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MEASURING VACCINE CONFIDENCE: INTRODUCING A GLOBAL VACCINE CONFIDENCE INDEX

**THE VACCINE CONFIDENCE PROJECT AT THE LONDON SCHOOL OF HYGIENE & TROPICAL MEDICINE
COLLABORATES WITH ORB INTERNATIONAL, UK AND GALLUP PAKISTAN**

This special press release by Gallup Pakistan presents the findings of a multi-country survey of confidence in vaccines and immunisation programmes in Pakistan, Georgia, India, Nigeria, and the United Kingdom (UK) – these are the results of an initial pilot for the development of a Vaccine Confidence Index (VCI). **The project is being developed under the leadership of Professor Heidi Larson of London School of Hygiene and Tropical Medicine (LSHTM), and the field work is supported by the Global Public Health Polling Network led by ORB International, UK and Gallup Pakistan, affiliates of WIN-Gallup International.**

The survey examines confidence in immunisation programmes through comparison with confidence in other government health services, the relationships between confidence in the system and levels of vaccine hesitancy, reasons for vaccine hesitancy, and ultimate vaccination decisions.

INTRODUCTION

Public confidence in vaccination is vital to the success of immunisation programmes worldwide. Therefore, the VCI can be an important tool for the development of research and social policy about health services.

This press release is sourced from an article on the project available on the PLOS website as part of the PLOS Currents Outbreaks “Vaccine Hesitancy Collection” (<http://currents.plos.org/outbreaks/article/measuring-vaccine-confidence-introducing-a-global-vaccine-confidence-index/>). The article by Larson et al defines vaccine confidence in the following words: “In the context of vaccination, confidence implies trust in the vaccine (the product), trust in the vaccinator or other health professional (the provider), and trust in those who make the decisions about vaccine provision (the policy-maker).”

The article further introduces the research and its importance: “In the research addressed in the paper, we examine overall confidence in the health system generally as well as immunisation, then investigate vaccine hesitancy and its reasons, and finally query whether hesitancy led to acceptance or refusal of a vaccine or vaccines. We categorise the reasons for hesitancy reported into the domains of confidence, convenience, and complacency.

Individuals may lack confidence in the safety or efficacy of vaccines for a variety of reasons. They may lack confidence as a result of negative experiences with the product, providers, or those making the policy decisions. They may hold religious or philosophical beliefs that lead them to prefer traditional rites, prayers, or homeopathic remedies over biomedical interventions.

Vaccine confidence is not merely an individual phenomenon, but a social and political phenomenon as well. When vaccine-hesitant individuals reach a critical mass in a population, and do not receive adequate attention and engagement from health authorities on the specific issues they may have with a vaccine, they may form coalitions of varying looseness or consensus. Examples include coalitions which pressured the Indian government to suspend an HPV vaccine demonstration project, and another which pressured the suspension of the HPV vaccine recommendation in Japan.

Vaccine confidence metrics can provide valuable cues to changing public sentiment about vaccines and the potential for consequent changes in vaccine coverage. More refined studies can provide needed local detail to understand the drivers of shifts in confidence and inform the appropriate response needed.”

RESULTS:

The five countries that were included in the initial pilot were chosen because each faced a confidence crisis, and have addressed these challenges with varying levels of success.

SURVEY SIZE AND PREVALENCE OF HESITANCY AND REFUSAL:

According to the article, the following table “shows a breakdown of respondents in each country by whether they had children under five, if so, whether they had ever hesitated to vaccinate their child, and if so, whether they ultimately had the vaccine or did not have the vaccine. Georgia shows the highest percentage (60%) of vaccine refusers among those who reported hesitancy, followed by Nigeria Households where 22.7% of households reporting hesitancy refused vaccination.

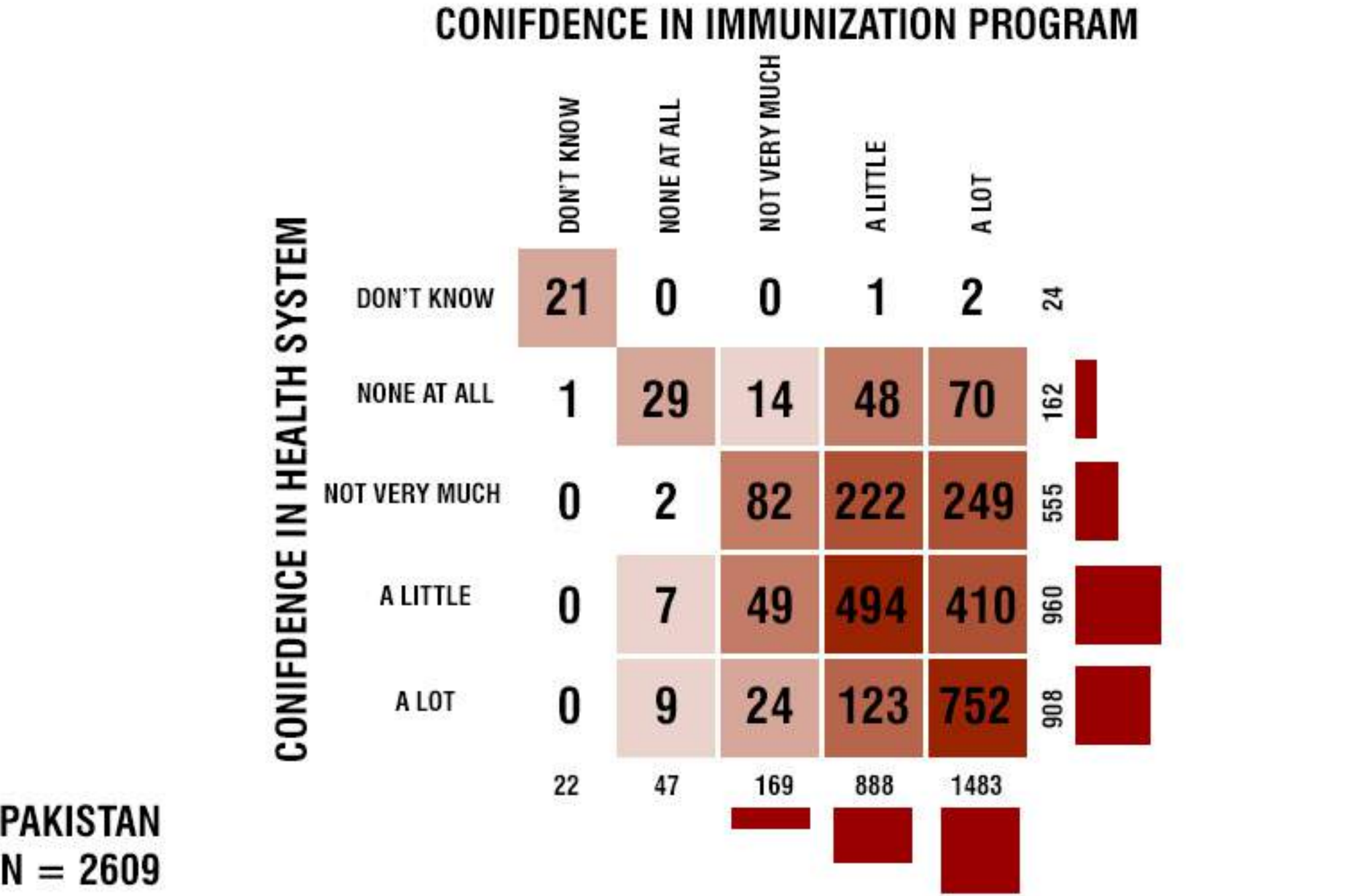
The UK sample contained fewer respondents with children under five years of age (RCU5s) than the other countries surveyed. UK RCU5s were more likely to hesitate to vaccinate, compared to RCU5s in other countries. In Georgia, by contrast, hesitants made up a smaller proportion of RCU5s, but of those who hesitated, a majority reported not receiving the vaccine. In all countries but India, RCU5s were more likely (compared to respondents who did not have children under five) to believe that all or most people in their community get their children vaccinated, and less likely to say they “don’t know” how many get their children vaccinated.”

	SURVEY SIZE	WITH CHILD ≤ 5 YRS OLDER RCU5	HESITANTS	HESITANTS AS % OF RCU5	OUTRIGHT REFUSERS	OUTRIGHT REFUSERS AS % OF HESITANTS
India	1259	288	36	12.5%	6	16.7%
Pakistan	2609	709	99	13.9%	15	15.2%
UK	2055	196	48	24.5%	13	27.1%
Nigeria Households	12554	3687	308	8.4%	70	22.7%
Nigeria Provider	1272	519	44	8.5%	5	11.4%
Georgia	1000	474*	35	7.4%	21	60%

Vaccination behaviours of hesitancy and refusal are presented both in absolute numbers, and as proportions. Hesitancy is presented as a proportion of respondents with children equal to or under five (RCU5), except for Georgia(*) which represents under 15 years of age, and refusal is presented as a proportion of respondents who hesitated.

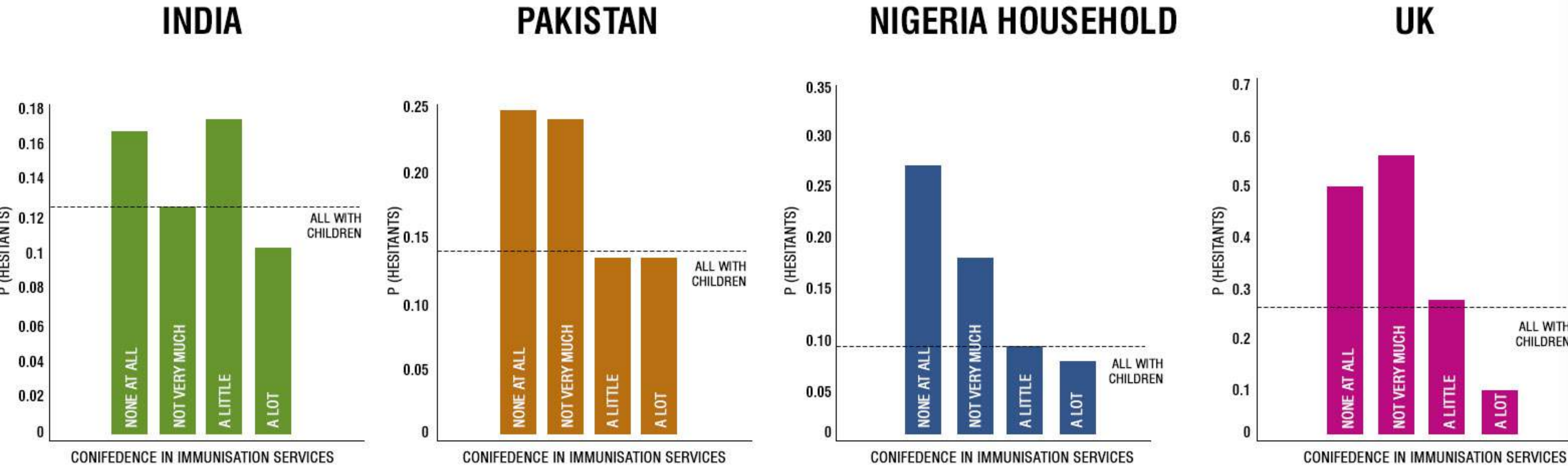
CONFIDENCE IN IMMUNISATION PROGRAMME AND HEALTH SYSTEM:

The following contingency table illustrates the varying association between confidence in immunisation programmes and confidence in the broader health system in Pakistan. The article explains the overall relationship in the following words: “Public confidence in immunisation programmes was more closely associated with confidence in the broader health system in the UK (Spearman’s ρ=0.60), compared to Nigeria (ρ=0.55), Pakistan (ρ=0.45), and India (ρ=0.42), which all had higher confidence in immunisation services than in the health system generally. In all countries but the UK, immunisation services received stronger confidence ratings than the health system.”



RELATIONSHIP BETWEEN VACCINE CONFIDENCE AND VACCINATION BEHAVIOR:

There is also a need to examine the relationship between ‘vaccine confidence’ and ‘vaccination behavior’ since vaccine confidence can have an effect on the likelihood of hesitating and/or refusing to vaccinate. The article states: “Figure 4 illustrates, in each country for which the requisite data are presently available, the variation in the probability of vaccine hesitancy among RCU5s, depending on reported level of confidence in immunisation programmes. In every country, we observe a clear trend in which lower levels of confidence are associated with higher levels of hesitancy.” The figure is given below:



REASONS FOR HESITANCY:

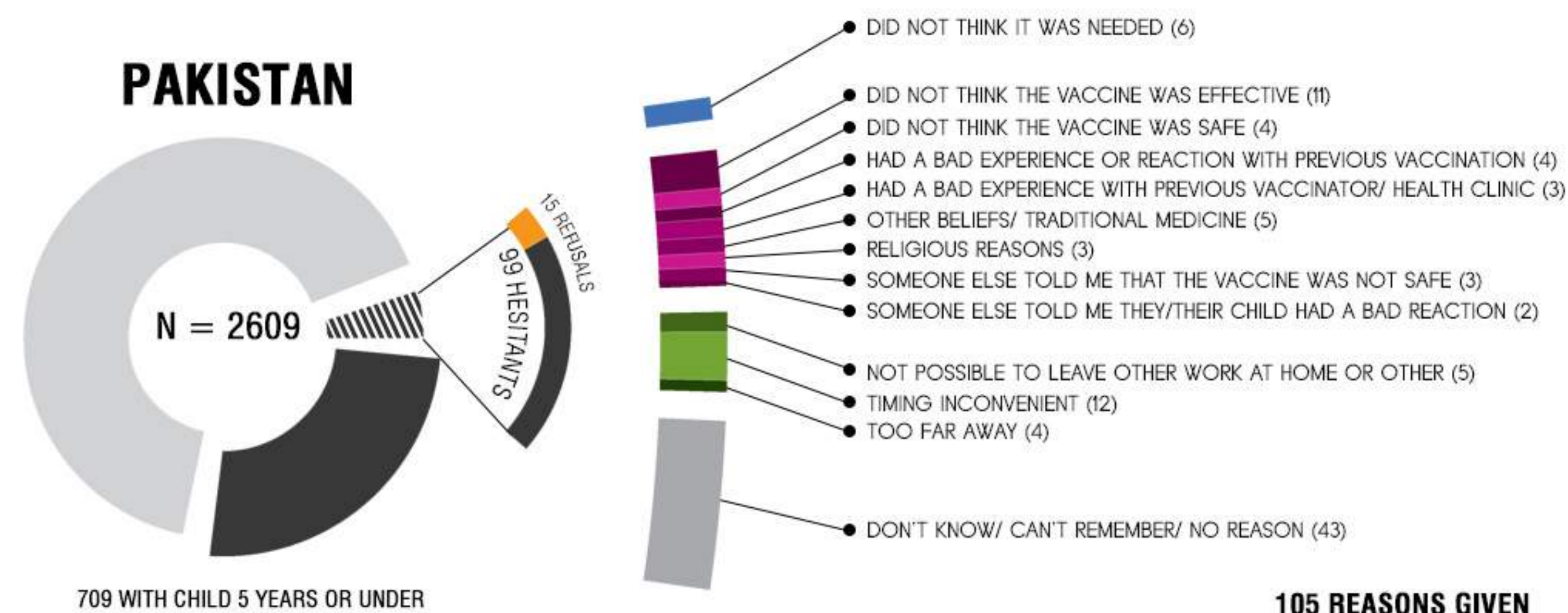
According to the article by Larson et al: “Reasons for hesitancy given by vaccine-hesitant respondents were classified as relating to confidence, convenience, complacency, or other/don’t know (DK)/no reason (NR). Overall, the highest percentage of reasons for hesitancy was due to confidence issues.” The following table shows the distribution of respondents in each country according to their reason for hesitancy

	CONFIDENCE	CONVENIENCE	COMPLACENCY	OTHER/ DK/ NR
GEORGIA	69%	6%	8%	17%
INDIA	49%	18%	3%	31%
NIGERIA	36%	20%	18%	26%
PAKISTAN	33%	20%	6%	41%
UNITED KINGDOM	79%	6%	13%	1%

PAKISTAN

The following figure provides a summary of the situation in Pakistan along with the various reasons given by parents for hesitation. These reasons are grouped into complacency (blue), confidence (magenta), convenience (green), and other (grey).

- Among Pakistani parents with children equal to or under five years of age, 13.9% (99) were hesitant.
- Among these hesitant, 15.2% (15) were outright refusers.
- Pakistan (along with India and Nigeria) reported higher confidence in immunisation services than in the health system generally
- Among vaccine-hesitant respondents in Pakistan, 33% gave reasons related to confidence, 20% gave reasons related to convenience, 6% gave reasons related to complacency, while 41% gave other reasons or did not respond (other/ DK/NR). The percentage of respondents who answered 'other/ DK/NR' was highest in Pakistan.
- A total of 105 reasons for hesitancy were given by Pakistani respondents with the most frequent being: 'Timing inconvenient' (12) and 'Did not think the vaccine was



METHODOLOGY:

The methodology followed for the project was detailed in the article: “The generation of data on vaccine confidence reported and analysed here was made possible through an agreement between **The Vaccine Confidence Project at the London School of Hygiene & Tropical Medicine** and “**Global Public Health Polling Network**” jointly managed by **ORB International, UK and Gallup Pakistan, affiliates of WIN-Gallup International**. The Global Public Health Polling Network incorporated a set of questions on vaccine confidence, developed by the Vaccine Confidence Project, into larger surveys being conducted in the many countries in which WIN-Gallup International operates. The fieldwork was conducted by ORB International in the UK and (with the assistance of Dr. Ibrahim Yisa) in Nigeria, and by Gallup Pakistan, C Voters, and GORBI in Pakistan, India, and Georgia respectively. The resulting dataset offers not only a broad (and growing) international sample of vaccination sentiments and behaviours, but also includes extensive data on respondents’ social context and other attributes, collected as part of the larger surveys in these countries. Data collection methods in each of the five countries surveyed are described below.

Data collection in Pakistan consisted of face-to-face in-house interviews in Urdu with 2609 respondents, selected by multi-stage random area probability sampling, between 31 March and 7 April 2014, in Punjab, Sindh, Khyber Pakhtunkhwa, and Baluchistan. Findings were then weighted according to rural and urban population share in each province, based on the 1998 Population Census.

Data collection in the UK consisted of online interviews with 2055 respondents, between 23 and 24 April 2014, in England, Scotland, and Wales. To compensate for the effects of self-selection of respondents choosing to participate in the survey, findings were then weighted on demographic variables, according to census figures.

Data collection in India consisted of computer-assisted telephone interviewing (CATI) of 1259 respondents, selected from a random sample of phone numbers covering all regions of India, between 9 and 11 April 2014. Findings were then weighted according to the known census profile. Interviews were conducted in the relevant local languages: Hindi, Punjabi, Urdu, Gujarati, Marathi, Kannada, Malayalam, Tamil, Telugu, Odiya, Bangla and Asamiya.

In Nigeria, both households and health providers were surveyed. Data collection in Nigerian households consisted of face-to-face interviews (using personal digital assistants [PDAs]) with 12554 respondents from Enugu, Jigawa, Kaduna, Kano, and Lagos, selected from master sample frames for enumeration areas defined by the National Bureau of Statistics (NBS). Survey materials were translated into Yoruba, Igbo, and Hausa. Findings were then weighted according to information about these enumeration areas, also provided by the NBS.

A total of 1272 providers in Nigeria were also interviewed in the 968 facilities participating in the survey. Providers were defined as health workers trained to provide obstetric care and child care services, on the assumption that these individuals have final responsibility for obstetric and child health care.”

The complete article can be accessed on the PLOS website at:
<http://currents.plos.org/outbreaks/article/measuring-vaccine-confidence-introducing-a-global-vaccine-confidence-index/>

For survey data on other social and related issues see website www.gallup.com.pk
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ABOUT GILANI RESEARCH FOUNDATION

Gilani Research Foundation is a not for profit public service project to provide social science research to students, academia, policy makers and concerned citizens in Pakistan and across the globe.

Gilani Research Foundation is headed by Dr. Ijaz Shafi Gilani who pioneered the field of opinion polling in Pakistan and established Gallup Pakistan in 1980. Currently Dr. Gilani, who holds a PhD from the Massachusetts Institute of Technology (MIT) and has taught at leading universities in Pakistan and abroad, is Chairman of Gallup Pakistan.

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