahm, V., Shipp, D. B., Chen, J. M., Lin, V. Y. (2021). Glasgow Benefit Inventory in Cochlear implantation: A reliable though ancillary quality of life metric. *Otol Neurotol*, *42*(10), e1464-e1469. https://doi.org/10.1097/MAO.0000000000003292.

Meier, B. A., Holst, R., Schousboe, L. P. (2015). Patient-perceived benefit of sialendoscopy as measured by the Glasgow Benefit Inventory. *Laryngoscope*, **125** (8), 1874–1878. https://doi.org/10.1002/lary.25369.

Mileshina, N. A., Osipenkov, S. S., Bakhshinyan, V. V., Tavartkiladze, G. A. (2016). The impact of implantable technologies on the quality of life in the patients with hearing loss. *Vestnik otorinolaringologii*, **81** (6), 22–24. https://doi.org/10.17116/otorino201681622-24 (in Russian).

Redfors, Y. D., Jonsson, R., Tideholm, B., Finizia, C. (2019). Psychometric properties of the Swedish version of the Glasgow Benefit Inventory in otosclerosis subjects. *Laryngoscope Investig. Otolaryngol.*, **4** (6), 673–677. https://doi.org/10.1002/lio2.320.

Robinson, K., Gatehouse, S., Browning, G. G. (1996). Measuring patient benefit from otorhinolaryngological surgery and therapy. *Ann. Otol. Rhinol. Laryngol.,* **105** (6), 415–422. https://doi.org/10.1177/000348949610500601.

Sanchez-Cuadrado, I., Lassaletta, L., Perez-Mora, R., Munoz, E., Gavilan, J. (2015). Reliability and validity of the Spanish Glasgow Benefit Inventory after cochlear implant surgery in adults. *Eur. Arch. Otorhinolaryngol.*, **272** (2), 333–336. https://doi.org/10.1007/s00405-013-2844-y

Schwentner, I., Schwentner, C., Schmutzhard, J., Radmayr, C., Grabher, G., Sprinzl, G., Hofer, S. (2007). Validation of the German Glasgow children's benefit inventory. *J. Eval.. Clin. Pract.*, **13** (6), 942–946. https://doi.org/10.1111/j.1365-2753.2006.00823.x.

Shen, Y., Xiao, L., Luo, Q., Feng, Y., Zheng, Z. (2020). [Evaluation of the validity and reliability of the Chinese version of Glasgow Benefit Inventory]. *Lin Chuang Er Bi Yan Hou Tou Jing Wai Ke Za Zhi*, **34** (8), 689–694 (in Chinese). https://doi.org/10.13201/j.issn.2096-7993.2020.08.004.

Taylor, C. M., Marino, M. J., Bansberg, S. F. (2023). Septal perforation repair quality of life outcomes using the revised 15-item Glasgow Benefit Inventory. *Ann. Otol. Rhinol. Laryngol.*, **132** (12), 1550–1556. https://doi.org/10.1177/00034894231170938

van Egmond, M., van Heerbeek, N., Ter Haar, E. L. M., Rovers, M. M. (2017). Clinimetric properties of the Glasgow Health Status Inventory, Glasgow Benefit Inventory, Peak Nasal Inspiratory Flow, and 4-Phase Rhinomanometry in adults with nasal obstruction. *Rhinology*, **55** (2), 126–134. https://doi.org/10.4193/Rhin16.296.

Yusoff, M. S. B. (2019). ABC of content validation and content validity index calculation. *Educ. Med. J.,* **11** (2), 49–54. https://doi.org/https://doi.org/10.21315/eimj2019.11.2.6.

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## *GLASGOW BENEFIT INVENTORY* UN *GLASGOW BENEFIT INVENTORY WITH FIVE FACTORS* KLĪNISKĀ PIELIETOŠANA: PAŠREIZĒJIE PIERĀDĪJUMI

Zinātniskā raksta mērķis ir apkopot un analizēt GBI (*Glasgow Benefit Inventory*) un GBI-5F (*GBI with Five Factors*) praktiskā pielietojuma klīniskos un zinātniskos aspektus, kā arī validēt šo anketu lietošanu Latvijā. Pētījuma procesā tika analizēti *Medline* bibiotēkā (Pubmed.gov) indeksēti raksti, sākot ar pirmā GBI publicēšanas brīdi līdz mūsdienām. Analīzes rezultāti liecina, ka GBI anketu praktiskais pielietojums pasaulē tiek pētīts tādās medicīnas nozarēs kā otorinolaringoloģija, oftalmoloģija, uroloģija, pediatrija, neiroķirurģija, gastroenteroloģija, onkoloģija un sejas un žokļu ķirurģija. Iegūtie dati liecina, ka GBI-5F anketas izmantošana pēc medicīniskās iejaukšanās veikšanas pacientiem ar hroniskām saslimšanām var palīdzēt novērtēt tādus faktorus kā *Vispārējā veselība*, *Atbalsts*, *Dzīves kvalitāte*, *Pašapziņa* un *Sociālā iesaistīšanās*, tādējādi iegūtie rezultāti ļaus veikt datu salīdzināšanu un analīzi, gan klīniskajā praksē, gan zinātniskajā vidē Latvijā, kā arī zinātniskajās aprindās starptautiskā līmenī.